

EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013


Information technology equipment – Safety – Part 1: General requirements

MEASUREMENT AND TEST REPORT



For

ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTDThe 1st Floor, Building F, 1199 Bin'an Road, Changhe Street, Binjiang, Hangzhou, 310053
Zhejiang, China.**Model: DH-PFT1200, PFT1200**

July 17, 2015

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: High PoE Midspan
Test Engineer:	Leo Zeng / 
Report Number:	HCT15GR-0610S-1
Test Date:	July 09, 2015 to July 17, 2015
Reviewed By:	Taoist Wang / 
Approved By:	Andy zheng / 
Prepared By:	Shenzhen Hongcai Testing Technology Co., Ltd. 1st—3rd Floor, Building C, Shuanghuan Xin Yi Dai Hi—Tech Industrial Park, No.8 Baoqing Road, Baolong Industrial Zone, Longgang District, Shenzhen City, P.R.China Tel : 86-755-86337020 Fax: 86-755-86337028

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TEST REPORT EN 60950-1 Information technology equipment – Safety – Part 1: General requirements		
Report Reference No.: HCT15GR-0610S-1		
Tested by (name + signature)	Leo Zeng 	
Reviewed by (name + signature)	Taoist Wang 	
Date of issue: July 17, 2015		
Testing Laboratory: Shenzhen Hongcai Testing Technology Co., Ltd.		
Address: 1st—3rd Floor, Building C, Shuanghuan Xin Yi Dai Hi—Tech Industrial Park, No.8 Baoqing Road, Baolong Industrial Zone, Longgang District, Shenzhen City, P.R.China		
Applicant's name.....: ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD		
Address: The 1st Floor, Building F, 1199 Bin'an Road, Changhe Street, Binjiang, Hangzhou, 310053 Zhejiang, China.		
Test specification:		
Standard	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013	
Non-standard test method.....	N/A	
Test Report Form No.: IEC60950_1F		
Test Report Form(s) Originator		SGS Fimko Ltd
Master TRF		Dated 2014-02
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Test item description: High PoE Midspan		
Trade Mark.....: N.A.		
Manufacturer: ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD		
Address: The 1st Floor, Building F, 1199 Bin'an Road, Changhe Street, Binjiang, Hangzhou, 310053 Zhejiang, China.		
Model/Type reference: DH-PFT1200, PFT1200		
Ratings: Input: 100-240V~, 50/60Hz, 1.7A Max. Output: 54Vdc, 1.2A		

Copy of marking plate

The artwork below may be only a draft.



Note: The above marking are the minimum requirements required by the safety standard. For the final production sample, the marking which do not give rise to misunderstanding may be add

Test item particulars..... :	
Equipment mobility	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains	<input type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition.....	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	±10%
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IP20
Altitude during operation (m)	Up to 2000m
Altitude of test laboratory (m)	Below 2000m
Mass of equipment (kg)	Approx. 0.28Kg
Possible test case verdicts:	
- test case does not apply to the test object: N/A	
- test object does meet the requirement: P (Pass)	
- test object does not meet the requirement: F (Fail)	
Testing.....	
Date of receipt of test item	2015-07-09
Date(s) of performance of tests.....	2015-07-09 to 2015-07-17

General remarks:

The test results presented in this report relate only to the object tested.
 This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
 "(see Enclosure #)" refers to additional information appended to the report.
 "(see appended table)" refers to a table appended to the report.

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

The related applicable CTL, OSM decisions have been considered and the requirements found fulfilled.
 Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.

Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided :
☐ Yes
☒ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) : Same as the applicant.

General product information:

The equipment under tests is Class I switch power adapter, electronic components mounted on PWB, External enclosure is plastic material of min.V-1 grade, secured by ultrasonic welding,

Circuit characteristics: primary and secondary (SELV) circuit and limited current circuit.

All models are identical except for model designation.

The model DH-PFT1200 was selected as the representative testing model.

