

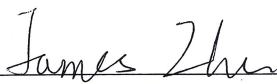
TEST REPORT

Applicant : Guangzhou HD Electronics Technology Co., Ltd
Address : No.1 Jiaochanggang, Shiji Town, Panyu District, Guangzhou, Guangdong Province, 511450, P.R.China
Manufacturer : Guangzhou HD Electronics Technology Co., Ltd
Address : No.1 Jiaochanggang, Shiji Town, Panyu District, Guangzhou, Guangdong Province, 511450, P.R.China
Product Name : LED TV
Trade Mark : WINSTAR
Model No. : 32SHD20
Ratings : Input: 100-240V~ 50/60Hz ≤65W
Each USB output : 5V 500mA
Standard : Audio, Video and Similar Electronic Apparatus: Safety Requirements
EN 60065:2014+A11: 2017

Date of Receiver : December 24, 2019
Date of Test : December 24, 2019 to December 27, 2019
Date of Issue : December 27, 2019
Test Report Form No : NTCS-IEC60065-A1-I
Test Result : Pass *

This Test Report is Issued Under the Authority of :

Compiled by


James Zhu/ 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.

Revision History of This Test Report

| Report Number | Description | Issued Date |
|----------------|-------------------------|-------------|
| NTC1906146SV00 | Initial Issue | 2019-07-16 |
| NTC1906146SV01 | See page 4 for details. | 2019-12-27 |
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Copy of marking plate: (Representative)



Remarks:

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. The importer information (Name and Address) and manufacturer information (Name and Address) should be marked in product when this product import to European marketing.

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 installation and use.....: Class II apparatus

Supply Connection.....: Non-detachable power cord with plug

Possible test case verdicts:

- test case does not apply to the test object..... : N

- 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 is used as the decimal separator.

Modification history (Dated 2019-12-27):

This report is based on report No. NTC1906146SV00 (dated on 2019-07-16) issued by Dongguan Nore Testing Center Co., Ltd.

-- Descriptions of changes:

Updated Model.(Change the model from "NTV3216SLED1, 32N15A3 " to 32SHD20)

Updated Trademark .(From "NIKAI, HUIDI" to WINSTAR)

Updated Copy of marking plate(See page 3 for details.)



For above changes/modification, no test need to carry out.


General product information:

The product covered in this report is a LED TV for use with audio, video and similar electronic apparatus.

The unit has following features:

1. The unit contains ATV, AV, PC, HDMI, Ypbpr and USB ports;
2. A Mylar sheet is used located between the power board trace side and the panel metal plate fixed by mechanical method. The Mylar sheet is large enough to cover the whole area of the primary part, and considered as reinforced insulation.
3. The manufacturer specified maximum ambient temperature is +45°C;
4. The unit is used at altitudes not exceeding 2000m above sea level.
5. The unit weight 3.80kg max. with base

| IEC 60065 | | | |
|-----------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 3 | GENERAL REQUIREMENTS | | P |
| | Safety class of the apparatus | Class II apparatus | P |
| 4 | GENERAL TEST CONDITIONS | | P |
| 4.1.4 | Ventilation instructions require the use of the test box | The temperature measurement was carried out with the apparatus positioned in accordance with the user's manual. | P |
| 5 | MARKING AND INSTRUCTIONS | | P |
| 5.1 | General requirements | | P |
| | Comprehensible and easily discernible | Marking plate was provided on the behind of product, it was comprehensible and easily discernible. | P |
| | Permanent durability against water and petroleum spirit | Compliance was checked by rubbing the marking by hand for 15 s with cloth soaked with water and cloth soaked with petroleum spirit, it was durable and legible after the test. | P |
| 5.2 | Identification and supply rating | | P |
| | a) Identification, maker | See the marking plate | P |
| | b) Model number or type reference | See the marking plate | P |
| | c) Class II symbol or Class II with functional earth symbol if applicable |  | P |
| | d) Nature of supply |  | P |
| | e) Rated supply voltage | 100-240V~ | P |
| | f) Mains frequency if safety dependant | 50/60Hz | P |
| | g) Rated current or power consumption for apparatus supplied by supply apparatus for general use, on apparatus or in instruction manual | The apparatus was intended for connection to an a.c. mains supply. | N/A |
| | Measured current or power consumption | | N/A |
| | Deviation % (max 10%) | | N/A |
| | h) Rated current or power consumption for apparatus intended for connection to an a.c. mains supply .. | 65W | P |
| | Measured current or power consumption | (See appended table 7.1) | P |
| | Measured current or power consumption for Television set | (See appended table 7.1) | P |
| | Deviation % (max 10%) | Not exceed 10% | P |

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|------------|--|---|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Symbols explained in the user manual | Complied | P |
| 5.3 | Terminals | | P |
| | a) Earth terminal | Class II apparatus | N/A |
| | b) Hazardous live terminals | No such terminals. | N/A |
| | c) Markings on supply output terminals | USB rated output rating: 5V $\overline{=}$ 500mA marked on the rating label. | P |
| 5.4 | Caution marking | | P |
| | a) Use of triangle with exclamation mark |  used in circuit diagram | P |
| | b) Marking on loudspeaker grille, IEC 60417-5036 | No such grille used | N/A |
| | c) User-replaceable coin / button cell battery marking | AAA size consumer type battery used for remote control device only. | N/A |
| 5.5 | Instructions | | P |
| 5.5.1 | Safety relevant information | English version user manual was provided (Version in other language will be provided when submitted for national approval) | P |
| 5.5.2 | a) Mains powered equipment not exposed to dripping or splashing. Warning concerning objects filled with liquid, etc. | The statement is provided in user's manual. | P |
| | b) Hazardous live terminals, instructions for wiring | No live terminals. | N/A |
| | c) Instructions for replacing lithium battery | No such batteries provided. | N/A |
| | d) Class I earth connection warning | Class II apparatus | N/A |
| | e) Instructions for multimedia system connection | The statement is provided in user's manual. | P |
| | f) Special stability warning for attachment of the apparatus to the floor/wall | No special fixed installation necessary. | N/A |
| | g) Warning: battery exposure to heat | Provided in the user manual. | P |
| | h) Warning: protective film on CRT face | No such device. | N/A |
| | i) Warning: Non-floor standing TV >7kg | | N/A |
| | j) Warning: User replaceable coin / button cell battery | No replaceable coin / button cell battery provided. | N/A |
| 5.5.3 | a-b) Disconnect device: plug/coupler or all-pole mains switch location, accessibility and markings | Mains plug used as disconnect device and mentioned in the Manual. | P |
| | c) Instructions for permanently connected equipment | No such equipment | N/A |
| | Marking, signal lamps or similar for completely disconnection from the mains | No such device. | N/A |

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|------------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 6 | HAZARDOUS RADIATION | | P |
| 6.1 | Ionizing radiation < 36 pA/kg (0,5 mR/h) | No ionizing radiation. | N/A |
| | Ionizing radiation under fault condition | No ionizing radiation. | N/A |
| 6.2 | Laser radiation, emission limits to IEC 60825-1:2007...: | No laser radiation. | N/A |
| | Emission limits under fault conditions | No laser radiation. | N/A |
| 6.3 | Light emitting diodes (LEDs) according to IEC 62471 | Indicating LED on secondary is inherently exempt group according to IEC 62471. | P |
| 7 | HEATING UNDER NORMAL OPERATING CONDITIONS | | P |
| 7.1 | General | | |
| 7.1.1 | Temperature rises not exceeding specified values; fuse links and other protective devices defeated | (See appended table 7.1.) | P |
| 7.1.2 | Temperature rise of accessible parts | (See appended table 7.1.) | P |
| 7.1.3 | Temperature rise of parts providing electrical insulation | (See appended table 7.1.) | P |
| 7.1.4 | Temperature rise of parts acting as a support or as a mechanical barrier | (See appended table 7.1.) | P |
| 7.1.5 | Temperature rise of windings | (See appended table 7.1.) | P |
| 7.1.6 | Parts not subject to a limit under 7.1.1 to 7.1.4 | | N/A |
| 7.2 | Softening temperature of insulating material supporting parts conductively connected to the o mains carrying a current > 0,2 A at least 150 °C | Material of bobbin for transformer (TB101) and line choke(LCB1) are phenolic which meets the softening test requirement. | P |
| 8 | CONSTRUCTIONAL REQUIREMENTS WITH REGARD TO THE PROTECTION AGAINST ELECTRIC SHOCK | | P |
| 8.1 | Conductive parts covered by lacquer, paper, untreated textile oxide films and beads etc. considered to be bare | No such parts | N/A |
| 8.2 | No shock hazard when changing voltage setting device, fuse-links or handling drawers etc. | No such parts to be operated by user. | N/A |
| 8.3 | Insulation of hazardous live parts not provided by hygroscopic material | No hygroscopic material provided. | P |
| 8.4 | No risk of electric shock from accessible parts or from parts rendered accessible following the removal of a cover which can be removed by hand | No removable cover. | N/A |
| 8.5 | Class I apparatus | | N/A |
| | Basic insulation between hazardous live parts and earthed accessible parts | | N/A |
| | Resistors bridging basic insulation complying with 14.2a) | No such component | N/A |

| IEC 60065 | | | |
|------------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Capacitors bridging basic insulation complying with 14.3.2 a) | | N/A |
| | Protective earthing terminal | | N/A |
| 8.6 | Class II apparatus | | P |
| | a) Basic and supplementary insulation between hazardous live parts and accessible parts | | N/A |
| | b) Reinforced insulation between hazardous live parts and accessible parts | Secondary circuit to primary circuit is separated by reinforced insulation or double insulation. | P |
| 8.7 | Components bridging insulation | | P |
| | Basic insulation bridged by components complying with 14.4.5.3 | No such components. | N/A |
| | Components bridging basic, supplementary, double or reinforced insulation complying with 14.2 a) or 14.4 | Transformer (TB101) bridging reinforced insulation complying with 14.4, see clause 14.4. | P |
| | Basic and supplementary insulation each being bridged by a capacitor or RC-unit complying with 14.3.2 a) | No such components. | N/A |
| | Double or reinforced insulation being bridged with 2 capacitors or RC-units in series complying with 14.3.2a) | | N/A |
| | Double or reinforced insulation being bridged with a single capacitor or RC-unit complying with 14.3.2 b) | See clause 14.3.2 | P |
| 8.8 | Insulation thickness and thin sheet materials | | P |
| | Basic or supplementary insulation > 0,4 mm (mm) : | | N/A |
| | Reinforced insulation > 0,4 mm (mm) : | - Approved opto-coupler with thickness at least 0.4mm; - The plastic enclosure with min. thickness 1.5 mm; - Bobbin of transformer (TB101) with min.thickness 0.70mm; - Insulation sheet under PCB with thickness at least 0.4mm. | P |
| | Thin sheet material used inside the equipment | Provided in the isolating transformers. | P |
| | Basic or supplementary insulation, at least two layers, each meeting 10.4 | | N/A |
| | Basic or supplementary insulation, three layers any two of which meet 10.4 | | N/A |
| | Reinforced insulation, two layers each of which meet 10.4 | | N/A |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | Reinforced insulation, three layers any two which meet 10.4 | 3 layers insulation tape wrapped on external of transformers as reinforced insulation. 3000Vac applied on any two layer of insulation tape | P |
| 8.9 | Adequate insulation between internal hazardous live conductors and accessible parts, or between internal hazardous live parts and conductors connected to accessible parts | Reinforced or double insulation provided between internal hazardous live conductors and secondary circuits which are conductively connected to accessible parts. | P |
| 8.10 | Double insulation between accessible parts and conductors connected to the mains | Reinforced or double insulation provided. | P |
| | Double insulation between conductors connected to accessible parts and parts connected to the mains | Reinforced or double insulation provided. | P |
| 8.11 | Detaching of wires | | P |
| | No undue reduction of creepage or clearance distances if wires become detached | Internal secondary wires were connected by pluggable wire, connector or fixed by cable tie and tapes (which fixed the secondary wires on the metal plate of panel or plastic enclosure). | P |
| | Vibration test carried out | Considered. | P |
| 8.12 | Adequate fastening of windows, lenses, lamp covers etc. (pull test 20 N for 10 s) | No such parts | N/A |
| 8.13 | Adequate fastening of covers (push/pull test 50 N for 10 s) | Applied on enclosure only | P |
| 8.14 | No risk of damage to the insulation of internal wiring due to hot parts or sharp edges | Internal wires cannot touch hot parts or sharp edges which can damage its insulation. | P |
| 8.15 | Only special supply equipment can be used | Not special supply equipment. | N/A |
| 8.16 | Insulated winding wire without additional interleaved insulation | Certified triple insulated wire used as winding in transformer (TB101) | P |
| 8.17 | Endurance test as required by 8.16 | | N/A |
| 8.18 | Disconnection from the mains | | P |
| | Disconnect device | Mains plug used as disconnect device and user manual provided regarding being readily operable | P |
| | All-pole switch or circuit breaker with >3mm contact separation | Switch not used | N/A |

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|-----------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Mains switch ON indication | | N/A |
| 8.19 | Switch not fitted in the mains cord | Switch not used | N/A |
| 8.20 | Bridging components comply with clause 14 | | N/A |
| 8.21 | Non-separable thin sheet material | | N/A |

