


TEST REPORT

Applicant : SHENZHEN FENDA TECHNOLOGY CO., LTD.
Address : Fenda Hi-Tech Park, Zhoushi Road, Shiyan Town, Baoan District, Shenzhen City, Guangdong, China
Manufacturer : SHENZHEN FENDA TECHNOLOGY CO., LTD.
Address : Fenda Hi-Tech Park, Zhoushi Road, Shiyan Town, Baoan District, Shenzhen City, Guangdong, China
Product Name : 2.0 Multimedia Speaker
Trade Mark : F&D
Model No. : R40BT, R44BT, R50BT, R55BT, R27BT, R24BT, R25BT
Ratings : Input : 100-240V~ 50/60Hz, 0.7A
Standard : Audio/video, information and communication technology equipment
Part 1: Safety requirements
EN 62368-1:2014+A11:2017

Date of Receiver : July 04, 2019
Date of Test : July 06, 2019 to July 30, 2019
Date of Issue : August 06, 2019
Test Report Form No : NTCS-IEC62368-1-A1-E
Test Result : Pass *

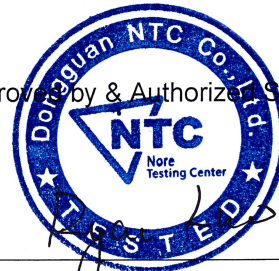
This Test Report is Issued Under the Authority of:

Compiled by



Cloud zheng/ Engineer

Approved by & Authorized Signer

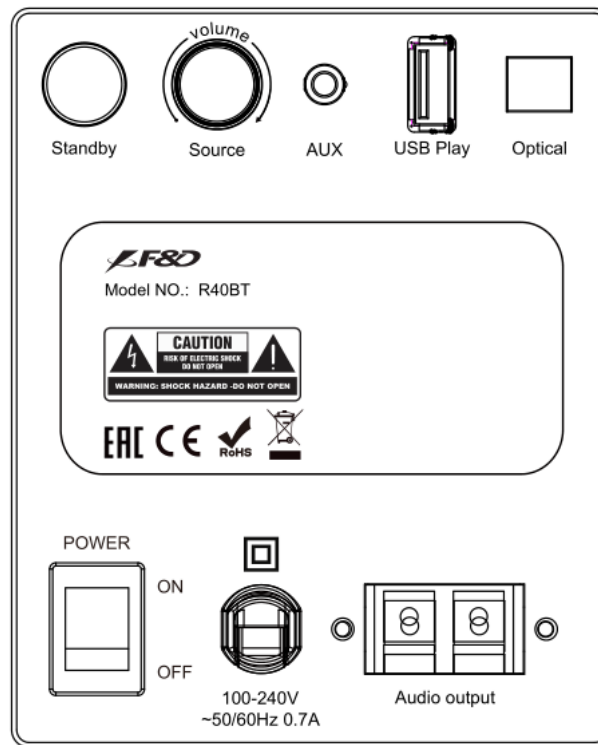


Ryan Luo / Authorized Signatory

***Remarks:**

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of Dongguan Nore Testing Center Co., Ltd. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Copy of marking plate:



Remarks:

1. The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
2. The CE marking and WEEE symbol should be at least 5.0mm and 7.0mm respectively in height.
3. Marking label of all models are identical to each other except for model number and trade mark.
4. The importer information (Name and Address) and manufacturer information (Name and Address) should be marked in product when this product import to European marketing.

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

Page 36 – 38: European Group differences and National differences

Page 48 – 56: Photograph

Summary of testing:

From the result of our tests on the submitted samples, we conclude they comply with the requirements of the standards.

TEST ITEM PARTICULARS:	
Classification of use by.....:	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input checked="" type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:
Considered current rating of protective device as part of building or equipment installation.....:	US, CA: 20 A; UK: 13 A; Others: 16 A Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Class of equipment	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location	<input type="checkbox"/> restricted access location <input checked="" type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient.....:	25°C
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP20
Power Systems	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V _{L-L}
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> <5000 m
Altitude of test laboratory (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> <50 m
Mass of equipment (kg)	approx. 4.8Kg
POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object.....:	N (N/A)
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)

GENERAL REMARKS:

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

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

Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.

GENERAL PRODUCT INFORMATION:

Product Description

1. The EUT covered by this report is a 2.0 Multimedia Speaker used as audio apparatus; it is supplied by mains supply through non-detachable supply cord.

2. In this report, the product is to be used under:

- Maximum operating temperature: +25°C.
- Altitude less than 2000m.
- Indoor used only.

3. All models covered by this report are identical, except model number, trade mark and appearance of enclosure (for color and silk-screen only) for marketing purpose. If no otherwise specified, all the tests were conducted on model R40BT to represent other models.

5.LED have been approved according to standard IEC/EN 62471 by EMTEK (DONGGUAN) CO., LTD.

The product mainly consists of:

- Speaker with power board and amplifier board.
- Fire shield.
- Plastic enclosure and Wooden enclosure.

Additional application considerations –

- | | |
|---|--|
| - normal conditions N.C. | - single fault conditions S.F.C |
| - functional insulation FI | - basic insulation BI |
| - double insulation DI | - supplementary insulation SI |
| - between parts of opposite polarity BOP | - reinforced insulation RI |
| - short circuit SC | - open circuit OC |
| - overload O/L | |

Indicate used abbreviations (if any)

- equipment under test **EUT**

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
<p>(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)</p>	
<p>Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1</p>	
Source of electrical energy	Corresponding classification (ES)
Primary circuit	ES3
secondary output(CON1)	ES1
All accessible connectors and parts accessible to ordinary person	ES1
<p>Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2</p>	
Source of power or PIS	Corresponding classification (PS)
All primary circuit	PS3
The secondary (connector CON1) circuits	PS2
Audio/video signal connectors and USB terminal	PS1
<p>Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol</p>	
Source of hazardous substances	Corresponding chemical
N	N
<p>Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2</p>	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Shape edges and corner of product	MS1
Equipment mass- Approx. 4.8kg	MS1
<p>Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1</p>	
Source of thermal energy	Corresponding classification (TS)
External accessible enclosures/parts	TS1
<p>Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1</p>	
Type of radiation	Corresponding classification (RS)
LED for indicating	RS1

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	ES3: Primary circuit	Equipment safeguards	Equipment safeguards	Transformer, optocoupler, Y-capacitor, Enclosure
Ordinary	ES3: AC plug (stored charge on capacitor)	N/A	N/A	X-capacitor, discharge resistors
Ordinary	ES1: External connectors	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All primary circuit	PS3: >100 Watt circuit	Equipment safeguards (no ignition)	Separation by distance & Fire barrier	N/A
Combustible materials within equipment	PS2: <100 Watt circuit Secondary connector (CON1)	Equipment safeguards (no ignition)	N/A	N/A
Audio/video signal connectors and USB terminal	PS1: <15 Watt circuit	N/A	N/A	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS1: Sharp edges and corners	N/A	N/A	N/A
Ordinary	MS1: Equipment mass	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Plastic enclosure	N/A	N/A	N/A

	and wooden enclosure			
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	RS1: LED for indicating	N/A	N/A	N/A
Supplementary Information: (1) See attached energy source diagram for additional details. (2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	Equipment is adequately designed and constructed.	P
4.1.15	Markings and instructions	See Annex F.	P
4.4.4	Safeguard robustness	See below.	P
4.4.4.2	Steady force tests	(See Annex T.2, T.3, T.4, T.5).	P
4.4.4.3	Drop tests		N/A
4.4.4.4	Impact tests	(See Annex T.6.)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests	The external enclosure cannot be opened without a tool.	N/A
4.4.4.6	Glass Impact tests	No such glass used.	N/A
4.4.4.7	Thermoplastic material tests	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard		N/A
4.4.4.9	Accessibility and safeguard effectiveness	After tests of 4.4.4.2, 4.4.4.7, no safeguard damaged.	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard	Internal wires are routed and secured so that adequate insulations are maintained. For the internal wires connected by pluggable connectors and fixed by cable tied. Secondary wires are fixed on the metal enclosure with cable and separated by fireproof cover kept the clearance and creepage distance which complied with clauses 5.4.2 and 5.4.3.	P
4.6.2	10N force test applied to	See appended table 5.4.2.2, 5.4.2.4 and 5.4.3	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.2	Mains plug part complies with the relevant standard	Not such equipment	N/A
4.7.3	Torque (Nm)	Not such equipment	N/A
4.8	Products containing coin/button cell batteries	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery		—
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object	No openings such that entry into enclosure with contact of such parts is likely.	P