Maximum recommended ambient (T_{mra}): 40°C

Normal load: load rating value.

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below	P
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1).	P
1.5.2	Evaluation and testing of components	<p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.</p> <p>Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard.</p> <p>Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.</p>	P
1.5.3	Thermal controls	No thermal control.	N/A
1.5.4	Transformers		P
1.5.5	Interconnecting cables		P
1.5.6	Capacitors bridging insulation	X-capacitor and Y-capacitor according to IEC 60384-14.	P
1.5.7	Resistors bridging insulation		P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Only bridging functional	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A

EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
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1.6	Power interface		P
1.6.1	AC power distribution systems	TN	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	The equipment is not handheld equipment	N/A
1.6.4	Neutral conductor	Neutral is insulated from the body with Reinforced insulation through the equipment.	P

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	The required marking is located on the outside surface of the equipment.	P
1.7.1.1	Power rating marking	See below	P
	Multiple mains supply connections.....	Only one mains supply connections.	N/A
	Rated voltage(s) or voltage range(s) (V)	AC 100-240V	P
	Symbol for nature of supply, for d.c. only.....	The equipment is for a.c. supply.	N/A
	Rated frequency or rated frequency range (Hz) ...	50/60Hz	P
	Rated current (mA or A)	1.7A	P
1.7.1.2	Identification markings	See below	P
	Manufacturer's name or trade-mark or identification mark	See cope of label	P
	Model identification or type reference	DH-PFT1200	P
	Symbol for Class II equipment only		N/A
	Other markings and symbols	Additional symbols or marking do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking	See below.	P
1.7.2.1	General	Considered.	P
1.7.2.2	Disconnect devices	Appliance coupler as disconnect devices.	P
1.7.2.3	Overcurrent protective device	Pluggable equipment type A	N/A
1.7.2.4	IT power distribution systems		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.5	Operator access with a tool	All areas containing hazards are inaccessible to the operator.	P
1.7.2.6	Ozone	The equipment does not produce Ozone.	N/A
1.7.3	Short duty cycles	The equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	Full range voltage design, no Voltage adjustment.	N/A
	Methods and means of adjustment; reference to installation instructions		--
1.7.5	Power outlets on the equipment	No standard power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	The fuse are located in live phase and it is marked: F1 T3.15A 250V	P
1.7.7	Wiring terminals	Refer below.	P
1.7.7.1	Protective earthing and bonding terminals	Equipment provided with appliance inlet, marking of the protective earthing terminal is not appliance	P
1.7.7.2	Terminals for a.c. mains supply conductors	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	The equipment is not supplied from d.c mains.	N/A
1.7.8	Controls and indicators	See below	N/A
1.7.8.1	Identification, location and marking	No controls affecting safety	P
1.7.8.2	Colours	No indicators with colours where safety is involved	N/A
1.7.8.3	Symbols according to IEC 60417		N/A
1.7.8.4	Markings using figures	No controls	N/A
1.7.9	Isolation of multiple power sources	Only one connection supplying hazardous voltages and energy levels to the equipment.	N/A
1.7.10	Thermostats and other regulating devices	No thermostats or other regulating devices.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	The marking plate was subjected to the permanence of marking test. The marking plate was rubbed with cloth soaked with water for 15s and then again for 15s with the cloth soaked with petroleum spirit. After this test there was no damage to the marking plate. The marking on the label did not fade. There was no curling of the marking plate.	P
1.7.12	Removable parts	No removable parts provided	N/A
1.7.13	Replaceable batteries	No batteries provided	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations		N/A
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See below	P
2.1.1.1	Access to energized parts	There is adequate protection against operator contact with bare parts at ELV or hazardous voltage or parts separated from these with basic or functional insulation only (except protective earth), also after operator detachable parts are removed and doors and covers are opened. No hazardous voltages exceeding 1000V a.c. or 1500V d.c. ref. Sub-clause 2.10. Checked by test finger and test pin.	P
	Test by inspection	Complies.	P
	Test with test finger (Figure 2A)	Complies.	P
	Test with test pin (Figure 2B)	Complies.	P
	Test with test probe (Figure 2C)	No TNV circuits within the equipment.	N/A
2.1.1.2	Battery compartments	No battery compartments provided and no TNV circuits within the equipment	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.3	Access to ELV wiring	No internal wiring at ELV accessible to the operator.	N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)	(see appended tables 2.10.2 and 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring	No internal wiring at hazardous voltage circuit accessible to the operator.	N/A
2.1.1.5	Energy hazards	No energy hazard in operator access area. Checked by means of the test finger. (see appended table 2.1.1.5)	P
2.1.1.6	Manual controls	No conductive shafts of operating knobs, handles, levers and the like in operator access areas.	N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s)	402V peak 402*37%=148.7 After 1S: 0V	—
2.1.1.8	Energy hazards – d.c. mains supply	Not connected to DC mains supply.	N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	No audio amplifiers.	N/A
2.1.2	Protection in service access areas	Checked by inspection unintentional contact is unlikely during service operations.	P
2.1.3	Protection in restricted access locations		N/A