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| 9 | ELECTRIC SHOCK HAZARD UNDER NORMAL OPERATING CONDITION | | P |
| 9.1 | Testing on the outside | | P |
| 9.1.1 | General | | P |
| 9.1.1.1 | Requirements | | P |
| | Accessible parts shall not be hazardous live | Comply | P |
| | Inaccessible terminals are not accessible or comply with relevant requirements | | P |
| | For voltages >1000 V ac or >1500 V dc complies with clause 13.3.1 for basic insulation | No voltages >1000Vac or >1500Vdc | N/A |
| 9.1.1.2 | Determination of hazardous live parts | | P |
| | a) Open circuit voltages | The open-circuit voltage of the secondary circuit does not exceed 60 Vdc or 35 Vpeak or the touch current measurement was conducted with the test results in appended table 9.1.1.2. | P |
| | b) Touch current measured from terminal devices using the network in annex D | The measuring network was according to Annex D (see appended table 9.1.1.2). | P |
| | c) Discharge not exceeding 45 µC | The stores charges did not exceed 45 µC. | P |
| | d) Energy of discharge not exceeding 350 mJ | Less than 15 kV. | N/A |
| 9.1.1.3 | Test with test finger and test probe | The test finger and probe cannot touch hazardous parts. | P |
| 9.1.2 | No hazardous live shafts of knobs, handles or levers | No such parts. | P |
| 9.1.3 | Ventilation holes and other holes tested by means of 4 mm x 100 mm test pin | No hazardous live parts can be accessed | P |
| 9.1.4 | Terminal devices tested with 1 mm x 20 mm test pin (10 N); test probe D of IEC 61032 | No hazardous live parts can be accessed | P |
| | Terminal devices tested with 1 mm x 100 mm straight wire (1 N); test probe D of IEC 61032 | No hazardous live parts can be accessed | P |
| 9.1.5 | Pre-set controls tested with 2.5 mm x 100 mm test pin (10 N); test probe C of IEC 61032 | No pre-set controls used | N/A |

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|---------------|--|---|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 9.1.6 | Withdrawal of the mains plug | | P |
| | No shock hazard due to stored charge after 2 s ... : | 18V, 2s after withdrawal of plug under normal operation. (limit: 60Vdc) 32V, 2s after withdrawal of plug with RB1 open circuited. (limit: 120Vdc) No hazards. | P |
| | Bleeder resistor(s) comply with 14.2 or no shock hazard when open circuited | No shock hazard when open circuited. See above. | P |
| | If C is not greater than 0,1 µF no test needed | CXB1 =0.33µF | N/A |
| 9.1.7 | Resistance to external force | | P |
| | a) Test probe 11 of IEC 61032 for 10 s (50 N) | No damage of enclosure and no hazardous live parts are accessible. | P |
| | b) Test hook of fig. 4 for 10 s (20 N) | No hazardous live parts are accessible. | P |
| | c) 30 mm diameter test tool for 5 s (100 or 250 N) | 100N | P |
| 9.2 | No hazard after removing a cover by hand | | N/A |
| 10 | INSULATION REQUIREMENTS | | P |
| 10.2 | Insulation resistance (M) at least 2 M min. after surge test for basic and 4 M min. for reinforced insulation | Tested between primary and accessible parts, after tested, EUT complied with the requirements of 10.4 | P |
| 10.3 | Humidity treatment 48 h or 120 h | 95% R.H., 40°C, 120h | P |
| 10.4 | Insulation resistance and dielectric strength | | P |
| | Between parts of different polarity directly connected to the mains | See appended table 10.4. | P |
| | Between parts separated by BASIC or SUPPLEMENTARY insulation | | N/A |
| | Between parts separated by REINFORCED insulation | See appended table 10.4. | P |
| 11 | FAULT CONDITIONS | | P |
| 11.1 | No shock hazard under fault condition | (see appended table 11.2) | P |
| 11.2 | Heating | | P |
| 11.2.1 | Requirements | | P |
| | No danger of fire to the surroundings | No fire occurred. | P |
| | Safety not impaired by abnormal heat | | P |
| | Flames extinguish within 10 seconds | No flames occurred | N/A |
| | No hazard from softening solder | No softening of solder point. | P |

| IEC 60065 | | | |
|---------------|--|---------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Soldered terminations not used as protective mechanism | No such part used. | P |
| 11.2.2 | Measurement of temperature rises | (see appended table 11.2) | P |
| 11.2.3 | Temperature rise of accessible parts | (see appended table 11.2) | P |
| 11.2.4 | Temperature rise of parts, other than windings and printed boards, providing electrical insulation | (see appended table 11.2) | P |
| 11.2.5 | Temperature rise of parts acting as a support or mechanical barrier | (see appended table 11.2) | P |
| 11.2.6 | Temperature rise of windings | (see appended table 11.2) | P |
| 11.2.7 | Printed boards | | N/A |
| | Temperature rise does not exceed the limits of table 3 or exceed the limits of table 3 by max. 100 K for max. 5 min | | N/A |
| | a) Temperature rise of V-0 or VTM-0 printed circuit boards exceeding the limits of table 3 by not more than 100 K for an area not greater than 2 cm ² | | N/A |
| | b) Temperature rise of V-0 or VTM-0 printed circuit boards exceeding the limits of table 3 up to 300 K for an area not greater than 2 cm ² for a maximum of 5 min | | N/A |
| | Meets all the special conditions if conductors on printed circuit boards are interrupted | | N/A |
| | Class I protective earthing maintained | | N/A |
| 11.2.8 | Temperature rise of parts not subject to the limits of 11.2.2 to 11.2.7 shall not exceed the limits in table 3, item e), "Fault conditions". | | N/A |

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| 12 | MECHANICAL STRENGTH | | P |
| 12.1 | Complete apparatus | | P |
| 12.1.1 | The apparatus have adequate mechanical strength | | P |
| 12.1.2 | Bump test where mass >7 kg | Mass= 3.80kg | N/A |
| 12.1.3 | Vibration test | Complied. | P |
| 12.1.4 | Impact hammer test | 0.5J, 3 times applied on top, sides, bottom, rear and front of plastic enclosure. (After tested, no damage and EUT can withstand the dielectric strength test as specified in 10.4) | P |
| | Steel ball test | 2J, 1 time applied on top, sides, bottom front of plastic enclosure . (After tested, no damage and EUT can withstand the dielectric strength test as specified in 10.4) | P |
| 12.1.5 | Drop test for portable apparatus where mass ≤ 7 kg | | N/A |

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|---------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 12.1.6 | Thermoplastic enclosures stress relief test | 70°C, 7 hours (After tested, the hazardous live parts cannot be touched, and all the internal tape which fixed for internal cable and glue do not loosen with 2 N force) | P |
| 12.2 | Fixing of knobs, push buttons, keys and levers | | P |
| 12.3 | Remote controls with hazardous live parts | No such remote controls used. | N/A |
| 12.4 | Drawers (pull test 50 N, 10 s) | No drawers used. | N/A |
| 12.5 | Antenna coaxial sockets providing isolation | No such sockets | N/A |
| 12.6 | Telescoping or rod antennas | <i>No antennas used</i> | N/A |
| 12.6.1 | 6,0mm diameter end | | N/A |
| | Prevented from falling into the apparatus | | N/A |
| 12.6.2 | Physical securement, removal prevented | | N/A |
| 12.7 | Apparatus containing coin / button cell batteries | <i>No such batteries used</i> | N/A |
| 12.7.2 | Reduced possibility for children to remove battery | No such component | N/A |
| 12.7.3 | Tests | | N/A |
| 12.7.3.2 | Stress relief test | | N/A |
| 12.7.3.3 | Battery replacement test | | N/A |
| 12.7.3.4 | Drop test | | N/A |
| 12.7.3.5 | Impact test | | N/A |
| 12.7.4 | Battery not accessible; or not removable | | N/A |

| | | | |
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| 13 | CLEARANCES AND CREEPAGE DISTANCES | | P |
| 13.1 | Clearances in accordance with 13.3 | Pollution degree 2 and material group IIIb. | P |
| | Creepage distances in accordance with 13.4 | | P |
| 13.2 | Determination of working voltage | | P |
| 13.3 | Clearances | | P |
| 13.3.1 | Comply with 13.3 or Annex J | | P |
| 13.3.2 | Circuits conductively connected to the mains comply with table 8 and, where applicable, table 9 | (See appended table 13.3&13.4) | P |
| 13.3.3 | Circuits not conductively connected to the mains comply with table 10 | No hazard when short circuited according to clause 11. | P |
| 13.3.4 | Measurement of transient voltages | | N/A |
| 13.4 | Creepage distances not less than appropriate table 11 minimum values | (See appended table 13.3&13.4) | P |

| IEC 60065 | | | |
|-------------|--|----------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 13.5 | Printed boards | | P |
| 13.5.1 | Conductors complying with pull-of and peel strength requirements, one of which may be conductively connected to the mains, as in fig. 10 | | P |
| 13.5.2 | Type B coated printed circuit boards complying with IEC 60664-3 (basic insulation only) | | N/A |
| 13.6 | Conductive parts along uncemented joints clearances and creepage distances comply with 13.3 and 13.4 | | N/A |
| | Conductive parts along reliably cemented joints comply with 8.8 | | N/A |
| | Temperature cycle test and dielectric strength test | | N/A |
| | 500V test for transformers, magnetic coupler and similar devices, if insulation is relied upon for safety | | N/A |
| 13.7 | Enclosed, enveloped or hermetically sealed parts not conductively connected to the mains, clearances and creepage distances as in table 12 | | N/A |
| 13.8 | Parts filled with insulating compound, meeting the requirements of 8.8 | Approved optocoupler used. | P |

| | | | |
|-------------|---|--|-----|
| 14 | COMPONENTS | | P |
| 14.1 | Flammability according to IEC 60695-11-10 or annex G, or 20.2.5 | | P |
| 14.2 | Resistors | | N/A |
| | Resistors separately approved | No such resistors. | N/A |
| | a) Resistors between hazardous live parts and accessible metal parts | | N/A |
| | b) Resistors, other than between hazardous live parts and accessible parts | | N/A |
| 14.3 | Capacitors and RC units | | P |
| | Capacitors separately approved : | Approved Y1-capacitor and X2-capacitor used. | P |
| 14.3.1 | Damp heat test duration 21 days | | N/A |
| 14.3.2 | Y capacitors tested to IEC 60384-14:2005 | Approved Y-capacitor CYB1, CYB2, CYB3 used. (see appended table 14) | P |
| 14.3.3 | X capacitors tested to IEC 60384-14:2005 | Approved X-capacitor CXB1 used. (see appended table 14) | P |
| 14.3.4 | Capacitors operating at mains frequency but not connected to the mains: tests for X2 | No such components used. | N/A |
| 14.3.6 | Capacitors with volume exceeding 1750 mm ³ , where short-circuit current exceeds 0,2 A: compliance with IEC 60384-1, 4.38 category B or better | The capacitors except metal cased type provided with volume less than 1750 mm ³ | N/A |

| IEC 60065 | | | |
|---------------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Capacitors with volume exceeding 1750 mm ³ , mounted closer to a potential ignition source than table 13 permits: compliance with IEC 60384-1, 4.38 category B or better | | N/A |
| 14.4 | Inductors and windings | | P |
| 14.4.1 | Comply with IEC 61558-1, IEC 61558-2 (as relevant) and clause 20.2.5 | | N/A |
| | Transformers and inductors separately approved .: | Tested with appliance | N/A |
| 14.4.2 | Transformers and inductors marked with manufacturer's name and type | The transformer marked with the trademarks and type. See appended table 14. | P |
| 14.4.3 | General | See clause 14.4.4, 14.4.5 and 14.4.6. | P |
| | Insulation material complies with clause 20.2.5 | See clause 20.2.5. | P |
| 14.4.4 | Constructional requirements | | P |
| 14.4.4.1 | Clearances and creepage distances comply with clause 13 | Transformer complied with clause 13. | P |
| 14.4.4.2 | Transformers meet the constructional requirements | Complied. | P |
| 14.4.5 | Separation between windings | | P |
| 14.4.5.1 | Class II transformers have adequate separation between hazardous live parts and accessible parts (double or reinforced insulation) | Double or reinforced insulation separated between primary windings and secondary windings. | P |
| | Coil formers and partition walls > 0,4 mm | Measured: Min. 0.70mm | P |
| 14.4.5.2 | Class I transformers, with basic insulation and protective screening only if all 7 conditions are met | | N/A |
| 14.4.5.3 | Separating transformers with at least basic insulation | No such transformers | N/A |
| 14.4.6 | Insulation between hazardous live parts and accessible parts | | P |
| 14.4.6.1 | Class II transformers have adequate insulation between hazardous live parts and accessible parts (double or reinforced insulation) | Double or reinforced insulation separated between hazardous live windings and windings intended to be connected to output terminals. | P |
| | Coil formers and partition walls > 0,4 mm | Measured: Min. 0.70mm | P |
| 14.4.6.2 | Class I transformers have adequate insulation between hazardous live parts and accessible conductive parts or those conductive parts or protective screens connected to a protective earth terminal | | N/A |
| | Winding wires connected to protective earth have adequate current-carrying capacity | | N/A |
| 14.5 | High voltage components and assemblies (U > 4kV peak) | | N/A |

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|------------------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 14.5.1 | Component meets category V-1 of IEC 60695-11-10 | No high-voltage components used. | N/A |
| 14.5.2 | High voltage transformers and multipliers | | N/A |
| 14.5.3 | High voltage assemblies and other parts | | N/A |
| 14.6 | Protective devices | | P |
| 14.6.1 | Protective devices used within their ratings | | P |
| | External clearances and creepage distances meet requirement of clause 13 for the voltage across the device when opened | (see appended table 13.3 & 13.4) | P |
| 14.6.2 | Thermal releases | | N/A |
| 14.6.2.1 | Comply with 14.6.2.2, 14.6.2.3 or 14.6.2.4 | No such component. | N/A |
| 14.6.2.2 | a) Thermal cut-outs separately approved | No such component. | N/A |
| | b) Thermal cut-outs tested as part of the submission | | N/A |
| 14.6.2.3 | a) Thermal links separately approved | No thermal links used | N/A |
| | b) Thermal links tested as part of the submission | | N/A |
| 14.6.2.4 | Thermal devices re-settable by soldering | No such devices | N/A |
| 14.6.3 | Fuses and fuse holders | | P |
| 14.6.3.1 | Fuse-links in the mains circuit according to IEC 60127 | Approved mains fuse used | P |
| 14.6.3.2 | Correct marking of fuse-links adjacent to holder ... : | Marked on PCB adjacent to component: FB1 T3.15AL 250V~ | P |
| 14.6.3.3 | Not possible to connect fuses in parallel | Single fuse is used | N/A |
| 14.6.3.4 | Not possible to touch hazardous live parts when replacing fuse-links without the use of a tool : | No fuse holder. Fuse can't be replaced without damaging equipment. | N/A |
| 14.6.4 | PTC thermistors comply with IEC 60730-1:2010 | No such components provided. | N/A |
| | PTC devices (>15 W) category V-1 or better | | N/A |
| 14.6.5 | Circuit protectors have adequate breaking capacity and their position is correctly marked | No such components provided. | N/A |
| 14.7 | Switches | | N/A |
| 14.7.1 a) | Separate testing to IEC 61058-1 including: - 10 000 operations - Normal pollution suitability - For CRT TV's, make and break speed independent of speed of actuation - V-0 or compliance with G.1.1 | | N/A |
| 14.7.1 b) | Tested in the apparatus | | N/A |
| | Switch controlling > 0.2A with open contact voltage > 35 V (peak) / 24 V dc complying with 14.6.3, 14.6.4 and V-0 or G.1.1 | | N/A |
| | Switch controlling > 0.2A with open contact voltage < 35 V (peak) / 24 V dc complying with 14.6.3 and V-0 or G.1.1 | | N/A |