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications	See below	P
5.2.2	ES1, ES2 and ES3 limits	(See appended table 5.2)	P
5.2.2.2	Steady-state voltage and current	(See appended table 5.2)	P
5.2.2.3	Capacitance limits	No such capacitor	N/A
5.2.2.4	Single pulse limits	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses	No such repetitive pulses within the EUT	N/A
5.2.2.6	Ringling signals	No such ringing signals within the EUT	N/A
5.2.2.7	Audio signals	See Annex E.1	P
5.3	Protection against electrical energy sources	See below	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See only 4.3 and 5.3 to 5.5 which applies to protection between the accessible parts and hazardous parts of other circuits.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit can be accessed for this product.	P
5.3.2.2	Contact requirements	No opening of enclosure, no access with test probe to any ES3 circuit or parts.	P
	a) Test with test probe from Annex V		P
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning	See sub-clause 5.4.8.	P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4.)	P
5.4.1.5	Pollution degree	Pollution degree 2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied (however see 5.5.4).	N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See only 5.4.1.10.3 below.	P
5.4.1.10.2	Vicat softening temperature		N/A
5.4.1.10.3	Ball pressure	AC connector of power board complied	P
5.4.2	Clearances	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.2.2	Determining clearance using peak working voltage		P
5.4.2.3	Determining clearance using required withstand voltage		P
	a) a.c. mains transient voltage	2500V for Overvoltage Cat. II	—
	b) d.c. mains transient voltage	No such transient.	—
	c) external circuit transient voltage.....	No such transient.	—
	d) transient voltage determined by measurement...	No such transient.	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Using procedure 2 to determine the clearance according to 5.4.2.3.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages.....	1.0 (<2000m altitude)	P
5.4.3	Creepage distances.....	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group	IIIa & IIIb	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4	Solid insulation	See clause G.13.5 for PCB and see below for other parts	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	See below	P
5.4.4.4	Solid insulation in semiconductor devices	Approved optocoupler used. Requirements of G.12 met, see table 4.1.2 for listed component used	P
5.4.4.5	Cemented joints	See below	P
5.4.4.6	Thin sheet material	Two layers of insulation tape in and around outside and between winding and core of transformer T31 are used for reinforced insulation and are not expected to be subject to handling or abrasion during ordinary or instructed person servicing.	P
5.4.4.6.1	General requirements	Where two layers are provided as reinforced insulation any one layer passed the electric strength test for reinforced insulation	P
5.4.4.6.2	Separable thin sheet material	2	P
	Number of layers (pcs)		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	See G.5.1 and G.6.	P
5.4.4.7	Solid insulation in wound components	1.51KHz	N/A
5.4.4.9	Solid insulation at frequencies >30 kHz.....	No such antenna terminal used.	N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ)	No such device	—
5.4.6	Insulation of internal wire as part of supplementary safeguard.....	No such insulation of internal wire as part of supplementary safeguard.	N/A
5.4.7	Tests for semiconductor components and for cemented joints	No tests necessary –see only 5.4.4.4.	N/A
5.4.8	Humidity conditioning	See below.	P
	Relative humidity (%)	93	—
	Temperature (°C)	30	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Duration (h)	48	—
5.4.9	Electric strength test.....	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test	Method 1 used (See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine tests	No such external circuits	N/A
5.4.10	Protection against transient voltages between external circuit		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
5.4.11	Insulation between external circuits and earthed circuitry	No such connections for external circuit applied within the EUT	N/A
5.4.11.1	Exceptions to separation between external circuits and earth	No such connections to external circuit as above.	N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units	Approved X2 type and Y1 type capacitors provided. See G.11.1 for compliance and their application.	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	P
5.5.3	Transformers	See Annex G.5.3.	P
5.5.4	Optocouplers	See Annex G.12.	P
5.5.5	Relays	No such component	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Resistors	Discharge resistors (R25, R26, R39, R40) used. However test of 5.5.2.2 complied even with fault condition R25 open circuit therefore not relied upon as safeguard.	P
5.5.7	SPD's	No such component	N/A
5.5.7.1	Use of an SPD connected to reliable earthing	No such component	N/A
5.5.7.2	Use of an SPD between mains and protective earth	No such component	N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable	No such device	N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	No such device	N/A
5.6.2.1	General requirements	No such device	N/A
5.6.2.2	Colour of insulation	No such device	N/A
5.6.3	Requirement for protective earthing conductors	No such device	N/A
	Protective earthing conductor size (mm ²)	No such device	N/A
5.6.4	Requirement for protective bonding conductors	No such device	N/A
5.6.4.1	Protective bonding conductors	No such device	N/A
	Protective bonding conductor size (mm ²).....	No such part	—
	Protective current rating (A)	No such part	—
5.6.4.3	Current limiting and overcurrent protective devices	No such device	N/A
5.6.5	Terminals for protective conductors	No such device	N/A
5.6.5.1	Requirement	No such device	N/A
	Conductor size (mm ²), nominal thread diameter (mm).....	No such device	N/A
5.6.5.2	Corrosion	No such device	N/A
5.6.6	Resistance of the protective system	No such device	N/A
5.6.6.1	Requirements	No such device	N/A
5.6.6.2	Test Method Resistance (Ω)	No such device	N/A
5.6.7	Reliable earthing	Not permanently connected equipment	N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks	Figure 4 of IEC 60990 was used in determining of the limit of ES1.	P
5.7.2.1	Measurement of touch current	(See appended table 5.2)	P
5.7.2.2	Measurement of prospective touch voltage		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990:1999 applied.	P
	System of interconnected equipment (separate connections/single connection)	Single connection.	—
	Multiple connections to mains (one connection at a time/simultaneous connections)	Single connection.	—
5.7.4	Earthed conductive accessible parts		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	The equipment is not connected to such external circuit.	N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	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	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.1	General	See the following details.	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	(See appended table 6.2.2)	P
6.2.2.5	PS2	(See appended table 6.2.2)	P
6.2.2.6	PS3	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	All conductors and devices in both primary and secondary are considered as PIS except external secondary connectors.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.3.1	Arcing PIS	See note to appended table 6.2.3.1	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.1)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	No ignition and no such temperature attained within the equipment. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method by control of fire spread applied, Fire enclosure and fire cover and fire barrier provided.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		P
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		P
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits	See Table 6.2.2.	P
6.4.5.2	Supplementary safeguards	<u>Safeguards checked as part of 6.4.6.</u>	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.6	Control of fire spread in PS3 circuit	<p>Compliance detailed as follows:</p> <ul style="list-style-type: none"> - <u>Printed board</u>: rated V-0 - <u>Internal wires</u>: complying with UL 758 standard, which test method and testing condition equal to IEC/EN 60695-11-21. - <u>Connector</u>: with size of less than 1750mm³. - <u>All other components</u>: at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g) or components complying with relevant IEC standard. - <u>Isolating transformer</u>: complying with G.5.3 <p>Plastic enclosure and min. 6mm thickness wooden enclosure which considered V-1) used; Fire barrier (metal barrier around of main board) used.</p>	P
6.4.7	Separation of combustible materials from a PIS	See below	P
6.4.7.1	General..... :	Only small parts of combustible material (with mass less than 4g) on the PCB is not considered as PIS does not require separation from PIS. Separation requirements from PIS to the wooden enclosure see also clause 6.4.8.4	P
6.4.7.2	Separation by distance		P
6.4.7.3	Separation by a fire barrier		P
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.1	Fire enclosure and fire barrier material properties	Fire enclosure (fireproof cover on power board rated V-0, Plastic enclosure and min. 6mm thickness wooden enclosure which considered V-1) and fire barrier used.	P
6.4.8.2.1	Requirements for a fire barrier	Fire barrier (metal barrier around of main board) used.	P
6.4.8.2.2	Requirements for a fire enclosure	Fire enclosure (fireproof cover on power board rated V-0, Plastic enclosure and min. 6mm thickness wooden enclosure which considered V-1) used.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See below	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.1	Fire enclosure and fire barrier openings	No such openings	N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)	No enclosure can be opened by an ordinary person	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....	The min. distance: between component (resistive PIS) on power board and wooden enclosure: 20mm, But the wooden enclosure with min. thickness 6.0mm near power board at rear side.	P
6.5	Internal and external wiring		P
6.5.1	Requirements	The internal wires are complied with UL standard, of which the test method and testing condition are equal to IEC/EN 60695-11-21.	P
6.5.2	Cross-sectional area (mm ²)	See 6.5.1.	—
6.5.3	Requirements for interconnection to building wiring.....	No such wire used	N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1	Only audio signal connectors and USB port which considered as PS1 in this equipment	P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment.	P
7.3	Ozone exposure	No ozone production within the equipment.	N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries	See Annex M	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8	MECHANICALLY-CAUSED INJURY		P
8.1	General	4.8kg	P
8.2	Mechanical energy source classifications	MS1 category of mechanical energy source	P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners	Edges and corners of the enclosure are rounded.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No moving parts.	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard..... :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment	Not such equipment	N/A
8.5.4.2	Equipment having electromechanical device for destruction of media	Not such equipment	N/A
8.5.4.2.1	Safeguards and Safety Interlocks	Not such equipment	N/A
8.5.4.2.2	Instructional safeguards against moving parts	No such moving part	N/A
	Instructional Safeguard..... :	No such moving part	—
8.5.4.2.3	Disconnection from the supply	No such device	N/A
8.5.4.2.4	Probe type and force (N)	No such device	N/A
8.5.5	High Pressure Lamps	No such device	N/A
8.5.5.1	Energy Source Classification	No such device	N/A
8.5.5.2	High Pressure Lamp Explosion Test	No such device	N/A
8.6	Stability	See the following details.	P
8.6.1	Product classification	MS1 category of mechanical energy source	P
	Instructional Safeguard..... :	No safeguard requirement	—
8.6.2	Static stability	MS1 product classification, no stability requirement	N/A
8.6.2.2	Static stability test		N/A
	Applied Force..... :		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt		—
8.6.4	Glass slide test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.5	Horizontal force test (Applied Force)		N/A
	Position of feet or movable parts.....		—
8.7	Equipment mounted to wall or ceiling	No such mounting means	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)	No such mounting means	N/A
8.7.2	Direction and applied force.....	No such requirement	N/A
8.8	Handles strength	MS1 product classification and only on handle provided	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements	No such part	N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers	No such part	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		
	Applied force		—
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	No such mounting means	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....	No such part	N/A
	Button/Ball diameter (mm).....		—
9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	No part considered to be accessible other than enclosure. The equipment evaluated by temperature test (See appended Table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
9.3	Safeguard against thermal energy sources	Temperature of enclosure classed as TS1.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.4.2	Instructional safeguard	Instructional safeguard is not required.	N/A