2.2	SELV circuits		P
2.2.1	General requirements	SELV limits are not exceeded under normal condition and after a single fault.	P
2.2.2	Voltages under normal conditions (V)	Within SELV limits. (see appended table 2.2)	P
2.2.3	Voltages under fault conditions (V)	Within SELV limits. (see appended table 2.2)	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits and LCC circuits.	P

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Clause	Requirement + Test	Result - Remark	Verdict

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits within the equipment.	N/A
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions :		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements	Limits are not exceeded.	P
2.4.2	Limit values		P
	Frequency (Hz)..... :	60	—
	Measured current (mA) :	0.36	—
	Measured voltage (V)..... :	0.72	—
	Measured circuit capacitance (nF or μ F) :	The measured charge is <45 μ C.	—
2.4.3	Connection of limited current circuits to other circuits	Only SELV circuits.	P

2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	(see appended table 2.5)	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) :	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) ..		—

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Clause	Requirement + Test	Result - Remark	Verdict

	Use of integrated circuit (IC) current limiters		N/A
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2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing		P
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing		—
2.6.3	Protective earthing and protective bonding conductors		P
2.6.3.1	General		P
2.6.3.2	Size of protective earthing conductors	Approved appliance inlet used.	N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors	Refer below:	N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
	Protective current rating (A), cross-sectional area (mm ²), AWG	Comply with 2.6.3.4	—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	Resistance from the GND pin on the appliance inlet GND pin of CY2: U=0.064V, R=2mΩ with 32A / 2 minutes.	P
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals	Refer below:	P
2.6.4.1	General	Refer below:	P
2.6.4.2	Protective earthing and bonding terminals	Refer below:	P
	Rated current (A), type, nominal thread diameter (mm)	The equipment is provided with an appliance inlet and the test of sub-clause 2.6.3.4 was performed for protective bonding conductor and their terminals.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	The equipment is provided with an appliance inlet.	N/A
2.6.5	Integrity of protective earthing	See below	P
2.6.5.1	Interconnection of equipment	Not depending on interconnection for protective earthing	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective bonding conductors.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect earth without disconnecting mains as an appliance inlet is used.	P
2.6.5.4	Parts that can be removed by an operator	No operator removable parts with protective earth connection	N/A
2.6.5.5	Parts removed during servicing	Protective earthed parts cannot be removed in a way which impairs safety.	N/A
2.6.5.6	Corrosion resistance	All safety earthing connections in compliance with Annex J.	P
2.6.5.7	Screws for protective bonding	No such Screws.	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system	Protective earthing does not rely on a telecommunication network.	N/A
2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Protective device is integrated in the equipment, see also Sub-clause 5.3.	P
	Instructions when protection relies on building installation	Protective device is integrated in the equipment.	P
2.7.2	Faults not simulated in 5.3.7	Considered.	—
2.7.3	Short-circuit backup protection	Pluggable A device, backup protection is in building installation.	P
2.7.4	Number and location of protective devices	Only 1 fuse located on line conductor.	P
2.7.5	Protection by several devices	See Sub-clause 2.7.4.	N/A
2.7.6	Warning to service personnel.....		N/A
2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlocks or similar devices within the equipment	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestons nor hygroscopic materials are used as insulation. No driving belts or coupling used.	P
2.9.2	Humidity conditioning	Carried out for 120 hrs.	P
	Relative humidity (%), temperature (°C)	95%, 40°C	—
2.9.3	Grade of insulation	Adequate levels of safety insulation were provided and maintained to comply with the requirements of this standard	P
2.9.4	Separation from hazardous voltages	See below:	P
	Method(s) used	Method 1 and Method 2 used	¾