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|--------------|--|---------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Switch controlling $\leq 0.2A$ with open contact voltage > 35 V (peak)/24 V dc complying with 14.6.4 and V-0 or G.1.1 | | N/A |
| 14.7.2 | Switch tested to 14.7.1 b) checked according to IEC 61058-1 clause 13.1 and 10 000 operation test | | N/A |
| 14.7.3 | Switch tested to 14.6.1 b) compliant with IEC 61058-1 subclause 16.2.2 d) and m) not attaining excessive temperatures in use | | N/A |
| 14.7.4 | Switch tested to 14.6.1 b) has adequate dielectric strength | | N/A |
| 14.7.5 | Mains switch controlling mains socket outlets additional tests to IEC 61058-1 | | N/A |
| 14.8 | Safety interlocks according to 2.8 of IEC 60950-1 | No safety interlocks used | N/A |
| 14.9 | Voltage setting device and the like are not likely to be changed accidentally | | N/A |
| 14.10 | Motors | <i>No motors used</i> | N/A |
| 14.10.1 | a) Endurance test on motors | No such component. | N/A |
| | b) Motor start test | | N/A |
| | Dielectric strength test | | N/A |
| 14.10.2 | Not adversely affected by oil or grease etc. | | N/A |
| 14.10.3 | Protection against moving parts | | N/A |
| 14.10.4 | Motors with phase-shifting capacitors, three-phase motors and series motors meet clause. B.8, B.9 and B.10 of IEC 60950-1, Annex B | | N/A |
| 14.11 | Batteries (<i>Only non-rechargeable alkaline batteries used in remote control</i>) | | N/A |
| 14.11.1 | Comply with IEC 62133 if applicable | | N/A |
| | Batteries mounted with no risk of accumulation of flammable gases | | N/A |
| 14.11.2 | No possibility of recharging user replaceable non rechargeable batteries | | N/A |
| 14.11.3 | Recharging currents and times within manufacturers limits | | N/A |
| | Lithium batteries discharge and reverse currents within the manufacturers limits | | N/A |
| 14.11.4 | Battery mould stress relief | | N/A |
| 14.11.5 | Battery drop test | | N/A |
| 14.12 | Optocouplers | | P |
| | Comply with constructional requirements of clause 8 | | P |
| | External clearances and creepage comply with 13.1 | | P |
| | Compound completely filling the casing or internal clearances and creepage comply with 13.1 | | P |
| | a) Complies with 13.6 (jointed insulation) and N.3.2 | | N/A |

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|--------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | b) Complies with IEC 60747-5-5:2007 | Approved optocoupler is used | P |
| | c) Complies with 13.8 | | N/A |
| 14.13 | Surge suppression varistors | | N/A |
| | Comply with IEC 61051-2 | | N/A |
| | Not connected between mains and accessible parts except for earthed parts of permanently connected apparatus | | N/A |
| | GDT bridging basic insulation complies with electric strength and distance requirements | | N/A |
| 15 | TERMINALS | | P |
| 15.1 | Plugs and sockets | | P |
| 15.1.1 | Mains plug, appliance inlet, interconnection couplers and mains socket-outlet meet the appropriate standard | Mains plug meet the appropriate standard. See appended table 14. | P |
| | Overloading of plugs or appliance inlets prevented if the apparatus has mains socket outlets | No mains socket outlets. | N/A |
| | Overloading of internal wiring prevented if the apparatus has mains socket outlets | | N/A |
| 15.1.2 | Design of connectors other than for mains power | | N/A |
| | Design of sockets with symbol of 5.3 b) design | | N/A |
| 15.1.3 | Design of terminals and connectors used in output circuits of supply apparatus | Mismatching of connectors is not possible. | N/A |
| 15.2 | Provision for protective earthing | | N/A |
| | Accessible conductive parts of Class I equipment reliably connected to earth terminal, within equipment | | N/A |
| | Protective earth conductors correctly fixed and coloured | | N/A |
| | Separate protective earth terminal near mains terminal and comply with 15.3 | | N/A |
| | Protective earth terminal resistant to corrosion | | N/A |
| | Earth resistance test: < 0,1Ω at 25 A : | | N/A |
| 15.3 | Terminals for external flexible cords and for permanent connection to the mains supply | | P |
| 15.3.1 | Adequate terminals for connection of permanent wiring | Not permanent wiring | N/A |
| 15.3.2 | Reliable connection of non-detachable cords | A strain relief bushing was provided for the reliable connection | P |
| | Not soldered to conductors of a printed circuit board | | P |

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|-------------|--|---|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Adequate clearances and creepage distances between connections should a wire break away | | P |
| | Wire secured by additional means to the conductor | Crimped quick connector terminal | P |
| 15.3.3 | Screws and nuts clamping conductors have adequate threads: ISO 261, ISO 262 or similar | | N/A |
| 15.3.4 | Conductors adequately fixed (two independent fixings) | | P |
| 15.3.5 | Terminals allow connection of conductors having appropriate cross-sectional area | | P |
| 15.3.6 | Terminals to 15.3.3 have sizes required by table 16 | | N/A |
| 15.3.7 | Terminals clamp conductors between metal and have adequate pressure | | N/A |
| | Terminals designed to avoid conductor slipping out when tightened | | N/A |
| | Terminals adequately fixed when tightened or loosened (no loosening, wiring not stressed, distances not reduced) | | N/A |
| 15.3.8 | Terminals carrying a current more than 0,2 A: contact pressure not transmitted by insulating material except ceramic | A certified primary connector was used with its rating. | P |
| 15.3.9 | Termination of non-detachable cords: wires terminated near to each other | A certified primary connector was used with its rating. | P |
| | Terminals located and shielded: test with 8 mm strand | | N/A |
| 15.4 | Devices forming a part of the mains plug | | N/A |
| 15.4.1 | No undue strain on mains socket-outlets | | N/A |
| 15.4.2 | Device complies with standard for dimensions of mains plugs | | N/A |
| 15.4.3 | Device has adequate mechanical strength (tests a,b,c) | | N/A |
| 16 | EXTERNAL FLEXIBLE CORDS | | P |
| 16.1 | Mains cords sheathed type, complying with IEC 60227 for PVC or IEC 60245 for synthetic rubber cords | Approved PVC cord used. (See appended table 14) | P |
| | Non-detachable cords for Class I have green/yellow core for protective earth | Class II equipment. | N/A |
| 16.2 | Mains cords conductors have adequate cross-sectional area for rated current consumption of the equipment | Rated current < 3A, cross-sectional area: 0.5 mm ² min, with length ≤ 2m (see appended table 14) | P |
| 16.3 | Flexible cords not complying with 16.1, used for interconnections between separate units of equipment used in combination and carrying hazardous live voltages comply with a) and b) | | N/A |

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|-----------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 16.4 | Flexible cords used for connection between equipment have adequate cross-sectional areas to avoid temperature rise under normal and fault conditions | | N/A |
| 16.5 | Adequate strain relief on external flexible cords | Displacement: 1.2 mm (Limit: 2mm) | P |
| | Not possible to push cord back into equipment | A strain-relief bushing was provided to prevent the push back of the power supply cord | P |
| | Strain relief device unlikely to damage flexible cord | | P |
| | For mains cords of Class I equipment, hazardous live conductors become taut before earth conductor | Class II equipment. | N/A |
| 16.6 | Apertures for external flexible cord: no risk of damage to the cord during assembly or movement in use | | P |
| 16.7 | Transportable apparatus have appliance inlet according to IEC 60320-1 or means of stowage to protect the cord | | N/A |

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| 17 | ELECTRICAL CONNECTIONS AND MECHANICAL FIXINGS | | P |
| 17.1 | Table 20 torque test metal thread, 5 times.....: | Torque used: 0.5 Nm (Screws with diameter 2.89mm fix plastic enclosure). | P |
| | Table 20 torque test non-metallic thread, 10 times....: | Torque used: 0.4 Nm (Screws with diameter 2.49mm fix plastic enclosure) | P |
| 17.2 | Correct introduction into female threads in non- metallic material | | P |
| 17.3 | Cover fixing screws captive or no hazard when replaced by a screw whose length is 10 times its diameter | No such screws used. | N/A |
| 17.4 | No loosening of conductive parts carrying a current > 0,2 A | | P |
| 17.5 | Contact pressure not transmitted through insulating material other than ceramic for connections carrying a current > 0,2 A | Contact pressure not transmitted through plastic. | P |
| 17.6 | Stranded conductors of flexible supply cords carrying a current > 0,2 A with screw terminals not consolidated by solder | | N/A |
| 17.7 | Cover fixing devices have adequate strength and their positioning is unambiguous | | N/A |
| 17.8 | Fixing means for detachable legs or stands provided | | P |
| 17.9 | Internal pluggable connections, affecting safety, unlikely to become disconnected | | P |

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| 18 | MECHANICAL STRENGTH OF PICTURE TUBES AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION | | N/A |
| 18.1 | Comply with IEC 61965 or 18.2 | No picture tube used. | N/A |
| 18.2 | Non-intrinsically protected tubes | | N/A |

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|-----------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 19 | STABILITY AND MECHANICAL HAZARDS | | P |
| 19.1 | Apparatus > 7kg have adequate stability or is required to be fastened in place and provided with the warning of 5.5.2 f) | Mass=3 .80kg | N/A |
| 19.2 | Test at 10° to the horizontal | | N/A |
| 19.3 | Vertical force test 100 N applied downwards | | N/A |
| 19.4 | Horizontal force test, 100 N or 13% of weight, applied horizontally to point of least stability | | N/A |
| 19.5 | Edges or corners not hazardous | Edges and corners are smooth | P |
| 19.6 | Mechanical strength of glass | | N/A |
| 19.6.1 | Glass surfaces (exc.laminated) with an area exceeding 0,1 m ² or major dimension > 450 mm, pass the test of 12.1.4 | | N/A |
| 19.6.2 | Fragmentation test | | N/A |
| 19.7 | Wall or ceiling mounting means | | P |
| 19.7.1 - 19.7.3 | Not dislodged and remain mechanically intact after test according to 19.7.2 Test 1, Test 2 or Test 3.....: | For Test 2: Mass of unit is Approx. 3.80Kg and 149N test for it. | P |

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| 20 | RESISTANCE TO FIRE | | P |
| 20.1 | Start and spread of fire is prevented | Complied. | P |
| 20.2 | Electrical components and mechanical parts | | P |
| 20.2.1 | a) Exemption for components contained in an enclosure of material V-0 to IEC 60695-11-10 with openings not exceeding 1 mm in width | Plastic enclosure with a flammability category of V-0 or metallic enclosure used. Openings not exceeding 1mm in width. | P |
| | b) Exemption for small components | Some small components mounted on UL approved PCB with flammability of V-0 | P |
| 20.2.2 | Electrical components meet the requirements of Clause 14 or 20.2.5 | | P |
| 20.2.3 | Insulation of internal wiring working at voltages > 4 kV or leaving an internal fire enclosure, or located within the areas mentioned in Table 21, comply with G.2 | No voltage > 4kV | N/A |
| 20.2.4 | Material of printed circuit boards on which the available power exceeds 15 W at a voltage between 50 V and 400 V (peak) a.c. or d.c. meets V-1 or better to IEC 60695-11-10, unless used in a fire enclosure | V-0 PCB used for the power board | P |
| | Material of printed circuit boards on which the available power exceeds 15 W at a voltage >400 V (peak) a.c. or d.c. meets V-0 to IEC 60695-11-10. | See above for the power board | P |