10	RADIATION		P
10.2	Radiation energy source classification	RS1: IEC 62471 approved LED used (see appended table 4.1.2)	P
10.2.1	General classification		P
10.3	Protection against laser radiation	No laser radiation.	N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault		N/A
	Instructional safeguard		—
	Tool		—
10.4	Protection against visible, infrared, and UV radiation	No protection needed for RS1 indicating LED.	N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons..... :		N/A
10.4.1.b)	RS3 accessible to a skilled person		N/A
	Personal safeguard (PPE) instructional safeguard		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque		N/A
10.4.1.f)	UV attenuation		N/A
10.4.1.g)	Materials resistant to degradation UV		N/A
10.4.1.h)	Enclosure containment of optical radiation		N/A
10.4.1.i)	Exempt Group under normal operating conditions		N/A
10.4.2	Instructional safeguard		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.5	Protection against x-radiation	No such x-radiation generated from the equipment	N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards		N/A
	Instructional safeguard for skilled person		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation		—
	Abnormal and single-fault condition		N/A
	Maximum radiation (pA/kg)		N/A
10.6	Protection against acoustic energy sources	No acoustic energy sources	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)		N/A
	Output voltage, unweighted r.m.s.		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards		N/A
	Equipment safeguard prevent ordinary person to RS2		—
	Means to actively inform user of increase sound pressure		—
	Equipment safeguard prevent ordinary person to RS2		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)		—
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions	See the following details.	P
B.2.1	General requirements	(See appended table B.2.5)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Audio Amplifiers and equipment with audio amplifiers	See Annex E	P
B.2.3	Supply voltage and tolerances	Rated voltage \pm 10 %	P
B.2.5	Input test.....	(See appended table B.2.5)	p
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	(See appended table B.3)	P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	(See appended table B.3)	P
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited	No such device	N/A
B.4.3	Motor tests	No such device	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	See below for details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	No change to circuits classified in 5.3	P
B.4.9	Battery charging under single fault conditions	See Annex M	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation	No such UV generated from the equipment.	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators	Not such equipment	N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		P
E.1	Audio amplifier normal operating conditions	(See appended table B.2.5)	P
	Audio signal voltage (V)	(See appended table B.2.5)	—
	Rated load impedance (Ω)	(See appended table 4.1.2)	—
E.2	Audio amplifier abnormal operating conditions	(See appended table B.3)	P
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language	English version provided	—
F.2	Letter symbols and graphical symbols	See below for the details.	P
F.2.1	Letter symbols according to IEC60027-1	Complied	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Complied	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the enclosure surface and is easily visible.	P
F.3.2	Equipment identification markings	See below for details.	P
F.3.2.1	Manufacturer identification	Trademark: F&D	—
F.3.2.2	Model identification	Model: R40BT,R44BT,R50BT,R55BT,R27BT,R24BT,R25BT	—
F.3.3	Equipment rating markings	See below for details.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.1	Equipment with direct connection to mains	The equipment is connected to AC mains supply.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage	IEC 60417-5032 for a.c. symbol used.	—
F.3.3.4	Rated voltage	100-240V~	—
F.3.3.4	Rated frequency	50/60Hz	—
F.3.3.6	Rated current or rated power	0.7A	—
F.3.3.7	Equipment with multiple supply connections	Single supply connection.	N/A
F.3.4	Voltage setting device	No voltage setting device	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings.....	No mains appliance outlet or socket-outlet provided.	N/A
F.3.5.2	Switch position identification marking	ON/OFF	P
F.3.5.3	Replacement fuse identification and rating markings.....	No such device	N/A
F.3.5.4	Replacement battery identification marking	No such battery.	N/A
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification	See below for details	P
F.3.6.1	Class I Equipment	Class II equipment	N/A
F.3.6.1.1	Protective earthing conductor terminal	Class II equipment	N/A
F.3.6.1.2	Neutral conductor terminal	Not permanently connected equipment.	N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)	Class II equipment	P
F.3.6.2.1	Class II equipment with or without functional earth	without functional earth	P
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	This equipment is classified as IPX0.	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test, 15 sec. for water and 15 sec. for petroleum spirit. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use	Provided in the manual.	P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminals provided.	N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits	Not such equipment	N/A
	h) Symbols used on equipment	See label for details	P
	i) Permanently connected equipment not provided with all-pole mains switch	Not such equipment	N/A
	j) Replaceable components or modules providing safeguard function	No such part	N/A
F.5	Instructional safeguards	See below	N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction	Not the requirement	N/A
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements		P
G.1.2	Ratings, endurance, spacing, maximum load	(See appended Table 4.1.2)	P
G.2	Relays		N/A
G.2.1	General requirements	No relay used	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		N/A
G.3.1	Thermal cut-offs	No thermal cut-offs used.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)	No such device	—
	Single Fault Condition	No such device	—
	Test Voltage (V) and Insulation Resistance (Ω)..:	No such device	—
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.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions		N/A
G.4	Connectors		P
G.4.1	Spacings	Approved connectors used.	P
G.4.2	Mains connector configuration	(See appended Table 4.1.2)	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		P
G.5.1	Wire insulation in wound components	Approved TIW used for Primary winding of T1.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Separated by tape between windings.	P
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C)		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position.....	T31	—
	Method of protection	See G.5.3.3.	—
G.5.3.2	Insulation	See below.	P
	Protection from displacement of windings	Primary windings (TIW) and secondary windings are separated by Reinforced insulation (The core is considered as secondary part as it is not isolated from secondary)	—
G.5.3.3	Overload test.....	(See appended table B.3)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment.	P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended tables B.3&B.4)	P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements	No motors used.	N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V).....		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V).....		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V).....		N/A
G.5.4.7	Motors with capacitors		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	Input wires from AC power cord to power board: Double insulated with min. 0.4mm thickness per layer. Triple-insulated wiring in T1 windings insulated as reinforced safeguard in the isolating transformer that has separately complied with Annex J. See table 4.1.2. All secondary wires in ES1 circuit were separated from primary circuit by fireproof cover of power board which can not contact primary components, no dimensional or constructional requirement.	P
G.6.2	Solvent-based enamel wiring insulation	Solvent-based enamel winding is not considered basic insulation.	N/A
G.7	Mains supply cords		P
G.7.1	General requirements	Approved mains supply cords used (See appended table 4.1.2)	P
	Type	H03VVH2-F	—
	Rated current (A).....	<6	—
	Cross-sectional area (mm ²), (AWG)	2x0.75mm ²	—
G.7.2	Compliance and test method	(See appended table 4.1.2)	P
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		P
G.7.3.2	Cord strain relief		P
G.7.3.2.1	Requirements		P
	Strain relief test force (N)	100	—
G.7.3.2.2	Strain relief mechanism failure		P
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....	1.0	—
G.7.3.2.4	Strain relief comprised of polymeric material		P
G.7.4	Cord Entry		P
G.7.5	Non-detachable cord bend protection		P
G.7.5.1	Requirements		P
G.7.5.2	Mass (g)		—
	Diameter (m)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements	No varistor used	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No IC current limiter provided within the equipment.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A)		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements	The bleeder resistors (R25, R26, R39, R40) used after X-capacitor, not relied upon as safeguard, no test necessary. See 5.5.6.	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P
G.11.1	General requirements	(See appended table 4.1.2) X2 Capacitor as Basic safeguard and Y1-capacitor used as Reinforced safeguard both complied with IEC/EN 60384-14.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:	The optocoupler complied with standard IEC/EN 60747-5-5.	P
	Type test voltage Vini	(see appended table 4.1.2)	—
	Routine test voltage, Vini,b	(see appended table 4.1.2)	—
G.13	Printed boards		P
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board or over the outer surface of coated printed boards complied with the minimum clearance and creepage requirements of 5.4.2 and 5.4.3.	P
G.13.3	Coated printed boards	No coated printed board or multilayer board applied for within the equipment.	N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction).....:		—
G.13.5	Insulation between conductors on different surfaces	Reinforced insulation between T1 core (which considered as secondary) and primary traces on different surfaces of power board.	P
	Distance through insulation.....:	>0.4mm (each source of power board PCB)	P
	Number of insulation layers (pcs)	1	—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	No coating on component terminals considered to affect creepage or clearances.	N/A
G.15	Liquid filled components		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.15.1	General requirements	No such device provided within the equipment.	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	No such component used	N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	No telephone ringing signal generated within the equipment.	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
H.3.2.3	Monitoring voltage (V)		—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	Triple insulated winding wiring used as reinforced safeguard in the isolating transformer that has been evaluated to Annex J as follows: Requirements of Annex U of IEC 60950-1/A2 are identical to Annex J of this standard (for wires providing Reinforced insulation). See Table 4.1.2.	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlock provided within the equipment.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
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 and 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	DISCONNECT DEVICES		P
L.1	General requirements	The mains plug are considered as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When mains plug is disconnected no hazardous voltage in the equipment.	P
L.4	Single phase equipment	The mains plug disconnects both poles simultaneously.	P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.7	Plugs as disconnect devices		P
L.8	Multiple power sources		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements	See below	N/A
M.2	Safety of batteries and their cells	No battery and cell used	N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests	No battery and cell used	N/A
	- Overcharging of a rechargeable battery	No battery and cell used	N/A
	- Unintentional charging of a non-rechargeable battery	No battery and cell used	N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature		—
M.4.2.2 b)	Single faults in charging circuitry		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.4.4.6	Compliance criteria		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.5.2	Compliance and Test Method (Test of P.2.3)	See clause P.2.3	N/A
M.6	Prevention of short circuits and protection from other effects of electric current	See below	N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault	Not explode or emit molten material	N/A
M.6.2	Leakage current (mA) :	Class III equipment and all electrical circuits of EUT are ES1.	N/A
M.7	Risk of explosion from lead acid and NiCd batteries	Not such battery	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	Not such battery	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 V_z (m ³ /s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) :		N/A
N	ELECTROCHEMICAL POTENTIALS		P
	Metal(s) used :	The screw, spring washer and metal chassis are all made of mild steel	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied..... :	Considered.	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements	No openings of enclosure	P
P.2.2	Safeguards against entry of foreign object		P
	Location and Dimensions (mm) :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	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	See below	N/A
P.3.1	General requirements	No inter liquids spillage, batteries see annex M.	N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	No such part	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C).....		—
	Tr (°C)		—
	Ta (°C).....		—
P.4.2 b)	Abrasion testing	Not for metalized coating	N/A
P.4.2 c)	Mechanical strength testing	(See Annex T)	N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources	All connectors used for external interconnections are for data transmission or for audio inputs	N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method.....		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements	No such consideration.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	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	Wooden enclosure with min. thickness 6mm near power board (on which power board mounted) applied to this test	N/A
	Samples, material :		—
	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) :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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	See below.	P
T.2	Steady force test, 10 N	(see appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N	(see appended table T.4)	P
T.5	Steady force test, 250 N	(see appended table T.5)	P
T.6	Enclosure impact test	(see appended table T.6)	P
	Fall test		P
	Swing test		P
T.7	Drop test	(See appended table T.7)	N/A
T.8	Stress relief test	(see appended table T.8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....	Not suitable	—
	Height (m)	Not suitable	—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements	No CRT provided within the equipment.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment	No access with test probes (e.g. fig. V.1) to any hazardous parts	P
V.2	Accessible part criterion	See above	P