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below.	—
2.10.1.1	Frequency	Considered.	—
2.10.1.2	Pollution degrees	Pollution Degree 2.	P
2.10.1.3	Reduced values for functional insulation	The functional insulation complied with clause 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	Considered.	—
2.10.1.5	Insulation with varying dimensions	No such transformer used.	N/A
2.10.1.6	Special separation requirements	Special separation is not used.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	The circuit will not generate starting pulse.	N/A
2.10.2	Determination of working voltage	(see appended table 2.10.2)	P
2.10.2.1	General	Refer below:	—
2.10.2.2	RMS working voltage	(see appended table 2.10.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.3	Peak working voltage	(see appended table 2.10.2)	P
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.1	General	Refer below:	—
2.10.3.2	Mains transient voltages	2500V peak	P
	a) AC mains supply	100-240V	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	Only the functional insulation in secondary circuits complied with clause 5.3.4.	N/A
2.10.3.5	Clearances in circuits having starting pulses	The circuit will not generate starting pulse.	N/A
2.10.3.6	Transients from a.c. mains supply	Considered.	P
2.10.3.7	Transients from d.c. mains supply	Not connected to d.c mains supply.	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	Not connected to telecommunication networks and cable distribution systems.	N/A
2.10.3.9	Measurement of transient voltage levels	See below.	—
	a) Transients from a mains supply	Measurement not relevant.	N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :	Not connected to telecommunication networks.	N/A
2.10.4	Creepage distances	See below.	P
2.10.4.1	General	Considered.	P
2.10.4.2	Material group and comparative tracking index	See below.	P
	CTI tests	Material group IIIb is assumed.	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation	See below.	P
2.10.5.1	General	Considered.	P
2.10.5.2	Distances through insulation	See table 2.10.5	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints	Not used cemented joints.	N/A
2.10.5.6	Thin sheet material – General	Two layers insulation tape used as reinforced insulation for transformers	P
2.10.5.7	Separable thin sheet material	Two layers insulation tape used as reinforced insulation for transformers	P
	Number of layers (pcs)..... :	2 layers (test 1 layers)	—
2.10.5.8	Non-separable thin sheet material	Not used.	N/A
2.10.5.9	Thin sheet material – standard test procedure	The clause 2.10.5.10 is used.	N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	refer to Annex C	P
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components	See cl.2.10.5.12.	P
2.10.5.12	Wire in wound components	Insulation on winding wire of transformer T1 complies with annex U.	P
	Working voltage :	(See appended table 2.10.2)	P
	a) Basic insulation not under stress :		N/A
	b) Basic, supplementary, reinforced insulation :		N/A
	c) Compliance with Annex U :	Approved insulated winding, See appended table 1.5.1	P
	Two wires in contact inside wound component; angle between 45° and 90° :	Protection against mechanical stress is provided by insulation tube.	P
2.10.5.13	Wire with solvent-based enamel in wound components	No wire with solvent-based enamel in wound components.	N/A
	Electric strength test		--
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No additional insulation used	N/A
	Working voltage :		N/A
	- Basic insulation not under stress :		N/A
	- Supplementary, reinforced insulation :		N/A
2.10.6	Construction of printed boards	See below.	—
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.6.2	Coated printed boards	No special coating in order to reduce distances.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) :		N/A
2.10.7	Component external terminations	Coatings not used over terminations to increase effective creepage and clearance distances.	N/A
2.10.8	Tests on coated printed boards and coated components	No special coating in order to reduce distance.	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	N/A
3.1.2	Protection against mechanical damage	Wireways are smooth and free from edges. Wires are adequately fixed to prevent excessive strain on wire and terminals and avoiding damage to the insulation of the conductors.	N/A
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.4	Insulation of conductors	Insulation on internal conductors is considered to be of adequate quality and suitable for the application and the working voltage involved.	N/A
3.1.5	Beads and ceramic insulators	No beads or similar ceramic insulators on conductors.	N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	Terminations cannot become displaced so that clearances and creepage distances can be reduced.	P
	10 N pull test	Conducted.	P
3.1.10	Sleeving on wiring	Sleeves are not used as supplementary insulation.	N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection	Refer below:	—
3.2.1.1	Connection to an a.c. mains supply	The adaptor provided with appliance inlet which is integral with the adaptor.	P
3.2.1.2	Connection to a d.c. mains supply	The equipment is not for connection to a d.c. mains supply.	N/A
3.2.2	Multiple supply connections	Only one supply connection.	N/A
3.2.3	Permanently connected equipment	The equipment is not intended for permanent connection to the mains.	N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	Approved appliance inlet used.	P
3.2.5	Power supply cords	Power supply cord has not been check, refer to Summary of Testing.	N/A
3.2.5.1	AC power supply cords		N/A
	Type		—