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|-------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 20.2.5 | Components and parts not covered by 20.1.1, 20.1.2 and 20.1.3 (other than fire enclosures) mounted nearer to a potential ignition source than the distances in Table 21 comply with the relevant flammability category in Table 21 | | P |
| | Components and parts as above but shielded from a potential ignition source, with the barrier area in accordance with Table 21 and fig. 13 | | P |
| | Apparatus with voltages >4kV under normal operating conditions and distances to the enclosure exceed those specified Table 21, flammability classification HB40 or better is required for the enclosure | No voltage > 4kV | N/A |
| 20.3 | Fire enclosure | | N/A |
| 20.3.1 | Potential ignition sources with open circuit voltage > 4 kV (peak) a.c. or d.c. contained in a fire enclosure to V-1 | Open voltage not exceed 4 KV (peak) a.c. or d.c. | N/A |
| 20.3.2 | Internal fire enclosures with openings not exceeding 1 mm in width and with openings for wires completely filled | | N/A |
| 20.3.3 | Requirements of 20.2.1 and 20.2.2 met by an internal fire enclosure | | N/A |

| ANNEX A | ADDITIONAL REQUIREMENTS FOR APPARATUS WITH PROTECTION AGAINST SPLASHING WATER | | N/A |
|----------------|--|------------------------------------|-----|
| A.5 | Marking and instructions | | N/A |
| A.5.1 | A.5.2 i) Marked with at least IPX4 (IEC 60529) 5.5.2 a) does not apply | The equipment is used indoor only. | N/A |
| A.10 | Insulation requirements | | N/A |
| A.10.3 | Splash and humidity treatment | | N/A |
| A.10.3.1 | The enclosure provide adequate protection against splashing water | | N/A |
| A.10.3.2 | Complies with 10.3,duration of the test is 168h | | N/A |

| ANNEX B | APPARATUS TO BE CONNECTED TO TELECOMMUNICATION THE TELECOMMUNICATION NETWORKS | | N/A |
|----------------|--|--|-----|
| | Complies with IEC 62151 clause 1 | | N/A |
| | Complies with IEC 62151 clause 2 | | N/A |
| | Complies with IEC 62151 clause 3 modified | | N/A |
| | Complies with IEC 62151 clause 4 modified | | N/A |
| | Complies with IEC 62151 cause 5 modified | | N/A |
| | Complies with IEC 62151 clause 6 | | N/A |
| | Complies with IEC 62151 clause 7 | | N/A |
| | Complies with IEC 62151 annex A, B and C | | N/A |

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|----------------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| ANNEX L | ADDITIONAL REQUIREMENTS FOR ELECTRONIC FLASH APPARATUS FOR PHOTOGRAPHIC PURPOSES | | N/A |
| L.5 | Marking and instructions | | N/A |
| L.5.5.1 | Instructions for battery chargers and Supply apparatus indicating type or model number of flash apparatus with which it is to be used | The EUT is not electronic flash apparatus. | N/A |
| | Instructions for flash apparatus indicating type or model number of battery chargers or Supply apparatus with which it is to be used | | N/A |
| L.7 | Heating under normal operating conditions | | N/A |
| L.7.1.6 | Lithium batteries meet permissible temp rise in Table 3 | | N/A |
| L.9 | Electric shock hazard under normal operating conditions | | N/A |
| L. 9.1.1.1 | Terminals for connection to synchroniser not hazardous live | | N/A |
| L.14 | Components | | N/A |
| L.14.6.7 | Mains switch characteristics appropriate to its function under normal conditions | | N/A |

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|-----------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60065
EUROPEAN NATIONAL DIFFERENCES**
(Audio, video and similar electronic apparatus – Safety requirements)

Differences according to..... EN 60065:2014

Attachment Form No..... EU_GD_IEC60065L

Attachment Originator..... Intertek Semko AB

Master Attachment..... Date 2015-03

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| | CENELEC COMMON MODIFICATIONS (EN) | | | P |
|---------|-----------------------------------|---------------------------------|--------------------------|---|
| General | 1.1.3 Note 2 | 5.4 Note | 5.5.2 Note 1 and Note 2 | P |
| | 13.3.1 Note 4 | 14.1 Note 1 and Note 2 | 15.1.1 Note 1 and Note 2 | |
| | 15.2 Note 2 | 16.1 Note 2 | 16.2 Note | |
| | 20 Note | J.3 Note 1 and Table J.1 Note 2 | | |

1.2 Normative references **N/A**


| | | |
|--|--------------|------------|
| <p>Add the following: EN 71-1, <i>Safety of toys – Part 1: Mechanical and physical properties</i> EN 50332-1, <i>Sound system equipment: Headphones and earphones associated with personal music players – Maximum sound pressure level measurement methodology – Part 1: General method for "one package equipment"</i> EN 50332-2, <i>Sound system equipment: Headphones and earphones associated with personal music players – Maximum sound pressure level measurement methodology – Part 2: Matching of sets with headphones if either or both are offered separately, or are offered as one package equipment but with standardised connectors between the two allowing to combine components of different manufacturers or different design</i></p> | <p>Added</p> | <p>N/A</p> |
|--|--------------|------------|

| IEC 60065 | | | |
|-----------|---|-----------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 3 | General requirements | | P |
| 3.Z1 | <p>Protective devices</p> <p>To protect against excessive current, short-circuits and earth faults in MAINS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of Clause 11 shall be included as parts of the equipment;</p> <p>b) for components in series or parallel with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for equipment supplied via an industrial mains plug or for PERMANENTLY CONNECTED APPARATUS, to rely on dedicated over current and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for apparatus not supplied via an industrial mains plug or for PERMANENTLY CONNECTED APPARATUS the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p> | No such device | N/A |
| 4 | General test conditions | | N/A |
| 4.1.1 | <p>Replace the text of the note by:</p> <p>NOTE For ROUTINE TEST, reference is made to EN 50514:2008.</p> | Replaced | N/A |

| IEC 60065 | | | |
|-----------|---|------------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 6 | Hazardous radiations | | N/A |
| 6.1 | <p>Replace the entire subclause by the following: Apparatus including a potential source of ionizing radiation shall be so constructed that personal protection against ionizing radiation is provided under normal operating conditions and under fault conditions.</p> <p><i>Compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside BY HAND, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE 1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>The dose-rate shall not exceed 1 μSv/h (0,1 mR/h) taking account of the background level.</i></p> <p>NOTE 2 These values appear in Council Directive 96/29/Euratom of 13 May 1996.</p> <p><i>A picture is considered to be intelligible if the following conditions are met:</i></p> <ul style="list-style-type: none"> - a scanning amplitude of at least 70 % of the usable screen width; - a minimum luminance of 50 cd/m² with locked blank raster provided by a test generator; - a horizontal resolution corresponding to at least 1,5 MHz in the centre, with a similar vertical degradation; - not more than one flashover per 5 min. | No ionizing radiation. | N/A |
| 16 | External flexible cords | | N/A |
| 16.1 | <p>Add the following note after the first paragraph: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p> | Added | N/A |

| IEC 60065 | | | |
|-----------|---|--------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| Z1 | Protection against excessive sound pressure from personal music players | | N/A |
| Z1.1 | <p>General</p> <p>This subclause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear.</p> <p>Requirements for earphones and headphones intended for use with personal music players are also covered.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> - is designed to allow the user to listen to recorded or broadcast sound or video; and - uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and - is body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around while in use. <p>EXAMPLES CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player shall comply with the requirements of this subclause.</p> <p>NOTE 1 Protection against acoustic energy sources from telecom terminal equipment is referenced to ITU-T Recommendation P.360.</p> <p>The requirements in this subclause are valid for music or video mode only.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> - professional equipment; <p>NOTE 2 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p> <ul style="list-style-type: none"> - hearing aid equipment and other devices for assistive listening; - the following types of analogue personal music players: <ul style="list-style-type: none"> • long distance radio receiver (for example, a multiband radio receiver or a world band radio receiver, an AM radio receiver) and • cassette player/recorder; <p>NOTE 3 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> | Not such equipment | N/A |
| | <ul style="list-style-type: none"> - player while connected to an external amplifier that does not allow the user to walk around while in use. <p>For equipment clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p> | Not such equipment | N/A |

| IEC 60065 | | | |
|-----------|---|--------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| Z1.2 | <p>Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dB(A) measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. <p><small>NOTE 1 Wherever the term acoustic output is used in this subclause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Z1.5 and Annex ZE.</small></p> <p>All other equipment shall:</p> <ul style="list-style-type: none"> a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and <p><small>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</small></p> <p><small>NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</small></p> <p>d) have a warning as specified in Z1.3; and</p> | Not such equipment | N/A |

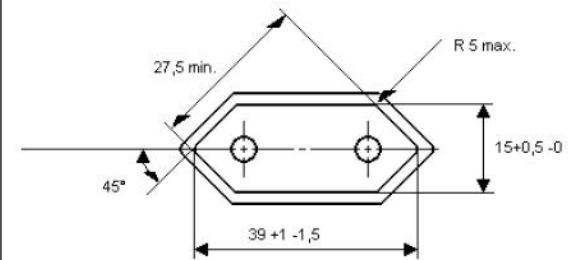
| IEC 60065 | | | |
|-----------|--|--------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | <p>e) not exceed the following:</p> <p>1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dB(A) measured while playing the fixed “programme simulation noise” described in EN 50332-1; and</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1.</p> <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the basic limit of 85 dB(A). In this case, T becomes the duration of the song.</p> <p><small>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dB(A).</small></p> <p><small>NOTE 5 For example, if the player is set with the programme simulation noise to 85 dB(A), but the average music level of the song is only 65 dB(A), there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB(A).</small></p> | Not such equipment | N/A |
| Z1.3 | <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> – the symbol of Figure Z1 with a minimum height of 5 mm; and – the following wording, or similar: <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>To prevent possible hearing damage, do not listen at high volume levels for long periods.</p> </div> <div style="text-align: center; margin: 10px auto;">  </div> <p>Figure Z1 – Warning label (IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p> | Not such equipment | N/A |

| IEC 60065 | | | |
|----------------|--|--------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| Z1.4 | Requirements for listening devices (headphones, earphones, etc.) | | N/A |
| Z1.4.1 | <p>Corded passive listening devices with analogue input</p> <p>With 94 dB(A) sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.</p> <p>This requirement is applicable in any mode where the headphones can operate including any available setting (for example built-in volume level control, an additional sound feature like equalization, etc.).</p> <p>NOTE The values of 94 dB(A) – 75 mV correspond with 85 dB(A) – 27 mV and 100 dB(A) – 150 mV.</p> | Not such equipment | N/A |
| Z1.4.3 | <p>Cordless listening devices</p> <p>In wireless mode:</p> <ul style="list-style-type: none"> – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above-mentioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dB(A). | Not such equipment | N/A |
| Z1.5 | <p>Measurement methods</p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.</p> <p>NOTE Test method for cordless equipment provided without listening device should be defined.</p> | Not such equipment | N/A |
| | ANNEXES | | N/A |
| Annex B | <p>Replace the text of Note 1 by the following: In the CENELEC countries listed in IEC 62151, special national conditions apply.</p> | Replaced | N/A |
| Annex N | <p>After the note in N.1, add the following: For ROUTINE TEST, reference is made to EN 50514:2008.</p> | Added | N/A |
| ZA | NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS | | — |

| IEC 60065 | | | |
|-----------|--|-----------------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| ZB | ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN) | | N/A |
| 2.6.1 | <p>Denmark</p> <p>The following is added:</p> <p>Certain types of Class I apparatus, see 15.1.1, may be provided with a plug not establishing earthing continuity when inserted in Danish socket-outlets</p> <p><i>Justification:</i></p> <p>Heavy Current Regulations, Section 6c</p> | | N/A |
| 3.Z1 | <p>Denmark</p> <p>Add to the end of the subclause</p> <p>Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.</p> <p><i>Justification:</i></p> <p>In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p> | No socket outlet in the EUT | N/A |
| 5.4 | <p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>CLASS I apparatus which is intended for connection to the building installation wiring via a plug or an appliance coupler, or both and in addition is intended for connection to other apparatus or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network TERMINALS and ACCESSIBLE parts, have a marking stating that the apparatus must be connected to an earthed MAINS socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laitte on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p> | | N/A |

| IEC 60065 | | | |
|-----------|---|--------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 5.5.2 | <p>Norway and Sweden Add to the end of 5.5.2 (after the compliance statement) the following: The screen of the coaxial cable of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a coaxial cable based television distribution system. It is however accepted to provide the insulation external to the apparatus by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the apparatus is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the MAINS connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for installations of CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel-TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p> | Not such equipment | N/A |

| IEC 60065 | | | |
|-----------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 13.3.1 | <p>Norway Add to the second paragraph the following: Due to the IT power distribution system used, the a.c. MAINS supply voltage is considered to be equal to the line-to-line voltage, and will remain 230 V in case of a single earth fault. <i>Justification:</i> Based on a use in Norway of an IT power distribution system where the neutral is not provided</p> | | N/A |
| 15.1.1 | <p>Denmark To the first paragraph the following is added: In Denmark, supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. Appliances of Class I provided with socket-outlets with earth contact or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug which assure earth continuity with the socket-outlet in accordance with DS 60884-2-D1. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-1. To the second paragraph the following is added: Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-1c. To the third paragraph the following is added: Mains socket-outlets with earthing contact shall be in compliance with DS 60884-2-D1, Standard sheet DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c</p> | | N/A |

| IEC 60065 | | | |
|-----------|--|------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 15.1.1 | <p>Ireland Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. <i>Justification:</i> SI 525: 1997</p> | | N/A |
| 15.1.1 | <p>Norway Mains socket-outlets mounted on Class II apparatus shall comply with the specifications given in CEE Publ. 7 as far as applicable, with the following amendments: § 8 Dimensions a) 2,5 A 250 V two-pole socket-outlets for electronic apparatus shall comply with the enclosed Standard Sheet I.</p> <div style="border: 1px solid black; padding: 5px;"> <p>STANDARD SHEET I 2,5 A/250 V SOCKET-OUTLET FOR ELECTRONIC APPLIANCES OF CLASS II</p>  <p>Dimensions in mm Other dimensions according to CEE Publication 7 Standard Sheet I "Portable Single-Way Socket-Outlets".</p> </div> <p>§ 24 Mechanical strength a) 2,5 A, 250 V socket-outlets for Class II electronic apparatus are tested as specified in EN 60065:2014, 12.1.3. Also the protecting rim shall be tested. <i>Justification:</i> Act of 24 May 1929 relating to supervision of electrical installation (TEA 1929/FEL 1998).</p> | No socket-outlet used. | N/A |