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

ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment Part 1: Safety requirements)			
Differences according to		EN 62368-1:2014+A11:2017	
Attachment Form No.		EU_GD_IEC62368_1B_II	
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CENELEC COMMON MODIFICATIONS (EN)			P
1	NOTE Z1		N/A
4.Z1	Protective devices included as integral parts of the equipment or as parts of the building installation:	No protective device used	N/A
	a) Included as parts of the equipment		N/A
	b) For components in series with the mains; by devices in the building installation		N/A
	c) For pluggable type B or permanently connected; by devices in the building installation		N/A
5.4.2.3.2.4	Interconnection with external circuit	No such interconnection	N/A
10.2.1	Additional requirements in 10.5.1	RS1 LEDs used as indicating lights.	P
10.5.1	RS1 compliance measurement conditions	RS1 LEDs used as indicating lights.	P
10.6.2.1	EN 71-1:2011, 4.20 and methods and distances	No acoustic energy sources	N/A
10.Z1	Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz	No such radiation	N/A
G.7.1	NOTE Z1		N/A

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
4.1.15	Denmark, Finland, Norway and Sweden: Class I pluggable equipment type A marking	Need to further considered when the apparatus to considered the national differences.	N/A
4.7.3	United Kingdom: Torque test socket-outlet BS 1363, and the plug part BS 1363.	No main plug used	N/A
5.2.2.2	Denmark: Warning for high touchcurrent		N/A
5.4.11.1 and Annex G	Finland and Sweden: Separation of the telecommunication network from earth	No telecommunication network	N/A
5.5.2.1	Norway: Capacitors rated for the applicable line-to-line voltage (230 V).		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Finland, Norway and Sweden: Resistors used as basic safeguard or bridging basic insulation comply with G.10.1 and G.10.2.		N/A
5.6.1	Denmark: Protection for pluggable equipment type A; integral part of the equipment		N/A
5.6.4.2.1	Ireland and United Kingdom: The protective current rating is taken to be 13 A		N/A
5.6.5.1	Ireland and United Kingdom: Conductor sizes of flexible cords to be accepted by terminals for equipment rated 10 A to 13 A		N/A
5.7.5	Denmark: The installation instruction affixed to the equipment if high protective conductor current		N/A
5.7.6.1	Norway and Sweden: Television distribution system isolation text in user manual	No such device	N/A
5.7.6.2	Denmark: Warning for high touch current		N/A
B.3.1 and B.4	Ireland and United Kingdom: Tests conducted using an external miniature circuit breaker or protective devices included as an integral part of the direct plug-in equipment	Not such device requirement	N/A
G.4.2	Denmark: Appliances rated ≤ 13 A provided with a plug according to DS 60884-2-D1:2011.	No mains plug used	N/A
	Class I equipment provided with socket-outlets provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.	Not class I equipment	N/A
	If a single-phase equipment having rated > 13 A or poly-phase equipment provided with a supply cord with a plug, plug in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.	No mains plug used	N/A
	Mains socket outlets intended for providing power to Class II apparatus rated 2,5 A in accordance with DS 60884-2-D1:2011 standard sheet DKA 1-4a.	No socket outlet used	N/A
	Other current rating socket outlets in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.	No socket outlet used	N/A
	Mains socket-outlets with earth in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a	No socket outlet used	N/A
G.4.2	United Kingdom: The plug part of direct plug-in equipment assessed to BS 1363	No mains plug used	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	United Kingdom: Equipment fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768		N/A
G.7.1	Ireland: Apparatus provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use		N/A
G.7.2	Ireland and United Kingdom: A power supply cord for equipment which is rated over 10 A and up to and including 13 A.		N/A

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany: Cathode ray tube intended for the display of visual images, authorization or application of type approval and marking.	No cathode ray tube used	N/A
F.1	Italy: The power consumption in Watts (W) indicated on TV receiver and in instruction for use	Not TV receiver	N/A
	TV receivers provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language.	Not TV receiver	N/A
	Marking for controls and terminals in Italian language.	Not TV receiver	N/A
	Conformity declaration according to the above requirements in the instruction manual	Not TV receiver	N/A
	First importers of TV receivers manufactured outside EEC previous conformity certification to the Italian Post Ministry and Certification number on the backcover.	Not TV receiver	N/A