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Clause	Requirement + Test	Result - Remark	Verdict

	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords	The equipment is not for connecting to d.c. mains.	N/A
3.2.6	Cord anchorages and strain relief	The equipment provided with an appliance inlet.	N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage	The equipment provided with an appliance inlet.	N/A
3.2.8	Cord guards	The equipment is neither hand-held nor intended to be moved during operation.	N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space	The equipment provided with an appliance inlet.	N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Appliance inlet used	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²).....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	See Sub-clause 3.4.2.	P
3.4.2	Disconnect devices	Appliance coupler.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.4	Parts which remain energized	No parts remain energized after the disconnect device.	N/A
3.4.5	Switches in flexible cords	No switch in the cord set.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices	No switch.	N/A
3.4.9	Plugs as disconnect devices	The mains plug is regarded as disconnect device, no warning is required.	N/A
3.4.10	Interconnected equipment	No interconnections using hazardous voltages.	N/A
3.4.11	Multiple power sources	One power source only.	N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements	Considered.	P
3.5.2	Types of interconnection circuits	SELV circuit.	P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	No data ports.	N/A
4	PHYSICAL REQUIREMENTS		N/A
4.1	Stability		N/A
	Angle of 10°		N/A
	Test force (N)		N/A
4.2	Mechanical strength		P
4.2.1	General	Complies with the requirement also after tests described below are applied.	P
	Rack-mounted equipment.	No rack-mounted equipment.	N/A
4.2.2	Steady force test, 10 N	No hazard, ref. comment in appended table 2.10.3 – 2.10.4	P
4.2.3	Steady force test, 30 N	No cover or doors	N/A
4.2.4	Steady force test, 250 N	No hazards. The test is performed at plastic enclosure.	P
4.2.5	Impact test	Refer below:	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Fall test	No hazard.	P
	Swing test	No hazard.	P
4.2.6	Drop test; height (mm)	No hazard as result from the drop test at 1000mm height.	N/A
4.2.7	Stress relief test	Test is carried out at 89°C / 7hrs. No risk of shrinkage or distortion on enclosures due to release of internal stresses.	P
4.2.8	Cathode ray tubes	No cathode ray tubes provided	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A
4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls; force (N)	No Handles, knobs, grips, levers and the like	N/A
4.3.3	Adjustable controls	No hazardous adjustable controls.	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur.	P
4.3.5	Connection by plugs and sockets	SELV connectors do not compatible with IEC 60320 or IEC 60083.	P
4.3.6	Direct plug-in equipment		N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	No batteries provided	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.9	Oil and grease	Insulation in intended use not considered to be exposed to oil or grease.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or use powders, liquids and gases in the equipment.	N/A
4.3.11	Containers for liquids or gases	No container for liquids or gases used	N/A
4.3.12	Flammable liquids	The equipment does not contain flammable liquid	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation	The equipment does not generate ionizing radiation.	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not produce significant UV radiation.	N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	The equipment does not produce significant UV radiation.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types	The equipment does not generate other types of radiation.	N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No hazardous moving parts within the equipment	N/A
4.4.2	Protection in operator access areas		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a).....:		N/A
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning		N/A