| IEC 60065 | | | |
|-----------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 15.1.1 | <p>United Kingdom Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug shall be fitted with a "standard plug" in accordance with Statutory Instrument 1768: 1994: The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those Regulations.</p> <p>NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p> <p><i>Justification:</i> SI 1768: 1994</p> | | N/A |
| Annex B | <p>Finland, Norway and Sweden All sub clauses given below are sub clauses of IEC 62151 (ref. corrigenda 1 and 2 to IEC 62151). Subclause 4.1.1 (corrigendum 2): Add after the first paragraph: NOTE In Finland, Norway and Sweden, CLASS I equipment which is intended for connection to the building installation via a non-industrial plug or a non-industrial appliance coupler, or both and in addition is intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and ACCESSIBLE parts, has a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: " Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan " In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag" Subclause 4.1.4 (corrigendum 1) Add at the end of the subclause: NOTE In Norway, for requirements see 4.1.1, note and 5.3.1, note 1. Subclause 4.2.1.2 (corrigendum 1) Add at the end of the subclause: NOTE 3 In Norway, for requirements see 5.3.1, note 1. Subclause 4.2.1.3 (corrigendum 2) Add at the end of the subclause: NOTE In Norway, for requirements see 4.1.1, note and 5.3.1, note 1. Subclause 4.2.1.4 (corrigendum 1) Number the existing note as NOTE 1 and add at the end of the subclause the following NOTE 2: NOTE 2 In Norway, for requirements see 4.1.1, note and 5.3.1, note 1. Subclause 5.3.1 (corrigendum 1) Add after the first test specifications paragraph: NOTE 1 In Finland, Norway and Sweden, there are additional requirements for the insulation. Renumber the existing note as NOTE 2.</p> | The EUT didn't be connected to telecommunication networks. | N/A |

| IEC 60065 | | | |
|-----------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | For additional requirements for the insulation in Finland, Norway and Sweden in NOTE 1 the following text is added between the first and the second paragraph (this text is identical to the corresponding EN 60950-1:2001): | | |
| | <p>NOTE 1 In Finland, Norway and Sweden, if this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or</p> <ul style="list-style-type: none"> • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in the accordance with the compliance clause below and in addition:</p> <ul style="list-style-type: none"> • passes the test and inspection criteria of 13.6 with an electric strength test of 10.3 using the test voltage of 1,5 kV multiplied by 1,6, and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV (for performance of the test see N.2.1). <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in IEC 62151:2000, 6.2.1; • the additional testing shall be performed on all the test specimens as described in EN 132400; • the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400 in the sequence of tests as described in EN 132400. <p>Subclause 5.3.2 (corrigendum 1)</p> <p>Add after the fourth dash:</p> <p>NOTE In Finland, Norway and Sweden, exclusions are applicable for equipment which is intended for connection to the building installation wiring using screw terminals or other reliable means, and for equipment which is intended for connection to the building installation wiring via an industrial plug and socket -outlet or an appliance coupler, or both, complying with EN 60309 or with a comparable national standard.</p> | The EUT didn't be connected to telecommunication networks. | N/A |
| J.2 | <p>Norway</p> <p>After Table J.1 the following is added:</p> <p>Due to the IT power distribution system used, the a.c. MAINS supply voltage is considered to be equal to the line-to-line voltage, and will remain 230 V in case of a single earth fault.</p> <p><i>Justification:</i></p> <p>Based on a use in Norway of an IT power distribution system where the neutral is not provided</p> | | N/A |

| IEC 60065 | | | |
|-----------|---|---------------------------|------------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| C | ANNEX ZC, NATIONAL DEVIATIONS (EN) | | N/A |
| 6.1 | <p>Germany</p> <p>The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the Council Directive 96/29/Euratom in Germany.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-381 16 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de</p> | No cathode ray in the EUT | N/A |
| 14.1 | <p>Sweden</p> <p>The following requirements shall be fulfilled: Switches containing mercury such as thermostats, relays and level controllers are not allowed.</p> | No such device | N/A |

| ATTACHMENT TO TEST REPORT IEC 60065 EUROPEAN NATIONAL DIFFERENCES (Audio, video and similar electronic apparatus – Safety requirements) | | | |
|---|------------------------------------|---------|-----|
| Differences according to.....: EN 60065:2014+A11: 2017 | | | |
| ZC | ANNEX ZC, NATIONAL DEVIATIONS (EN) | | N/A |
| 5.1 | Delete the Italian deviation. | Deleted | N/A |

| 7.1 | | TABLE: temperature rise measurements: | | | | | | P |
|-----------------------------|--------|---|--------|--------|-------------------------|-------------------------|--|----|
| | | Power consumption in the OFF/Stand-by mode of the functional switch (W) | | | | Stand-by:0.45W | | |
| Cond. | Un (V) | Hz | In (A) | Pn (W) | Uout (V) Left/ Right | Pout (W) Left/ Right | Operating Condition / Status Input mode: HDMI mode. Playing three vertical bar signal and 1KHz audio signal to deliver the 1/8 Max. Non-Clipped output power on speakers, USB loading 5V/500mA | |
| 1. | 90 | 50 | 0.73 | 38.85 | L=R:2.45 | L=R:0.75 | | |
| 2. | 100 | 50 | 0.66 | 38.52 | | | | |
| 3. | 240 | 50 | 0.36 | 38.74 | | | | |
| 4. | 264 | 50 | 0.33 | 38.78 | | | | |
| 5. | 90 | 60 | 0.70 | 38.66 | | | | |
| 6. | 100 | 60 | 0.63 | 38.39 | | | | |
| 7. | 240 | 60 | 0.31 | 38.17 | | | | |
| 8. | 264 | 60 | 0.29 | 38.38 | | | | |
| | | Loudspeaker impedance (Ω) | | | | 8Ω | | — |
| | | Several loudspeaker systems..... | | | | 2 | | -- |
| | | Marking of loudspeaker terminals..... | | | | Internally integrated | | -- |
| Temperature Rise dT of Part | | | | | dT (K) | | Limit max dT (K) | |
| Supply voltage | | | | | No. _5_ | No. _4_ | -- | |
| Power cord (inside) | | | | | 9.3 | 6.3 | 50 | |
| AC connector (CNB1) | | | | | 19.5 | 10.7 | 20 | |
| X-capacitor (CXB1) | | | | | 16.1 | 11.2 | 55 | |
| PCB near NTCB1 | | | | | 16.8 | 10.4 | 85 | |
| Line filter LCB1 Coil | | | | | 37.6 | 15.3 | 75 | |
| PCB near DB4 | | | | | 44.6 | 22.7 | 85 | |
| Y-capacitor (CYB2) | | | | | 10.2 | 8.2 | 80 | |
| E- capacitor (EB1) | | | | | 24.3 | 17.4 | 60 | |
| Y-capacitor (CYB3) | | | | | 27.8 | 26.3 | 80 | |
| Optocoupler (PCB101) | | | | | 53.4 | 57.2 | 65 | |
| PCB near QB101 | | | | | 38.8 | 47.0 | 85 | |
| Transformer TB101 coil | | | | | 38.4 | 39.6 | 65 | |
| Transformer TB101 core | | | | | 37.2 | 38.2 | 65 | |
| LB802 Coil | | | | | 38.3 | 39.5 | 75 | |
| PCB near DB101 | | | | | 51.5 | 52.7 | 85 | |
| PCB near DB102 | | | | | 27.4 | 24.8 | 85 | |
| E- capacitor (EB801) | | | | | 34.7 | 35.9 | 60 | |
| PCB near USB1 | | | | | 32.8 | 33.9 | 85 | |
| PCB near U1 | | | | | 23.1 | 22.5 | 85 | |
| PCB near UF2 | | | | | 46.1 | 46.6 | 85 | |

| | | | |
|--------------------------------------|------|------|---------------|
| PCB near UA1 | 16.3 | 15.4 | 85 |
| Plastic Enclosure inside near TB101 | 17.5 | 16.6 | For reference |
| Plastic Enclosure outside near TB101 | 11.8 | 11.4 | 50 |
| LED Panel | 5.7 | 5.5 | 50 |
| Button | 0.8 | 0.5 | 40 |
| Ambient (°C) | 26.7 | 27.3 | -- |
| | | | |
| Ambient temperature t1 (°C) | -- | -- | -- |
| Ambient temperature t1 (°C) | -- | -- | -- |

| Temperature rise dT of winding: $dT = (R2 - R1) \times (234.5 + t1) - (t2 - t1)$ R1 | R1 (Ω) | R2 (Ω) | dT (K) | Limit max (K) | Insulation class |
|---|--------|--------|--------|---------------|------------------|
| -- | -- | -- | -- | -- | -- |

- Measurements were carried out with the apparatus positioned inside the box specified by the clause 4.1.4 of the standard.
- All the heating test was performed under TV mode.
- According to the user manual, the appliance is intended to be used in tropical climate, so the basic ambient temperature is 45°C.
- L=Left speaker, R=Right speaker

| 7.2 | TABLE: softening temperature of thermoplastics | | | N/A |
|-----------------------|--|---------------------------|----------------------|-----|
| Temperature T of part | T - normal conditions (°C) | T - fault conditions (°C) | Min T softening (°C) | |
| -- | -- | -- | -- | |

Remark: Material of bobbin for transformer (TB101) and line choke(LCB1) are phenolic which meets the softening test requirement.

| 9.1.1.2 | TABLE: Electric shock hazard under normal condition (touch current) | | | | | P |
|--|---|--------|----------------|--------|------------------|---|
| Touch current measured between: | Condition | U1 (V) | U1 (Vpk) Limit | U2 (V) | U2 (Vpk) Limited | |
| L/N of AC to accessible terminals | Normal condition | 0.260 | 17.5 | 0.098 | 0.175 | |
| L/N of AC to Metal enclosure | Normal condition | 0.240 | 17.5 | 0.094 | 0.175 | |
| L/N of plug to Plastic enclosure with metal foil | Normal condition | 0.084 | 17.5 | 0.024 | 0.175 | |

Notes:
 1. The touch current was measured according to 9.1.1.2 b) with the test circuit of Annex D connected between the specified points.
 2. EUT supplied with 264Vac/60Hz.
 3. All Y-capacitors are maximum rating according to table 14.

| 10.4 | TABLE: Insulation Resistance Measurements | | P |
|----------------------------------|---|-------|----------------|
| Insulation resistance R between: | | R (M) | Required R (M) |
| Between L and N (fuse opened) | | >100 | Min. 2 |

| | | |
|---|------|--------|
| Between L&N and accessible terminals | >100 | Min. 4 |
| Between L&N and plastic enclosure with metal foil | >100 | Min. 4 |
| Between L&N and metal enclosure | >100 | Min. 4 |
| Transformer TB101 primary winding and secondary winding | >100 | Min. 4 |
| Transformer TB101 secondary winding and core | >100 | Min. 4 |
| 2 layer insulation tape of transformer | >100 | Min. 4 |
| Mylar sheet | >100 | Min. 4 |
| Supplementary information: | | |

| 10.4 | TABLE: Dielectric Strength | | P |
|---|----------------------------|--------------------------------|---|
| Test voltage applied between: | Test potential applied (V) | Breakdown / flashover (Yes/No) | |
| Between L and N (fuse opened) | 1500Vac | No | |
| Between L&N and accessible terminals | 3000Vac | No | |
| Between L&N and plastic enclosure with metal foil | 3000Vac | No | |
| Between L&N and metal enclosure | 3000Vac | No | |
| Transformer TB101 primary winding and secondary winding | 3000Vac | No | |
| Transformer TB101 secondary winding and core | 3000Vac | No | |
| 2 layer insulation tape of transformer | 3000Vac | No | |
| Mylar sheet | 3000Vac | No | |
| Supplementary information: | | | |

| 11.1 | TABLE: Electric shock hazard under abnormal condition | | | | P |
|--|---|--------|------------------|--------|----------------|
| Touch current measured between: | Condition | U1 (V) | U1 (Vpk) Limited | U2 (V) | U2 (Vpk) Limit |
| L/N of AC to accessible terminals | All fault condition that cause fuse FB1 opened | 0.280 | 35 | 0.052 | 0.7 |
| L/N of AC to Metal enclosure | | 0.240 | 35 | 0.032 | 0.7 |
| L/N of plug to Plastic enclosure with metal foil | | 0.062 | 35 | 0.028 | 0.7 |

Note:

The touch current is measured according to 9.1.1 b) with the test circuit of Annex D connected between the specified points. Input 264Vac/60Hz.

| 11.2 | TABLE: Fault Conditions | | P |
|------|---|-------------|----|
| | Voltage (V) 0,9 or 1,1times rated voltage.....: | 240X1.1=264 | -- |
| | Frequency (Hz).....: | 50/60 | -- |

| | | Ambient temperature (°C) | | See below | -- |
|-----|---------------------------|--------------------------------|-------------------|--|----|
| No. | Component | Fault | dT (K) /Component | Test conditions, test duration, test result | |
| 1. | DB1 | S-C | -- | Fuse FB1 opened immediately, no hazards. Test time:1s. I/P: 264V, 0A, 0W. | |
| 2. | EB1 | S-C | -- | Fuse FB1 opened immediately, no hazards. Test time:1s. I/P: 264V, 0A, 0W. | |
| 3. | QB101 G-S | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.038A, 0.35W. | |
| 4. | QB101 G-S | S-C | -- | Fuse FB1 opened immediately, QB101 damaged, no hazards. Test time:1s. I/P: 264V, 0A, 0W. | |
| 5. | QB101 G-S | S-C | -- | Fuse FB1 opened immediately, QB101 damaged, no hazards. Test time:1s. I/P: 264V, 0A, 0W. | |
| 6. | RB148 | S-C | -- | Fuse FB1 open, QB101 damaged, no hazards. Test time:1s. I/P: 264V, 0A, 0W | |
| 7. | UB101 Pin 6-2 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.031A, 0.3W. | |
| 8. | UB101 Pin 5-2 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.028A, 0.6W. | |
| 9 | UB101 Pin 5-1 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.029A, 0.3W. | |
| 10. | TB102 Pin1-Pin3 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.029A, 0.5W. | |
| 11. | TB102 Pin5-Pin6 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.031A, 0.6W. | |
| 12. | TB102 Pin8/9- Pin10 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.028A, 0.5W. | |
| 13 | TB102 Pin7- Pin11 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.029A, 0.2W. | |
| 14. | DB101 | S-C | -- | Unit shut down immediately. No damage, no hazards. | |

| | | | | |
|-----|-------------------------|-------------------------|------------------------|--|
| | | | | Test time:10mins. I/P: 264V, 0.030A, 0.6W. |
| 15. | DB102 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.030A, 0.6W. |
| 16. | EB101 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.031A, 0.2W. |
| 17. | EB104 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.028A, 0.2W. |
| 18. | PCB101 Pin 1-2 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.029A, 0.2W. |
| 19. | PCB101 Pin 3-4 | S-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.029A, 0.2W. |
| 20. | PCB101 Pin 1 | O-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.029A, 0.2W. |
| 21. | PCB101 Pin 3 | O-C | -- | Unit shut down immediately. No damage, no hazards. Test time:10mins. I/P: 264V, 0.029A, 0.2W.. |
| 22. | USB output | S-C | -- | Unit shut down immediately, input power decrease to 14.5W . No damage, no hazards. Test time:10mins. I/P: 264V, 0.12A,14.5W. |
| 23. | Ventilation openings | B-L | See the appended table | Normal operation, temperature rise stable, no hazard. Test duration: 3.5hrs I/P: 264V,0.332A,38.9 W. |
| 24. | Speaker output | Max. non- clipped | See the appended table | Input power increase to 53.2W, temperature stabilization, no damaged, no hazards. Test duration: 3.5hrs I/P: 264V,0.415 A,53.2 W. |
| 25. | Speaker output | S-C | See the appended table | Input power decrease to 34.5W, temperature stabilization, no damaged, no hazards. Test duration: 3hrs. I/P: 264V,0.287A,34.5W. |
| 26. | USB output | O-L | See the appended table | Unit shut down when the USB output load to Max. 1.2A, temperature rise stable, no hazard. Test duration: 4h30min. I/P: 264V,0.149A,15.4W |