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Power plug (EU type)	Shenzhen Xiekang Electric Co., Ltd.	XK-01	2.5A, 250V~	EN 50075	VDE: 40009009	
(Alternate)	Interchangeable	Interchangeable	2.5A, 250V~	EN 50075	VDE	
Power cord	Shenzhen Xiekang Electric Co., Ltd.	H03VVH2-F	2 x 0.75mm ²	EN 50525-2-11	VDE: 40029225	
(Alternate)	Interchangeable	H03VVH2-F	2 x 0.75mm ²	EN 50525-2-11	VDE	
Wooden enclosure	Interchangeable	Interchangeable	Min. thickness: 6.0mm	EN 62368-1	Tested with appliance	
Plastic enclosure	NINGBO LG YONGXING CHEMICAL CO LTD	FR-500	V-0, 60°C, Min. 2.0mm thickness	UL 94, UL 746C	UL: E203955	
Power Switch	Zhejiang Zhongxun Electronics Co., Ltd.	KCD1-104	6A, 250Vac, 85°C	EN 61058-1	TUV R 50049218	
(Alternate)	Yueqing Huansheng Electronics	KCD-117	6A, 250Vac, 85°C	EN 61058-1	VDE: 40024304	
PCB	CHEERFUL INDUSTRIAL (HK) LTD	CC-3	V-0, 130°C, Min. thickness 1.6mm	UL94, UL 796	UL:E141796	
(Alternate)	Interchangeable	Interchangeable	Min. V-0, 105°C, Min. thickness 1.6mm	UL94, UL 796	UL	
Fuse (F1)	XC Electronics (Shen Zhen) Corp. Ltd.	5TE-Serie(s)	T3.15AL, 250Vac	EN 60127-1, EN 60127-3 UL 248-1	UL: E249609 VDE:40029550	
AC connector (CON2)	ZheJiang JINDA Electronics Co.LTD	3.96T-02	7A, 250VAC, Max 85°C	UL	UL E237523	
Bleeder resistors (R5, R6,R39,R40)	Interchangeable	Interchangeable	Max. 2MΩ, 1/4W	--	--	
E-capacitors (EC1)	Interchangeable	Interchangeable	Max. 68uF, Min. 400V, Min. 105°C	--	--	
Rectifier (BD1)	Interchangeable	Interchangeable	Min. 3A, Min. 800V	--	--	
Transistor (Q1)	Interchangeable	Interchangeable	Min. 12A, Min. 650V	--	--	
X-capacitor (CX1) (Optional)	HSUAN TAI ELECTRONICS CO LTD	MCY	Min. AC250V, Max. 0.22uF, 85°C, X2 type	UL 1414, IEC 60384-14	UL:E199069, VDE:125205	
(Alternate)	Winday Electronic Industrial Co., Ltd.	MPX	Min. AC250V, Max. 0.22uF, 110°C, X2 type	IEC 60384-14	VDE:40030283	

Y1 Capacitor (CY1) (Optional)	Shantou High- New Technology Dev. Zone Songtian Enterprise Co., Ltd.	CD-Series	Min. AC 400V, Max.2200pF, 125°C,Y1 type	UL1414, IEC 60384-14	UL:E208107, VDE:40025754
(Alternate)	Shenzhen Haotian Electronic Co., Ltd.	HT	Min. AC 400V, Max.2200pF, 125°C,Y1 type	UL 1414, IEC 60384-14	UL:E326483, VDE:40029300
Optocoupler (U1)	EVERLIGHT ELECTRONICS CO LTD	EL817	Dti=0.5mm, Int. dcr=6.0mm, Ext. dcr=7.7mm, 110°C	IEC 60747-5-2	VDE: 132249
Line filter (LF2)	SHENZHEN CENKER ENTERPRISE LTD.	UU10.5	Min. 15mH, 130°C	EN 62368-1	Tested with appliance
(Alternate)	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
--Magnet wire	BOLUO COUNTY XIN LONG ELECTRICIAN DATA CO LTD	2UEW	130°C	UL 1446	UL: E229423
Inductor (LF1, LF3)	B&M Magnetism Technology Limited	T10*6*4-35UH	130°C	EN 62368-1	Tested with appliance
--Magnet wire	BOLUO COUNTY XIN LONG ELECTRICIAN DATA CO LTD	2UEW	130°C	UL 1446	UL: E229423
(Alternate)	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
--Multi-layer Insulated Winding	Dah Jin Technology Co. Ltd.	TLW-B(xx)(y)@	130°C	EN 60950-1, IEC 60950-1, UL 2353	VDE: 40008834 UL: E236542
Transformer (T31)	SHENZHEN HUA XINGJINGCHEN G ELECTRONIC TECHNOLOGY CO..LTD	FDPOW012 REV1.0	Class B	IEC/EN 60065	Tested with appliance
--Bobbin	CHANG CHUN PLASTICS CO LTD OR EQU	T375J	Phenolic, V-0, 150°C, Min. 0.75mm thickness	UL 94, UL 746C	UL: E59481
--Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEW/U@	130°C	UL 1446	UL:E201757
(Alternate)	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD	2UEW/155	155°C	UL 1446	UL: E239508
(Alternate)	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U@	155°C	UL 1446	UL:E201757
(Alternate)	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL

--Insulation tape	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-02A(h)	130°C	UL 510	UL: E246820
(Alternate)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ-280	130°C	UL 510	UL: E165111
(Alternate)	SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD	JY312#	130°C	UL 510	UL: E188295
--Margin Tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	WF-2902	130°C	UL 510	UL: E165111
--Multi-layer Insulated Winding	Furukawa Electric Co. Ltd.	TEX-E	130°C	EN 60950-1, IEC 60950-1 UL 60950-1	VDE: 40033527 UL: E206440
--Tube	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-T	300Vac, 200°C	UL 224	UL: E180908
Heat shrinkable tube	DONGGUAN QUANTAI INDUSTRIAL CO LTD	T-2	125°C, VW-1, 600V	UL 224	UL: E227336
(Alternate)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR, RSFR-H, RSFR(CB)	125°C, VW-1, Min. 300V	UL 224	UL: E203950
Internal primary lead wire	DONGGUAN XIEHE WIRE CO LTD	1672	105°C, VW-1, 22AWG, 300Vac, double insulation	UL 758	UL: E251491
(Alternate)	Interchangeable	1672	105°C, VW-1, Min. 22AWG, 300Vac, double insulation	UL 758	UL
Internal secondary wires	DONGGUAN XIEHE WIRE CO LTD	1007	80°C, VW-1, 24AWG, 300Vac	UL 758	UL: E251491
(Alternate)	Interchangeable	Interchangeable	Min. 80°C, VW-1, Min. 28AWG, Max. 300Vac	UL 758	UL
Subwoofer	Interchangeable	Interchangeable	2pcs provided , rated 4Ω,25W	--	Tested with appliance
Tweeter	Interchangeable	Interchangeable	2pcs provided , rated 8Ω,25W	--	Tested with appliance

Supplementary information:

1) Provided evidence ensures the agreed level of compliance.

5.2	Table: Classification of electrical energy sources	P
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5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk or Vdc)	I (Apk or Arms)	Hz	
1.	264Va.c, 60Hz	Primary circuits supplied by a.c. mains supply	Normal	264Vrms	--	60	ES3
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
2.	264Va.c, 60Hz	T31 secondary winding Pin 8 - Pin11	Normal	43.5Vrms	--	2.5K	ES2
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
3.	264Va.c, 60Hz	Power board output + to -	Normal	18 Vrms	--	DC	ES1
			Single fault – (R32 SC)	0	--	DC	
			Single fault – (D1 SC)	0	--	DC	
4.	264Va.c, 60Hz	L/N to accessible terminals	Normal	--	0.205Arms	60	ES1
			Single fault – (R32 SC)	--	0.240Arms	60	
			Single fault – (D1 SC)	--	0.240Arms	60	
5.	264Va.c, 60Hz	L/N to wooden terminals	Normal	--	0.005Arms	60	ES1
			Single fault – (R32 SC)	--	0.005Arms	60	
			Single fault – (D1 SC)	--	0.005Arms	60	
6.	264Va.c, 60Hz	L/N Metal terminals	Normal	--	0.205Arms	60	ES1
			Single fault – (R32 SC)	--	0.240Arms	60	
			Single fault – (D1 SC)	--	0.240Arms	60	

Notes:

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
--	--	--	Normal	--	--	--
			Abnormal	--	--	
			Single fault – SC/OC	--	--	

5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

Test Conditions:
 Normal – Full load and no load.
 Abnormal – Overload output
 Supplementary information: SC=Short Circuit, OC=Open Circuit.