Supplementary information:

1. After each of above test, unit can pass the dielectric strength test specified in table 10.4
 2. Used abbreviations: S-C=short circuit, O-C=open circuit, O-L=overload, B-L=block ventilation openings, I/P=input current/input power.
 3. For fault where opened, the current through the fuse exceed 2.1 times fuse rating (T3.15AL, 250V~).
- All source of fuse used with same result.

TABLE: Temperature Rise Measurements Under Abnormal Condition Tests

| -- | Test condition | Speaker Output shorted | Speaker Output Max. Non-clipped | Ventilation openings Blocked | USB O-L | -- | -- | |
|----|---------------------------------------|------------------------|---------------------------------|------------------------------|---------|----|------|--------------|
| -- | Test voltage..... | 264 | 264 | 264 | 264 | -- | -- | |
| | | dT (K) | | | | | | Limit dT (K) |
| | Power cord (inside) | 6.4 | 7.6 | 9.4 | 6.6 | -- | 90 | |
| | AC connector (CNB1) | 10.1 | 11.5 | 12.5 | 11.4 | -- | Ref. | |
| | X-capacitor (CXB1) | 11.2 | 13.3 | 14.2 | 12.1 | -- | Ref. | |
| | PCB near NTCB1 | 10.2 | 12.5 | 13.2 | 11.2 | -- | 100 | |
| | Line filter LCB1 Coil | 14.3 | 20.1 | 17.7 | 16.7 | -- | 140 | |
| | PCB near DB4 | 21.4 | 28.2 | 24.8 | 24.4 | -- | 100 | |
| | Y-capacitor (CYB2) | 8.5 | 9.4 | 13.3 | 9.9 | -- | Ref. | |
| | E- capacitor (EB1) | 16.8 | 20.7 | 20.8 | 18.7 | -- | Ref. | |
| | Y-capacitor (CYB3) | 24.6 | 33.6 | 31.2 | 30.5 | -- | Ref. | |
| | Optocoupler (PCB101) | 51.5 | 74.3 | 60.4 | 63.6 | -- | Ref. | |
| | PCB near QB101 | 44.7 | 52.8 | 49.2 | 48.6 | -- | 100 | |
| | Transformer TB101 coil | 35.1 | 47.5 | 41.8 | 40.2 | -- | 130 | |
| | Transformer TB101 core | 34.7 | 46.8 | 39.6 | 40.1 | -- | 130 | |
| | LB802 Coil | 37.1 | 46.6 | 42.7 | 42.7 | -- | 140 | |
| | PCB near DB101 | 46.2 | 72.3 | 56.4 | 60.9 | -- | 100 | |
| | PCB near DB102 | 23.8 | 29.0 | 29.8 | 29.9 | -- | 100 | |
| | E- capacitor (EB801) | 31.6 | 47.3 | 40.5 | 39.7 | -- | Ref. | |
| | PCB near USB1 | 29.5 | 44.7 | 37.4 | 37.8 | -- | 100 | |
| | PCB near U1 | 22.0 | 23.6 | 24.9 | 23.5 | -- | 100 | |
| | PCB near UF2 | 36.4 | 72.0 | 50.9 | 53.2 | -- | 100 | |
| | PCB near UA1 | 15.2 | 16.4 | 18.5 | 16.1 | -- | 100 | |
| | Plastic Enclosure inside near TB101 | 15.8 | 20.9 | 19.1 | 18.0 | -- | Ref. | |
| | Plastic Enclosure outside near TB101 | 11.0 | 14.1 | 13.5 | 12.3 | -- | 55 | |
| | LED Panel | 5.6 | 6.2 | 6.5 | 5.7 | -- | 55 | |
| | Button | 0.4 | 0.3 | 0.4 | 0.4 | -- | 55 | |
| | Ambient (°C) | 28.1 | 28.6 | 29.0 | 29.3 | | -- | |
| | Winding temperature rise measurements | | | | | | | N/A |

| | | | | | | |
|--|--------------------|--------------------|--------|--------------|------------------|----|
| Ambient temperature t1 (°C) | | -- | | | | — |
| Ambient temperature t2 (°C) | | -- | | | | — |
| Temperature rise dT of winding: $dT = \frac{R_2 - R_1}{R_1} \times (234.5 + t_1) - (t_2 - t_1)$ | R ₁ (Ω) | R ₂ (Ω) | dT (K) | Limit dT (K) | Insulation class | |
| -- | -- | -- | -- | -- | -- | -- |

| 13.2 | WORKING VOLTAGE MEASUREMENT | | | P |
|--|-----------------------------|------------------|---------------------------------|---|
| Location | RMS Voltage (V) | Peak Voltage (V) | Comments | |
| CYB1 Primary to secondary | 238 | 360 | -- | |
| CYB2 Primary to secondary | 6 | 24 | -- | |
| CYB3 Primary to secondary | 166 | 344 | -- | |
| PCB101 Pin 1-3 | 179 | 376 | -- | |
| PCB101 Pin 1-4 | 178 | 368 | -- | |
| PCB101 Pin 2-3 | 179 | 376 | -- | |
| PCB101 Pin 2-4 | 178 | 368 | -- | |
| TB101 Pin1-6 | 248 | 400 | -- | |
| TB101 Pin3-6 | 270 | 448 | -- | |
| TB101 Pin4-6 | 167 | 360 | -- | |
| TB101 Pin5-6 | 166 | 352 | -- | |
| TB101 Pin1-7 | 247 | 360 | -- | |
| TB101 Pin3-7 | 279 | 464 | Max.Vrms and max.Vpeak of TB101 | |
| TB101 Pin4-7 | 166 | 344 | -- | |
| TB101 Pin5-7 | 167 | 400 | -- | |
| TB101 Pin1-8 | 248 | 408 | -- | |
| TB101 Pin3-8 | 270 | 456 | -- | |
| TB101 Pin4-8 | 167 | 360 | -- | |
| TB101 Pin5-8 | 166 | 352 | -- | |
| TB101 Pin1-9 | 250 | 460 | -- | |
| TB101 Pin3-9 | 263 | 424 | -- | |
| TB101 Pin4-9 | 170 | 368 | -- | |
| TB101 Pin5-9 | 167 | 360 | -- | |
| Condition: The unit connected to RATED SUPPLY VOLTAGE <u>240</u> V ac/ dc, <u>60</u> Hz, and working under normal condition. | | | | |

| 13.3&13.4 TABLE: Clearance and Creepage Distance Measurements | | | | | | | P |
|---|---------------------|----------------------|-----------------|----------------------|---------------|----------|---|
| Rated supply | 100-240Vac | Pollution degree ... | II | Material Group | IIIa or IIIb | | |
| 2 N force on internal parts applied: | | | Component | | | P | |
| 30 N force on outside of conductive enclosure applied: | | | Metal enclosure | | | P | |
| clearance and creepage distance at/of: | Working voltage (V) | | Clearance (mm) | | Creepage (mm) | | |
| | U peak | U r.m.s. | Required | Measured | required | Measured | |
| Different polarity of L & N before fuse FB1 (BI) | <420 | <250 | 2.0 | 4.2 | 2.5 | 4.2 | |
| Different polarity of fuse (BI) | <420 | <250 | 2.0 | 2.8 | 2.5 | 2.8 | |
| CYB1 capacitor primary to secondary (RI) | <420 | <250 | 4.0 | 7.9 | 5.0 | 7.9 | |
| CYB2 capacitor primary to secondary (RI) | <420 | <250 | 4.0 | 7.9 | 5.0 | 7.9 | |
| CYB3 capacitor primary to secondary (RI) | <420 | <250 | 4.0 | 7.5 | 5.0 | 7.5 | |
| Optocoupler PCB101 primary to secondary (RI) | <420 | <250 | 4.0 | 6.2 | 5.0 | 6.2 | |
| Transformer TB101 primary to secondary on PCB Layout (RI) | 464 | 279 | 4.2 | 7.5 | 5.6 | 7.5 | |
| Transformer TB101 primary winding to secondary pins (RI) | 464 | 279 | 4.2 | 8.0 | 5.6 | 8.0 | |
| Transformer TB101 core to secondary pins (RI) | 464 | 279 | 4.2 | 7.8 | 5.6 | 7.8 | |
| Primary trace to metal case of display screen (RI) | <420 | <250 | 4.0 | >6.0 | 5.0 | >6.5 | |
| Primary components to surface of plastic enclosure (RI) | <420 | <250 | 4.0 | >6.0 | 5.0 | >6.5 | |

Notes:

- Secondary circuits of Class II apparatus which have connector terminals that could be earthed (e.g. antenna signal input), are subjected to the requirements for circuits conductively connected to the mains in Tables 8 and 9.
- For insufficient clearances and creepage distances from secondary to secondary circuits and from secondary circuits to earth, see Cl. 4.3.1, 4.3.2 and 11.2.
- If the minimum creepage distance in Table 11 is less than the minimum required clearance in Tables 8, 9 or 10 as required, then the value for clearance is used as the minimum creepage distance .
"Min" = minimum required.
"Actual" = Actual dimensions measured.
- Triple insulated wire used for secondary winding of the transformer TB101, Core of TB101 considered as primary part.
- BI=Basic insulation; SI=Supplementary insulation; RI=Reinforce insulation.

| 14 | TABLE: Critical components information | | | | | P |
|----------------------------|---|------------------|--------------------|--------------------------|-------------------------|---|
| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of Conformity*) | |
| Plug (UK type) | Guangzhou HuanQiu Electrical & Appliance Co., Ltd. | HQ-BS301 | 13A/250Vac | BS 1363-1:1995 | ASTA: 1024 | |
| (Alternate) | Shenzhen G-CINDA Power Solution Co., Ltd | GXD-018 | 13A/250Vac | BS 1363-1:1995 | ASTA :1152 | |
| (Alternate) | Guangzhou Towell Electrical Appliance Co., Ltd. | 8802 | 13A/250Vac | BS 1363-1:1995 | ASTA :805 | |
| (Alternate) | VOLEX cable assembly SHENZHEN CO.,LTD | LQ-224 | 13A/250Vac | BS 1363-1:1995 | ASTA :713 | |
| (Alternate) | Guangdong KAIHUA Electric Appliance Co., Ltd | KH-9933 | 13A/250Vac | BS 1363-1:1995 | ASTA :1053 | |
| (Alternate) | ShenZhen XieKang Electric Co., Ltd. | XK-28 | 13A/250Vac | BS 1363-1:1995 + A4:2012 | ASTA :972 | |
| (Alternate) | Interchangeable | Interchangeable | 13A/250Vac | BS 1363-1:1995 + A4:2012 | ASTA, BSI | |
| (Alternate) | Jiexi MianHu HuanQiu Electric Power Supply Cord Factory | HQ-AC021 | 13 A, 250 VAC | BS1363-1:2016 +A1:2018 | ASTA 1360 | |
| (Alternate) | Shenzhen G-CINDA Power Solution Co., Ltd | GXD-018 | 3A/10A/13A, 250VAC | BS1363-1:2016 | 4347096.01GC C | |
| Fuse (used in the UK plug) | Shenzhen deer Electronics Co., Ltd | DISSMANN JADE | 3/5/10/13A 250V ~ | BS 1362 | ASTA: 997 | |
| (Alternate) | Dongguan Ubill Electrical Co., Ltd | UBL8808 | 3/5/10/13A 250V ~ | BS 1362 | ASTA: 1204 | |
| (Alternate) | Dongguan Dawei Electric Co., Ltd | 625 | 250V/13A | BS 1362 | ASTA :1207 | |
| Plug (Saudi Arabia) | Dong guan yingtai Electric Co.,Ltd | CWL668 | 13A/250Vac | SASO2203:2015 | SZES13090019 3901 | |
| (Alternate) | De-Chang Electronic Manufactory | DC-168A | 13A/250Vac | SASO2203:2015 | SZES16061022 6801 | |
| (Alternate) | Luen Tai Ip's Electrical (Shenzhen) Co., Ltd. | PMS-9518 | 13A/250Vac | SASO2203:2015 | KSA R-310638 | |
| (Alternate) | Shenzhen G-Cinda Power Solution Co., Ltd | GXD-018 | 3A/10A/13A, 250VAC | SASO2203:2015 | 17121202HK G-003VOC | |
| (Alternate) | Luen Tai Ip's Electrical (Shenzhen) Co.,Ltd. | PMS-9518 | 13A, 250VAC | SASO2203:2015 | KSA R-310638 | |
| (Alternate) | Interchangeable | Interchangeable | 13A/250Vac | SASO2203 | SASO | |
| (Alternate) | Guangdong Kaihua Electric Appliance Co., Ltd | KH-9933/KH-9933A | 13A, 250VAC | SASO2203 | KSA R310389 | |