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements (Included Touch Temperatures)			P
Supply voltage (V)	90V/60Hz	264V/50Hz	—	
Ambient T _{min} (°C)	--	--	—	
Ambient T _{max} (°C)	--	--	—	
T _{ma} (°C)	25	25	—	
Maximum measured temperature T of part/at:	T (°C)		Allowed T _{max} (°C)	
Power cord (inside)	52.1	51.5	90	
Internal AC wire	53.3	54.3	105	
Power switch	52	51.3	85	
AC connector (CON2)	53.5	54.6	85	
PCB near Q1	62.3	65.7	130	
Coil of Line filter LF1	58.8	59.3	130	
X-capacitor CX1	57.4	57.5	85	
Coil of Line filter LF2	58.5	61.2	130	
PCB near BD1	60.4	64.8	105	
Electrolytic capacitor (EC1)	69.9	69.8	105	
PCB near Q3	63.6	64.3	105	
Opto-coupler U1	54.8	54.6	110	
Winding of T31	71.4	70.6	110	

Core of T31	69.1	69.8	Ref				
Y-capacitor CY1	55.2	55.1	125				
Electrolytic capacitor (EC4)	55.2	55.2	105				
Connector (CON1)	62.2	62.1	85				
Ambient	25.0	25.0	--				
Below points are tested based on ambient around 25°C							
wooden enclosure near T31, outside	30.9	29.8	107				
wooden enclosure above power supply board, outside	31.2	29.5	107				
Plastic enclosure near AC input wire, outside	32.1	30.6	77				
Plastic enclosure near switch terminal, outside	31.6	30.1	77				
Plastic enclosure near USB, outside	32.1	31.1	77				
Button	31.2	30.1	77				
Ambient	25.0	25.0	--				
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							
Note 1: T _{ma} should be considered as directed by applicable requirement							
Note 2: T _{ma} is not included in assessment of Touch Temperatures (Clause 9)							

5.4.1.8	Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments	
T1 pin 1-5	216	384	--	
T1 pin 1-8	220	504	--	
T1 pin 1-9	253	504	Max V_{peak} & V_{rms}	
T1 pin 1-10	234	480	--	
T1 pin 1-11	214	376	--	
T1 pin 2-5	220	392	--	
T1 pin 2-8	216	432	--	
T1 pin 2-9	216	384	--	
Opto-coupler (U1) 1-3	232	392	--	
Opto-coupler (U1) 1-4	230	392	--	
Opto-coupler (U1) 2-3	229	392	--	
Opto-coupler (U1) 2-4	230	392	--	
Y1-capacitor (CY1) Pri-Sec	215	376	--	
supplementary information:				

Test voltage: 240V Test frequency: 60Hz
--

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

5.4.1.10.3 TABLE: Ball pressure test of thermoplastics				P
Allowed impression diameter (mm)	≤ 2 mm			—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
AC connector CON2/3.96T-02	ZheJiang JINDA Electronics Co.LTD	125	1.16	
Supplementary information:				

5.4.2& 5.4.3 TABLE: Minimum Clearances/Creepage distance							N/A
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm)	Required ² cr (mm)	cr (mm)
--	--	--	--	--	--	--	--
Supplementary information: Note 1: Only for frequency above 30 kHz Note 2: Provide Material group IIIb							

5.4.2.2, 5.4.2.4 and 5.4.3 TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)	Required cl (mm)*	cl (mm)	Required cr (mm)	cr (mm)
Different polarity on power board (before fuse F1) (B)	420	250	<30	1.5	3.2	2.5	3.2
Different pole of fuse F1 (B)	420	250	<30	1.5	6.0	2.5	6.0
Primary trace under fuse to secondary copper (R)	420	250	<30	3.0	4.5	5.0	5.7
Primary trace to secondary trace	420	250	<30	3.0	6.0	5.0	6.0
Between primary and secondary pins of Y1-capacitor (CY1) on PCB (R)	420	250	<30	3.0	6.9	5.0	6.9
Primary to secondary trace under Opto-coupler(U1)(R)	420	250	<30	3.0	7.5	5.0	7.5
Primary to secondary trace under transformer T31 (R)	504	253	1.51K	3.0	6.9	5.2	6.9

Primary winding to secondary winding of transformer T31	504	253	1.51K	3.0	7.2	5.2	7.2
Primary pin to Core of transformer T31	504	253	1.51K	3.0	6.9	5.2	6.9
Supplementary information: B=Basic insulation, R=Reinforced insulation. Triple insulated wire used for primary windings. Core of transformer (T1) is considered as secondary.							

5.4.9	TABLE: Electric strength tests			N/A			
Test voltage applied between:		Voltage shape (AC, DC)		Test voltage (V)		Breakdown Yes / No	
Basic/supplementary insulation:							
Different polarity of mains input (with fuse opened)		DC		2500		No	
Reinforced insulation:							
L/N to plastic enclosure wrapped with foil		DC		4000		No	
L/N to wooden enclosure wrapped with foil		DC		4000		No	
L/N to output terminal		DC		4000		No	
T31 Primary winding to secondary winding		DC		4000		No	
T31 Primary winding to core		DC		4000		No	
One layer of insulation tape used to wrap transformer (T31)		DC		4000		No	
Supplementary information:							

5.5.2.2	TABLE: Stored discharge on capacitors				P	
Supply Voltage (V)/ Hz	Test Location	Operating Condition	Switch position or off	On	Measured Voltage (after 2 seconds)	ES Classification
264Vdc, 60Hz	L,N	Normal	ON		18 Vdc	ES1
264Vdc, 60Hz	L,N	R25 OC	ON		26 Vdc	ES1
Supplementary information: [1]X-capacitors installed for testing are: CX1= 0.22μF [2]Bleeding resistor rating: resistors R25=R26=R39=R40=2MΩ Notes: a) Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth						

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

5.7.2.1, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage	--		—
Location	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)	
--	--	--	
--	--	--	
Supplementary information:			
[1] Supply voltage is the anticipated maximum Touch Voltage			
[2] Earthed neutral conductor [Voltage differences less than 1% or more]			
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.34) IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.			
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.			
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			
a) Not considered IT power system.			
b) Not three phase equipment.			
c) Not IT power system or three phase delta system.			
d) Not three-phase for use on centre-earthed delta supply system.			
e) Not such parts.			

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s [*]	PS Classification
A	Power board output (normal operation)	Power (W) :	--	73.5	PS2
		V _A (V) :	--	17.5	
		I _A (A) :	--	4.2	
B	Power board output (Single fault U1 Pin1-2 SC)	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
C	Power board output (Single fault U1 Pin U2-3 SC)	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
D	Power board output (Single fault U1 Pin 1 OC)	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	

E	Power board output (Single fault U1 Pin 3OC)	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
F	Speaker output (Normal condition)	Power (W) :	14.4	--	PS1
		V _A (V) :	3.64	--	
		I _A (A) :	3.95	--	
J	Speaker output (short)	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	

Supplementary Information:

*) Measurement taken only when limits at 3 seconds exceed PS1 limits

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	
See below	--	--	--	--	
--	--	--	--	--	

Supplementary information:

An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
See below	--	--	--	--	--
--	--	--	--	--	--

Supplementary information:

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

B.2.5 TABLE: Input test							P
U (V/Hz)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90V/50Hz	0.250	--	12.3	--	F1	0.250	Test in AUX mode, Pink noise sine signal adjusted to output power 1/8 max. non-clipped output power
90V/60Hz	0.252	--	12.3	--	F1	0.252	
100V/50Hz	0.220	0.7	12.6	--	F1	0.220	
100V/60Hz	0.224	0.7	12.6	--	F1	0.224	
240V/50Hz	0.125	0.7	12.3	--	F1	0.125	
240V/60Hz	0.123	0.7	12.1	--	F1	0.123	
264V/50Hz	0.115	--	12.3	--	F1	0.115	
264V/60Hz	0.112	--	12.4	--	F1	0.112	
Supplementary information: Equipment may be have rated current or rated power or both. Both should be measured							

B.3 TABLE: Abnormal operating condition tests								P
Ambient temperature (°C).....:						25.0°C		—
Power source for EUT: Manufacturer, model/type, output rating ..:						--		—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current (A)	T-couple	Temp. (°C)	Observation
1. Speaker output	Max. Non-clipped output	264	7hrs33min	--	--	Type J	Refer to appended table	The unit was working normally.After testing, no damaged, no hazards.
2. Speaker output	Shorted	264	4hrs37min	--	--	Type J	Refer to appended table	The unit was working normally.After testing, no damaged, no hazards.
3.Ventilation	blocked	264	4hrs	--	--	Type J	Refer to appended table	The unit was working normally.After testing, no damaged, no hazard

B.4		TABLE: Fault condition tests						P
Ambient temperature (°C)						25°C, if not specified		—
Power source for EUT: Manufacturer, model/type, output rating . :						--		—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
BD1	SC	264	1s	F1	0	--	--	F1 open, BD1 damage, no hazard
EC1	SC	264	1s	F1	0	--	--	F1 open, no damage, no hazard
Q1 pin G-D	SC	264	1s	F1	0	--	--	F1 open, no damage, no hazard
Q1 pin S-D	SC	264	1s	F1	0	--	--	F1 open, no damage, no hazard
Q1 pin G-S	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
R23	SC	264	1s	F1	0	--	--	F1 open, no damage, no hazard
T31 pin1-2	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
T31 pin4-6	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
T31 pin8-9	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
U1 pin1-2	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
U1 pin3-4	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
U1 pin1	OC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
U1 pin3	OC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.

D1	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
D8	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.
EC4	SC	264	30min	F1	0.036	--	--	Unit shut down immediately. Recoverable. No damage, no hazard.

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.

- 1) s-c: Short-circuited; o-c: Open-circuited.
- 2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.
- 3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.
- 4) The same as result test conducted on all fuse sources, all fuse sources see table 4.1.2 for details.

9.0, B.3 & B.4		TABLE: Touch temperature measurements						P
	Test Condition.....:	1	2	3	--	--		
	Supply voltage (V)	--	--	--	--	--	—	
	Ambient T _{min} (°C)	25.0	25.0	25.0	--	--	—	
	Ambient T _{max} (°C)	25.0	25.0	25.0	--	--	—	
Maximum measured temperature T of part/at:		T (°C)					Allowed T _{max} (°C)	
Winding of T31		116.5	82.2	90.2	--	--	165	
Core of T31		112.5	78.0	85.5	--	--	165	
wooden enclosure near T31, outside		34.3	33.6	35.3	--	--	117	
wooden enclosure above power supply board, outside		36.4	36.3	35.4	--	--	117	
Plastic enclosure near AC input wire, outside		34.6	30.6	33.6	--	--	87	
Plastic enclosure near switch terminal, outside		36.6	30.1	34.6	--	--	87	
Plastic enclosure near USB, outside		37.1	31.1	36.1			87	
Button		33.2	30.1	32.2			87	
Ambient		25.00	25.00	25.00	--	--	87	
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	--	Insulation class
--		--	--	--	--	--	--	--
--		--	--	--	--	--	--	--

Supplementary information:

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)	P
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Note: Measured UOC (V) with all load circuits disconnected:

Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
USB output	Normal	5.30	2.2	≤8.0	7.8	≤100

Supplementary Information:

SC=Short circuit, OC=Open circuit

T.2, T.3, T.4, T.5	TABLE: Steady force test	P
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Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation
Enclosure side (T.5)	Plastic	1)	250	5	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Enclosure Top (T.5)	Wooden	1)	250	5	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Internal components near the gap between primary and secondary (T.2)	--	--	10	5	No reduction the clearances and creepage distances

Supplementary information:

1). See appended table 4.1.2.

T.6, T.9	TABLE: Impact tests	N/A
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Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation
Enclosure top (T.6)	Plastic	1)	1300	All safeguards remain effective
Enclosure side (T.6)	Wooden	1)	1300	All safeguards remain effective

Supplementary information: 1). See appended table 4.1.2.

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

T.8	TABLE: Stress relief test				P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Plastic enclosure	Plastic	1.5	70	7	No damage, All safeguards remain effective
Supplementary information: --					