| | | | | | |
|------------------------|--|----------------------|--|-------------------------------------|---------------|
| Plug(VDE) | Jiexi MianHu HuanQiu Electric Power Supply Cord Factory | HQ-AC003 | 16A, 250Vac | DIN VDE 0620 | VDE 40048822 |
| (Alternate) | Jiexi MianHu HuanQiu Electric Power Supply Cord Factory | HQ-AC008 | 16A, 250Vac | DIN VDE 0620 | VDE 40048774 |
| Plug (South Africa) | Taiwan Line Tek Electronics Co.,Ltd | PE-364 | 16A/250Vac | SABS 164 | SABS:14980 |
| (Alternate) | Interchangeable | Interchangeable | 16A/250Vac | SABS 164 | SABS |
| Plug (EU type) | Shenzhen G-CINDA Power Solution Co.,Ltd | DRF-03 | 2.5A/250Vac | DIN VDE 0620 EN 50075 | VDE:40019774 |
| (Alternate) | Shenzhenshigang Technology co,ltd | M4206 | 2.5A/250Vac | DIN VDE 0620 EN 50075 | VDE:137417 |
| (Alternate) | Jiexi mianhu huanqiu electric power supply cord factory | HQ-10 | 2.5A/250Vac | DIN VDE 0620 EN 50075 | VDE:40027668 |
| (Alternate) | Shenzhen Xiekang Electric Co., Ltd. | XK-01 | 2.5A/250Vac | DIN VDE 0620 EN 50075 | VDE: 40009009 |
| (Alternate) | Interchangeable | Interchangeable | 2.5A/250Vac | DIN VDE 0620 EN 50075 | VDE |
| Power cord | Guangzhou HuanQiu Electrical & Appliance Co., Ltd. | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40000917 |
| (Alternate) | Guangzhou HuanQiu Electrical & Appliance Co., Ltd. | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40000917 |
| (Alternate) | Shenzhen Tongyuan Industrial Co., Ltd. | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE:101980 |
| (Alternate) | Shenzhen Tongyuan Industrial Co., Ltd. | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE:101980 |
| (Alternate) | Shenzhen Dongju Wire&Cable Co., Ltd. | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE:129988 |
| (Alternate) | Shenzhen Dongju Wire&Cable Co., Ltd. | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE:129988 |
| (Alternate) | Shenzhen G-CINDA Power Solution Co., Ltd. | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40040170 |
| (Alternate) | Shenzhen G-CINDA Power Solution Co., Ltd. | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40040170 |
| (Alternate) | Shenzhen Baohing Electric Wire&Cable Manufacture Co., Ltd. | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :103727 |
| (Alternate) | Shenzhen Baohing Electric Wire&Cable Manufacture Co., Ltd. | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :103727 |
| (Alternate) | guangzhou jinying special wire factory jiufo industry zone | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40022725 |
| (Alternate) | guangzhou jinying special wire factory jiufo industry zone | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40022725 |
| (Alternate) | Guangdong KAIHUA Electric Appliance Co., Ltd | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40001903 |

| | | | | | |
|--|---|--|--|-------------------------------------|---------------------|
| (Alternate) | Guangdong KAIHUA Electric Appliance Co., Ltd | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE :40001903 |
| (Alternate) | Shenzhen Xiekang Electric Co., Ltd. | H05VV-F H05VVH2-F | 2x 0.75 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE: 40029225 |
| (Alternate) | Shenzhen Xiekang Electric Co., Ltd. | H03VV-F H03VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | VDE: 40029225 |
| (Alternate) | Interchangeable | H05VV-F H03VV-F H03VVH2-F H05VVH2-F | 2x 0.75 mm ² or 2x 0.5 mm ² | VDE(0285-525-2-11) EN 50525-2-11 | SAA or VDE |
| (Alternate) | Jiexi MianHu HuanQiu Electric Power Supply Cord Factory | H05VV-F H03VV-F H03VVH2-F H05VVH2-F | 2x0.75 mm ² 2x0.5 mm ² | VDE(0285-525-2-11) | VDE 40047549 |
| Material of enclosure(for back cabinet) | SILVER AGE ENGINEERING PLASTICS(DONGGUAN) CO LTD. | HIPS930 | HIPS, Minimum 1.5 mm thick, V-0, 50°C | UL 94 | UL: E225348 |
| Material of enclosure(for Front housing) | FORMOSA CHEMICALS FIBRE CORP PLASTICS DIV | AG15AB | ABS, Minimum 1.5 mm thick, HB, 60°C | UL 94 | UL: E162823 |
| Module | Guangzhou HD Electronics Technology Co., Ltd | KM0320LDxxxxx (x=0-9,A-Z or blank) | 32inch LED | IEC 60065 | Test with appliance |
| Power Unit and Main board | CVT Electronics Group. | TP.MT5510S.PB803 | -- | IEC 60065 | Test with appliance |
| PCB | Longnan Champion Asia Electronic Technology Co Ltd. | F-D | V-0, 130°C | UL 796 | UL:E254215 |
| --Alternate | SHENZHEN RUOMEI ELECTRONICS CO LTD | RM-01 | V-0, 130°C | UL 796 | UL:E214887 |
| --Alternate | Million Sources Co., Ltd. HK | MS-1 | V-0, 130°C | UL 796 | UL:E198407 |
| --Alternate | EXPRESS ELECTRONICS LTD | 10V0 | V-0, 130°C | UL 796 | UL:E157925 |
| --Alternate | AOSHIKANG PRECISION CIRCUIT (HUIZHOU) CO LTD | A-2,K-2,S-2 | V-0, 130°C | UL 796 | UL:E239218 |
| --Alternate | JIANGMEN BENLIDA PRINTED CIRCUIT CO.,LTD | BLD-B,BLD-D | V-0, 130°C | UL 796 | UL:E203640 |
| --Alternate | Trustech Electronics (Shenzhen) Co., Ltd. | CL-1 | V-0, 130°C | UL 796 | UL: E241819 |
| --Alternate | TOPSEARCH PRINTED CIRCUITS (HK) LTD | TS-D-8V03C SG TS-D-7V04 SG | V-0, 130°C | UL 796 | UL:E96016 |
| --Alternate | Shenzhen Wuzhu Tech Co.,Ltd. | WZ-6 | V-0, 130°C | UL796 | UL:E170968 |
| --Alternate | PALWONN ELECTRONICS (SHENZHEN) CO LTD | D3,D6 | V-0, 130°C | UL 796 | UL:E230435 |

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| --Alternate | SHENZHEN MANKUN ELECTRONICS CO LTD | MK-D,MK-D600,MK-DC | V-0, 130°C | UL 796 | UL:E248237 |
| --Alternate | SUZHOU WUTONG ELECTRONICS CO LTD | GS-2 | V-0, 130°C | UL 796 | UL:E236256 |
| --Alternate | VICTORY GIANT TECHNOLOGY (HUIZHOU) CO LTD | SH1,SH9 | V-0, 130°C | UL 796 | UL:E248779 |
| --Alternate | RONG HUI ELECTRONICS (HUIZHOU) CO LTD | RH-3 | V-0, 130°C | UL 796 | UL:E252098 |
| --Alternate | GANZHOU ZHONGSHENGLONG ELECTRONIC CO LTD | ZSL-1 | V-0, 130°C | UL 796 | UL:E476721 |
| --Alternate | XIN FENG FU CHANG FA ELECTRONIC CO LTD | FCF-3 | V-0, 130°C | UL 796 | UL:E232205 |
| --Alternate | CHANGZHOU AOHONG ELECTRONICS CO LTD | AOH-2,AOH-4 | V-0, 130°C | UL 796 | UL:E303981 |
| --Alternate | MEIZHOU DINGTAI P C B CO LTD | DT-2 | V-0, 130°C | UL 796 | UL:E320008 |
| --Alternate | JIANGXI UNIONGAIN ELECTRONICS TECHNOLOGY CO LTD | DS2,DS3 | V-0, 130°C | UL 796 | UL:E464601 |
| --Alternate | SHANTOU FENGLIDA ELECTRONICS TECHNOLOGY CO LTD | FLD-02 | V-0, 130°C | UL 796 | UL:E347210 |
| --Alternate | ZHUHAI KINGSUN ELECTRONICS AND TECHNOLOGY CO LTD | KS-D,KS-D1,KS-D2 | V-0, 130°C | UL 796 | UL:E465853 |
| --Alternate | HUIZHOU CHINA EAGLE ELECTRONIC TECHNOLOGY CO LTD | CA-F120 | V-0, 130°C | UL 796 | UL:E198681 |
| --Alternate | ELEC & ELTEK MULTILAYER PCB LTD | E3330E | V-0, 130°C | UL 796 | UL:E54926 |
| --Alternate | SHENZHEN KINWONG ELECTRONIC CO LTD | 5、5C、10、10B | V-0, 130°C | UL 796 | UL:E243951 |
| --Alternate | INNO CIRCUITS LTD | IQE-D1,IQE-D2,IQE-D3 | V-0, 130°C | UL 796 | UL:E365781 |
| --Alternate | SHEN ZHEN SUN & LYNN CIRCUITS CO LTD | SL-2,SL-D,SL-HD | V-0, 130°C | UL 796 | UL:E234156 |
| --Alternate | Various | Various | V-0, 130°C | UL 796 | UL |

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| Mylar | Shenzhen Bornsun Industrial Co., Ltd. | BN-FP | V-0, 130°C | UL 94 | UL: E256822 |
| --Alternate | Sabic Japan L L C | FR700 | V-0, 130°C | UL 94 | UL: E207780 |
| --Alternate | Suzhou Omay Optical Materials Co., Ltd. | SE42B | V-0, 80°C | UL 94 | UL: E249605 |
| --Alternate | Shenzhen teesun technology Co.,Ltd. | TS-FR1370 | V-0, 130°C | UL 94 | UL: E329660 |
| --Alternate | Sichuan Longhua Film Co Ltd | PC1870A(a)-ECO | V-0, 80°C | UL 94 | UL:E254551 |
| --Alternate | SICHUAN DONGFANG INSULATING MATERIAL CO LTD | DFR700 | V-0, 80°C | UL 94 | UL:E199019 |
| --Alternate | CHENGDU KANGLONGXIN PLASTICS CO LTD | H KLX FRPC-870B | V-0, 80°C | UL 94 | UL:E315185 |
| --Alternate | Sabic Japan L L C | FR500 | V-0, 80°C | UL 94 | UL: E207780 |
| Discharged resistance (RB1,RB3,RB2,RB4) | TA-I Technology (Suzhou) Co., Ltd | SMD1206 | 1.2Mohm,1/4W | IEC 60065 | Tested within appliance |
| --Alternate | Walsin Technology Corporation | WR12 | 1.2Mohm,1/4W | IEC 60065 | Tested within appliance |
| --Alternate | Ralec Technology(Kunshan) Co.,Ltd. | RTT06 | 1.2Mohm,1/4W | IEC 60065 | Tested within appliance |
| --Alternate | ROYAL ELECTRONIC FACTORY(THAILAND)CO.,LTD | 1206 | 1.2Mohm,1/4W | IEC 60065 | Tested within appliance |
| --Alternate | Uniroyal Electronics Industry Co., Ltd. | 1206 | 1.2Mohm,1/4W | IEC 60065 | Tested within appliance |
| --Alternate | FENG HUA ADVANCED TECHNOLOGY (HOLDING)CO., LTD | 1206 | 1.2Mohm,1/4W | IEC 60065 | Tested within appliance |
| --Alternate | Interchangeable | Interchangeable | 1.2Mohm,1/4W | IEC 60065 | Tested within appliance |
| AC connector (CNB1) | Zhejiang Jieshitai Electronics Co., Ltd. | A3962 A-(02~14),A3962 AW-(02~14),A3962 AWG-(02~14),A3962 Y-(02~14) | 250V,7A, 85°C | EN61984:2009-11 EN61984:2009 | VDE:40025278 |
| --Alternate | SUZHOU XINYA ELECTRONIC COMMUNICATION CO LTD | W7913-02RVA, D7913-02P | 250V,7A, 85°C | EN61984:2009 IEC61984:2008 | TUV NORD 4478016406748-012 |
| --Alternate | ZHEJIANG AMA & HIEN TECHNOLOGY CO LTD | VHC-2AW-D, VH-nA, VH-nAW, VH-nY, VHR-nA, VHR-nAW | 250V,10A, 85°C | EN61984:2009-11 EN61984:2009 | VDE:40044095 |
| Fuse (FB1) | Shenzhen Lanson Electronics Co., Ltd. | SMT | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL:E221465 VDE:40012592 |