Photos documentation

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7

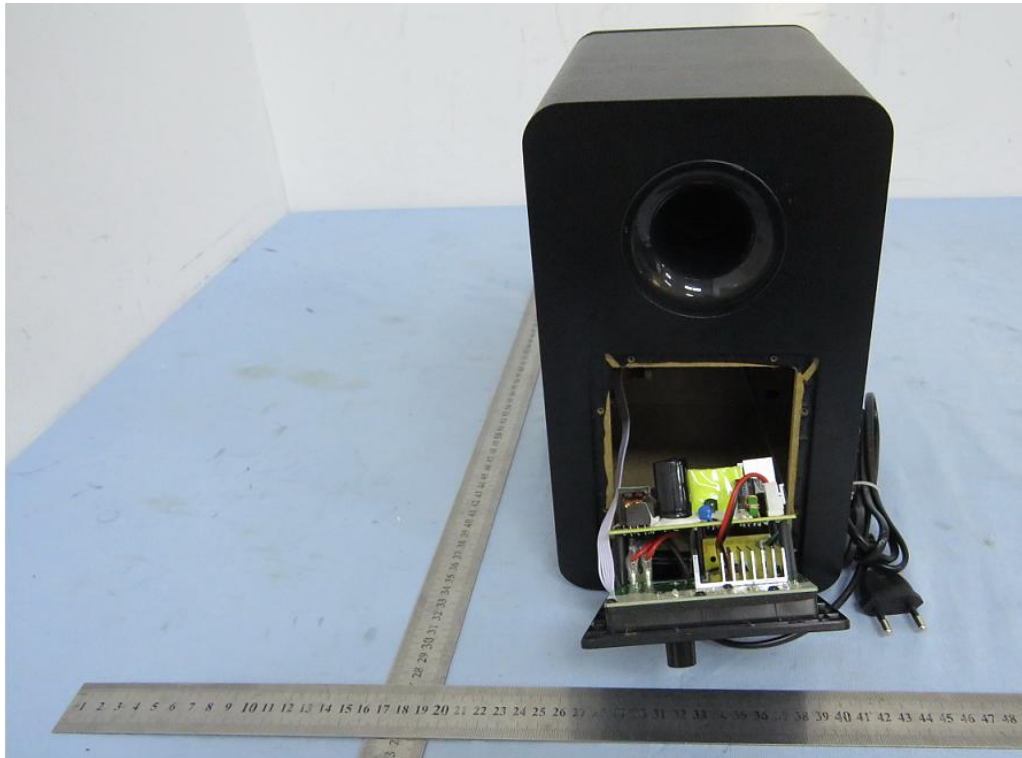


Photo 8

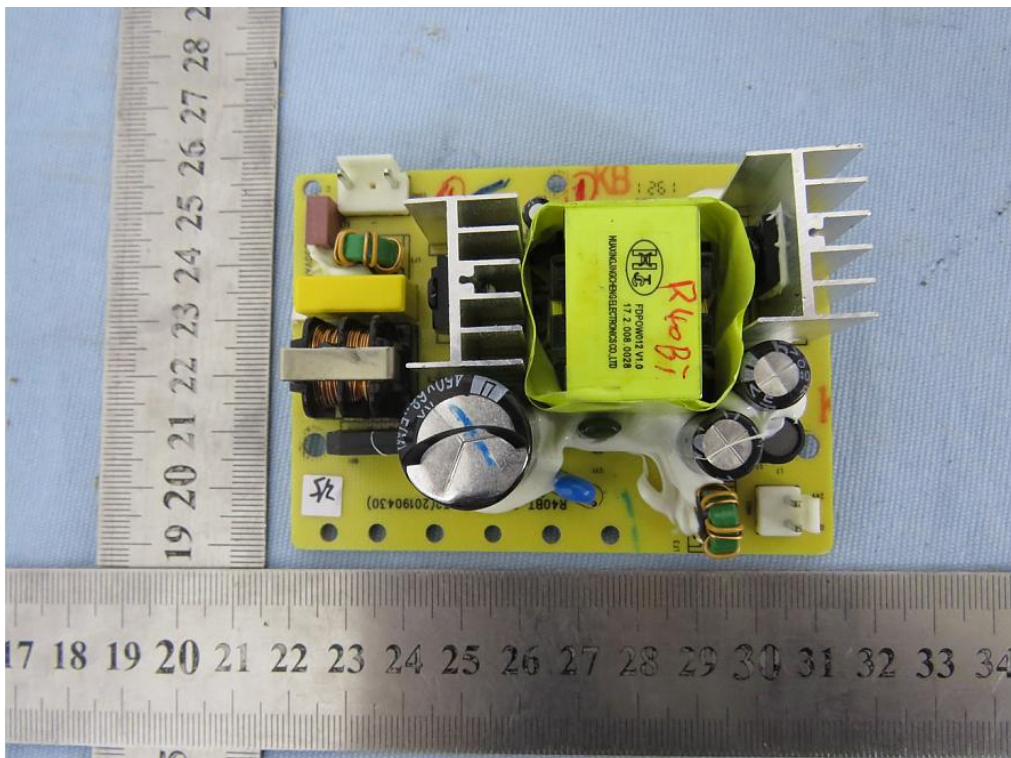


Photo 9

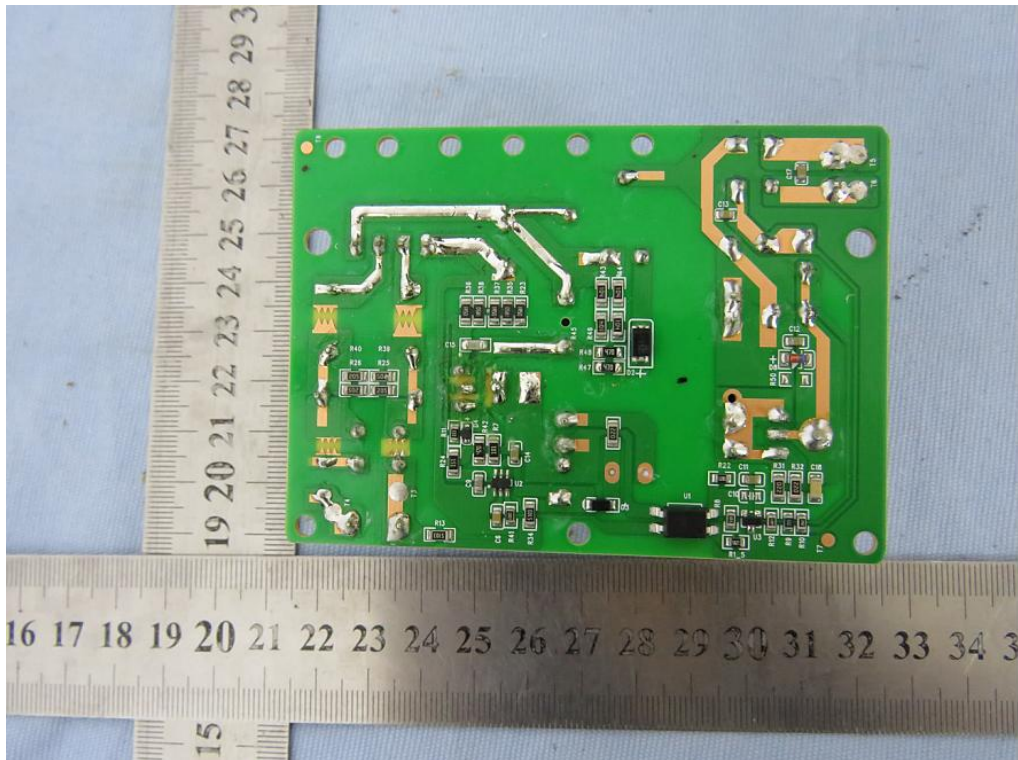


Photo 10

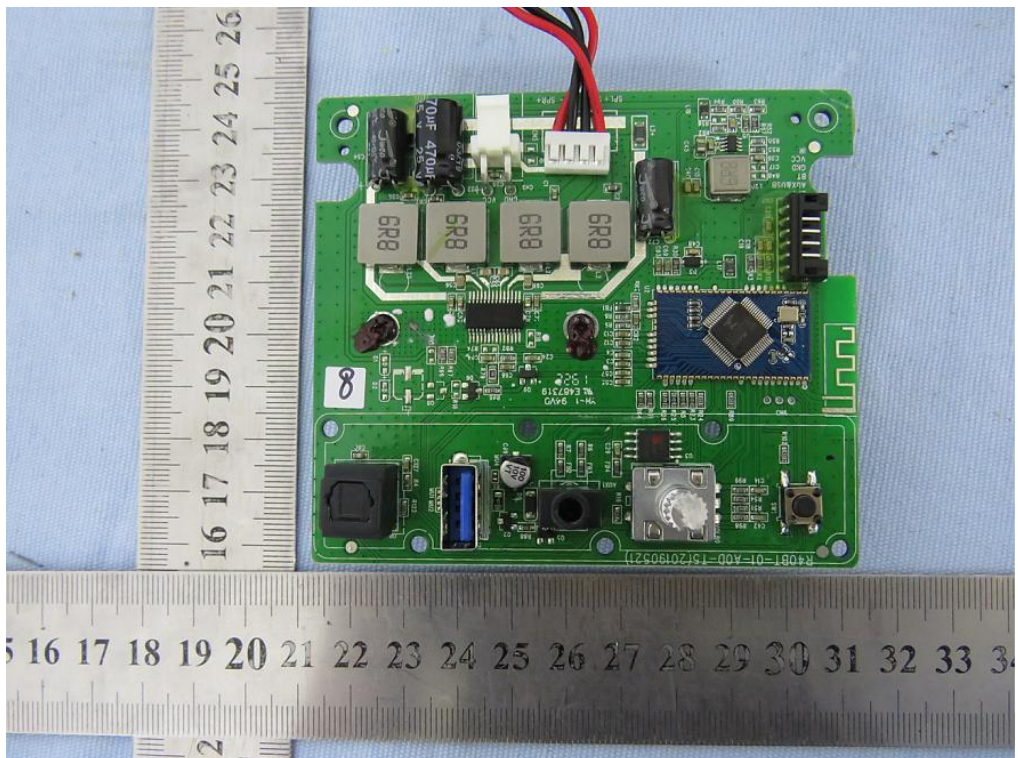


Photo 11

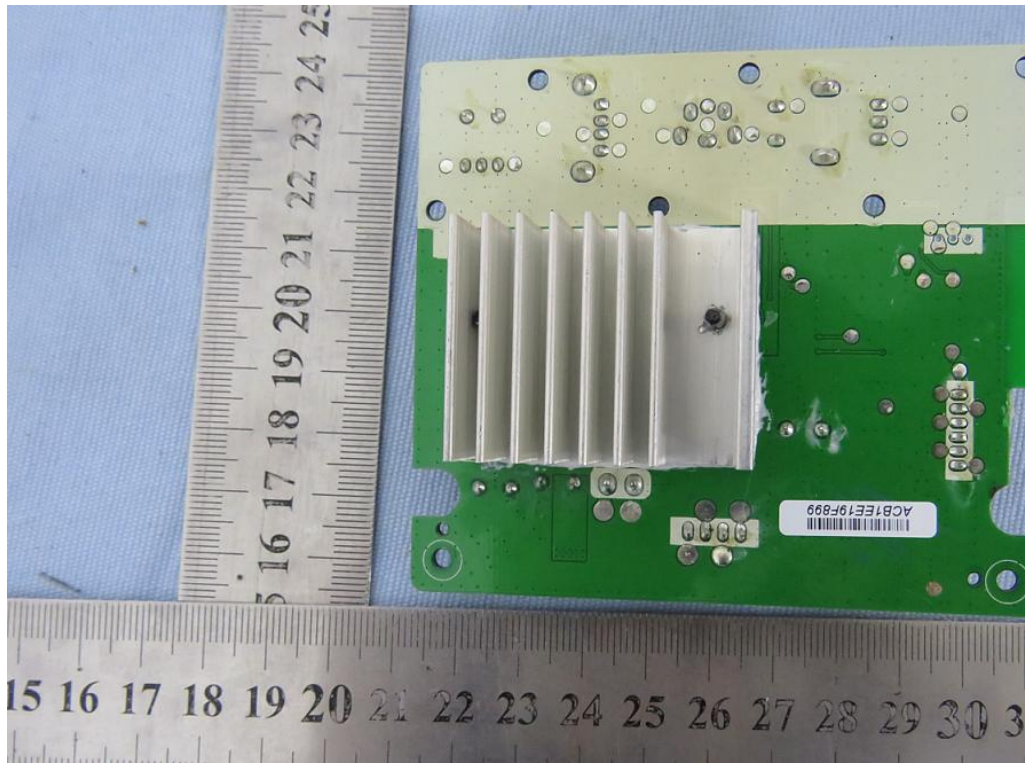
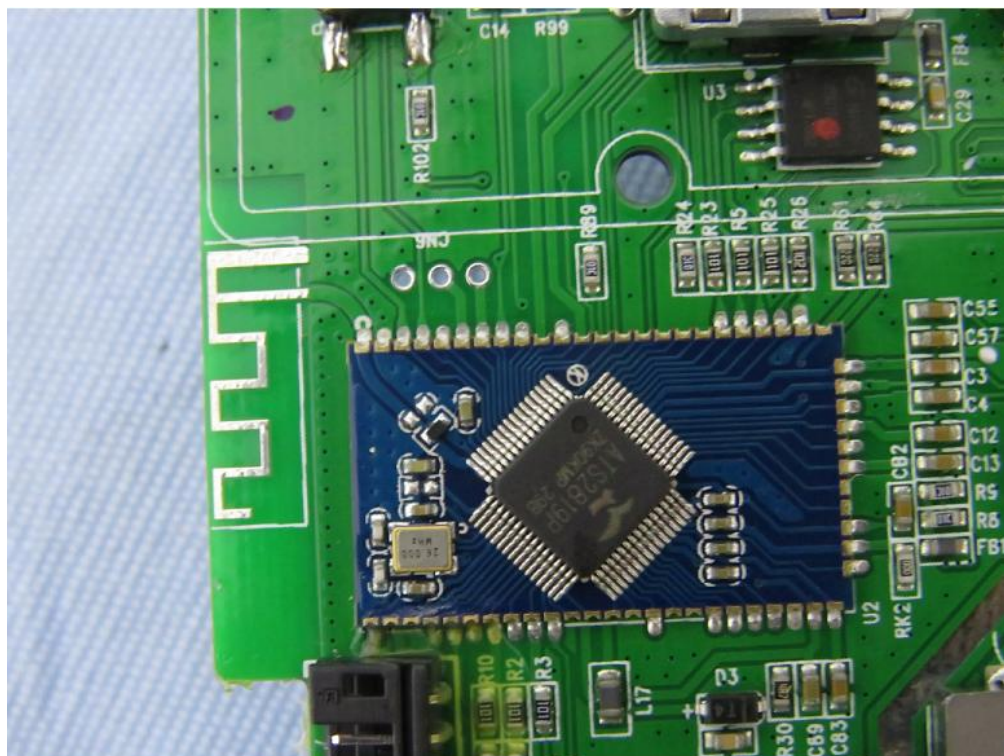


Photo 12



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