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| --Alternate | Suzhou Walter Electronic Co. Ltd. | 2010 (UL) 2010 Serie(s) (VDE) | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL: E56092 VDE: 40018781 |
| --Alternate | XC Electronics (Shen Zhen) Corp. Ltd. | 5TE | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL:E249609 VDE:40036821 VDE :40029550 |
| --Alternate | Conquer Electronics Co., Ltd. | MST | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL: E82636 VDE: 40017118 |
| --Alternate | LITTELFUSE WICKMANN WERKE(UL) Littelfuse, Inc.(VDE) | 392 | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL:E67006 VDE:126983 |
| --Alternate | Dongguan Chevron Electronic Technology Co., Ltd. | SET | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL:E358589 VDE:40038565 TUV:J 50426507 |
| --Alternate | Dongguan Better Electronics Technology Co., Ltd. | 932 | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL:E300003 VDE:40033369 |
| --Alternate | Hollyland Company Limited | 5ET | T3.15A 250V | UL 248-1 UL 248-14 IEC60127-1 IEC60127-3 | UL:E156471 VDE:40015669 |
| Thermistor (NTCB1) | Thinking Electronic Industrial Co., Ltd. | SCK-2R55A | 5A,2.5Ω | UL 1434 EN 60539-1 EN 60730-1 | UL:E138827 TUV Rheinland: R 50050155 |
| --Alternate | TDK Electronics GmbH & Co OG(VDE) TDK ELECTRONICS GMBH & CO OG (UL) | B57235S* (VDE) S235/2.5/XYZZ (UL) | 5.2A,2.5Ω | UL 1434 IEC 60539-1 | UL: E69802 VDE:40038223 |
| --Alternate | Joyin Co., Ltd. | JNR10S2R5M,JNR13S2R5M (TUV) 10S2R5M,13S2R5M(UL) | 5A,2.5Ω | UL 1434 EN60539-1 | UL:E171531 TUV Rheinland: R 50236285 |
| --Alternate | Interchangeable | Interchangeable | Min. 5A, 2.5Ω at 25°C | -- | -- |
| Optocoupler (PCB101) | Lite-On Technology Corporation(VDE)
Lite-On Technology Corp(UL) | LTV-817(VDE) LTV-817,LTV-817S(UL) | Di ≥0.4mm, Ex ≥8.0mm | UL 1577 IEC
60747-5-5 | UL:E113898
VDE: 40015248 |
| --Alternate | Everlight Electronics Co., Ltd. | EL817 | Di ≥0.4mm, Ex ≥8.0mm | UL 1577 IEC 60747-5-5 | UL:E214129 VDE:132249 |
| --Alternate | COSMO Electronics Corporation(VDE) Cosmo Electronics Corp(UL) | K1010(VDE) K1010X* 1010X*(UL) | Di ≥0.4mm, Ex ≥8.0mm | EN60747-5-5 UL1577 | VDE:101347 UL:E169586 |
| --Alternate | CT Micro International Corporation(VDE) CT MICROELECTRONIC S FAR EAST LTD(UL) | CT817 | Di ≥0.4mm, Ex ≥7.0mm | EN 60747-5-5 UL1577 | VDE:40039590 UL:E364000 |

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| X Capacitor (CXB1) | Carli Electronics Co., Ltd. | MPX | 0.33uF,275Vac, 100°C | UL 60384-14 IEC 60384-14 | UL:E120045 VDE: 40008520 |
| --Alternate | Shenzhen Jinghao Capacitor Co., Ltd. | CBB62B | 0.33uF,280Vac, 110°C | UL 60384-14 IEC 60384-14 | UL: E252286 VDE: 40018690 |
| --Alternate | Europtronic (Taiwan) Industrial Corp(UL) Europtronic (SuZhou) Co. Ltd.(VDE) | MPX2 | 0.33uF,305Vac, 110°C | UL 60384-14 IEC 60384-14 | UL:E211347 VDE:40025981 |
| --Alternate | Guangdong Fengming Electronic Tech Co., Ltd. | MKP-X2 | 0.33uF,275Vac, 105°C | UL 60384-14 IEC 60384-14 | UL: E345487 VDE:40025702 |
| --Alternate | Xiamen Faratronic Co. Ltd. | MKP62 | 0.33uF,305Vac, 110°C | UL 60384-14 IEC 60384-14 | UL: E186600 VDE: 40000358 |
| --Alternate | ZhuHai Sung Ho Electronics Co. Ltd. | CMPP | 0.33uF,275/310V ac,105°C or 110°C | UL 60384-14 IEC 60384-14 | UL:E327138 VDE:40026078 |
| --Alternate | KEMET Electronics Corporation | R.46 | 0.33uF,275Vac/300Vac/310Vac,110°C | UL 60384-14 IEC 60384-14 | UL:E97797 ENEC:DAT97000141 |
| --Alternate | Nistronics (Jiangxi) Co., Ltd. | MER | 0.33uF,310Vac, 105°C | UL 60384-14
IEC60384-14
EN 60384-14 | UL:E338685
VDE:40047423 |
| Y1 Capacitor (CYB3,CYB2, CYB1) | TDK Corporation | CD | 470pF, 250Vac, 125°C | UL 60384-14 IEC60384-14 | UL: E37861 VDE: 40029780 |
| --Alternate | TDK Corporation | CD | 470pF, 400Vac 125°C | UL 60384-14 IEC60384-14 | UL: E37861 VDE: 40017931 |
| --Alternate | Yinan Don's Electronic Component Co., Ltd. | CT81 | 470pF, 250Vac or 400Vac, 125°C | UL 60384-14 IEC60384-14 | UL: E145038 VDE:135256 |
| --Alternate | Walsin Technology Corp | AH Series(UL) AH(VDE) | 470pF, 400Vac, 125°C | UL 60384-14 IEC60384-14 | UL:E146544 VDE: 40001804 |
| --Alternate | TDK CORPORATION | CD series (ENEC) CD(UL) | 470pF,400Vac, 125°C | UL 60384-14 IEC60384-14 | ENEC:ENEC-01048-A1 UL:E37861 |
| --Alternate | Murata Mfg. Co., Ltd. | KX | 470pF,250/300V ac, 125°C | UL 60384-14 IEC60384-14 | UL:E37921 VDE:40002831 |
| --Alternate | Kunshan Wansheng Electronics Co., Ltd | CT7 | 470pF,AC 500/400/300/250 V, 125°C | UL 60384-14 IEC60384-14 | UL:E249006 VDE:40012143 |
| --Alternate | Guangdong South Hongming Electronic Science and Technology Co., Ltd. | F | 470pF,250Vac or 400Vac, 125°C | UL 60384-14 IEC60384-14 | UL:E154899 VDE:40036393 |
| Line filter (LCB1) | Guangzhou Shiyuan Electronics Co., Ltd. | SYUC15-L10.5mA | 130°C | IEC 60065 | Tested within appliance |
| --Bobbin | Changchun Plastic Co., Ltd. | T375HF | 150°C,V-0 | UL 94, UL746 | UL:E59481 |
| --Alternate | Sumitomo Bakelite Co., Ltd. | PM-9823 | 150°C,V-0 | UL 94, UL746 | UL:E41429 |
| Wire | SHANDONG PENGTAI STOCK CO LTD | xUEWF/155, QAB-x/155 | 155°C | UL 1446 | UL:E166187 |
| --Alternate | TATUNG CO | UEW | 130°C | UL 1446 | UL:E106004 |
| --Alternate | Interchangeable | Interchangeable | Min. 130°C | UL 1446 | UL |

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| Transformer(T B101) | Guangzhou Shiyuan Electronics Co., Ltd. | SYEQ2914Z-T012032A | Class B | IEC 60065 | Tested within appliance |
| Bobbin | Sumitomo Bakelite Co., Ltd. | PM-9823 | 150°C,V-0 | UL 94, UL746 | UL:E41429 |
| Bobbin | Changchun Plastic Co., Ltd. | T200HF | 150°C,V-0 | UL 94, UL746 | UL:E59481 |
| Wire | GUANGZHOU WANBAO ENAMELLED WIRE CO LTD | XUEW-155 | 155°C | UL 1446 | UL:E167402 |
| --Alternate | ZHEJIANG HONGBO TECHNOLOGY CO LTD | QA@-x/155 | 155°C | UL 1446 | UL: E221719 |
| --Alternate | Interchangeable | Interchangeable | Min. 155°C | UL 1446 | UL |
| Tape | Xinyu Shengdafeng Electric Material Co., Ltd. | SDF-312 | 130°C | UL 510 | UL:E317896 |
| Varnish | ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD | E962 | 130°C | UL 1446 | UL:E335405 |
| --Alternate | HANG CHEUNG COATINGS (HUIYANG) LTD | 8562* | 155°C | UL 1446 | UL: E200154 |
| Triple insulated wire | Shanghai Lucky Trade Co Ltd | TIW-B | 130°C | UL 2353 | UL:E305883 VDE:40023686 |
| --Alternate | SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO.,LTD | DRTIW-B | 130°C | UL 2353 | UL:E335841 VDE:40032470 |
| --Alternate | E & B Technology Co., Ltd | E&B-XXXB(UL) E&B-XXXB*(VDE) | 130°C | UL 2353 | UL:E315265 VDE:40023473 |
| MOS (QB101) | Interchangeable | Interchangeable | Min.4.5A,Min.600 V | IEC 60065 | Tested within appliance |
| Diode (DB1, DB2, DB3, DB4) | Interchangeable | Interchangeable | Min.1A,Min.800V | IEC 60065 | Tested within appliance |
| E-Cap (EB1) | Interchangeable | Interchangeable | Max.100uF,Min.4 00V | IEC 60065 | Tested within appliance |
| Current limitation resistor (RB148) | Interchangeable | Interchangeable | 2W,0.27ohm | IEC 60065 | Tested within appliance |
| Speaker | Interchangeable | Interchangeable | 8Ω, 10W | IEC 60065 | Test with appliance |

Supplementary information:

*)Provided evidence ensures the agreed level of compliance.

"Interchangeable" means any type from any manufacturer that complies with the specification can be used.

Photo documentation
Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8

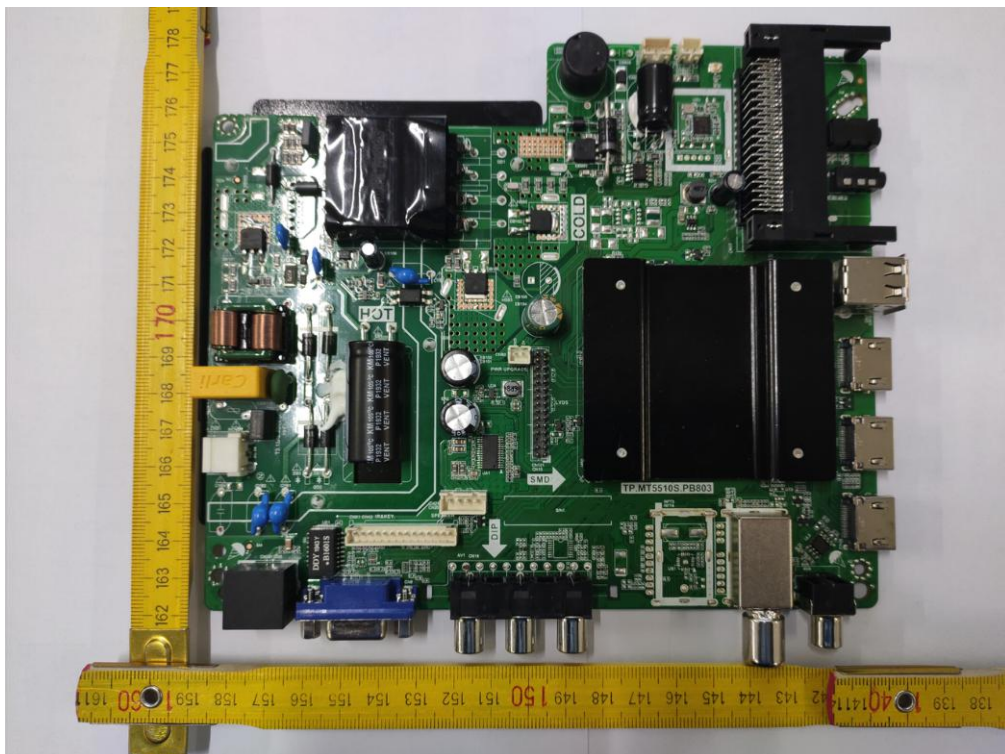
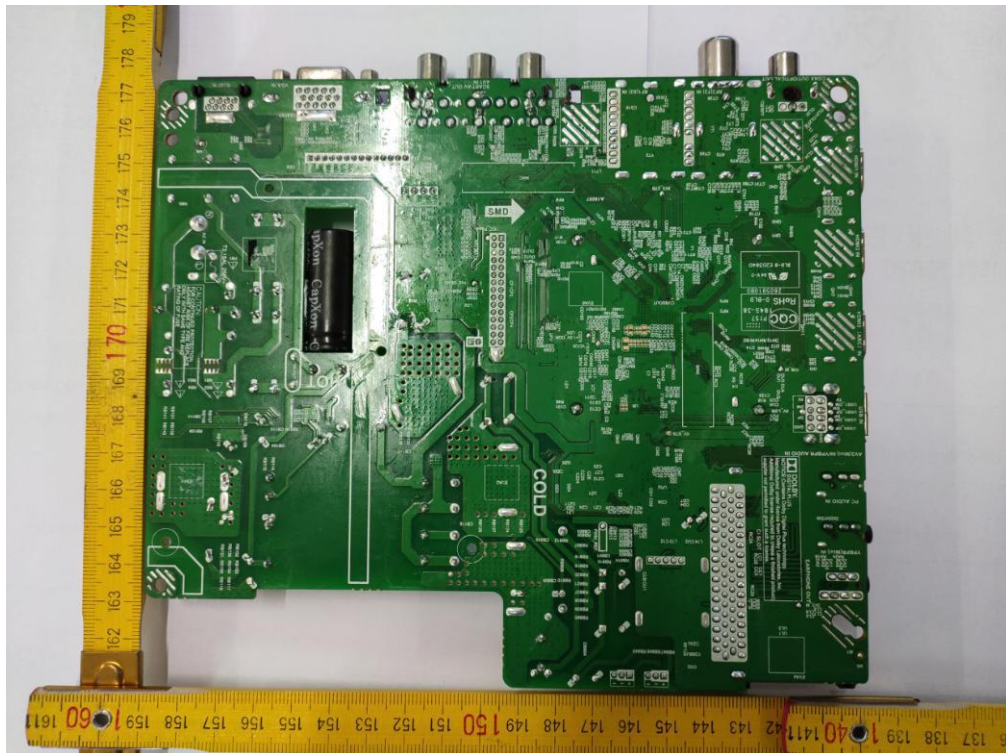


Photo 9



Photo 10



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