4.5	Thermal requirements		P
4.5.1	General	See below.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L		—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	(see appended table 4.5.5)	P

4.6	Openings in enclosures		P
4.6.1	Top and side openings	No opening	P
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	No opening	P
	Construction of the bottom, dimensions (mm) ..		N/A
4.6.3	Doors or covers in fire enclosures	No doors or covers in fire enclosure.	P
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		—
	Dimensions (mm)		N/A
4.6.4.2	Evaluation measures for larger openings		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.4.3	Use of metallized parts	No barrier secured by adhesive inside enclosure.	N/A
4.6.5	Adhesives for constructional purposes	No barrier or screen secured by adhesive inside enclosure.	N/A
	Conditioning temperature (°C), time (weeks) :		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 is used.	P
	Method 1, selection and application of components wiring and materials	(see appended table 1.5.1)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Refer below.	P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure cover all components except output wire	P
4.7.2.2	Parts not requiring a fire enclosure	Output wire supplied by LPS.	P
4.7.3	Materials		P
4.7.3.1	General	Components and materials have adequate flammability classification. See appended table 1.5.1	P
4.7.3.2	Materials for fire enclosures	Min.V-1 fire enclosure used	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Materials inside fire enclosure are minimum V-2 material or better	P
4.7.3.5	Materials for air filter assemblies	No air filters in the equipment	N/A
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	Test conducted in accordance with 5.1.2 to 5.1.7	P
5.1.2	Configuration of equipment under test (EUT)	See below.	—
5.1.2.1	Single connection to an a.c. mains supply	No interconnection of equipment.	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply	No multiple power sources.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	No multiple power sources.	N/A
5.1.3	Test circuit	Single phase equipment intended only for connection to star TN system	P
5.1.4	Application of measuring instrument	Measuring circuit in Annex D.1 used	P
5.1.5	Test procedure	Considered.	P
5.1.6	Test measurements	Measuring circuit in Annex D.1 used	P
	Supply voltage (V)	264V/60Hz	3/4
	Measured touch current (mA)	(See appended table 5.1)	3/4
	Max. allowed touch current (mA)	(See appended table 5.1)	3/4
	Measured protective conductor current (mA)		3/4
	Max. allowed protective conductor current (mA) ..		3/4
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Not connected to a telecommunication network or cable distribution systems	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P

5.3	Abnormal operating and fault conditions		P
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Clause	Requirement + Test	Result - Remark	Verdict
5.3.1	Protection against overload and abnormal operation	See appended table 5.3	P
5.3.2	Motors	No motor	N/A
5.3.3	Transformers	(See appende annex C)	P
5.3.4	Functional insulation	Functional insulation complies with the requirements (c)	P
5.3.5	Electromechanical components	The equipment does not have any electromechanical components	N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment	No thermostats, temperature limiters or thermal cut-outs.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	See below	P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests	No reduction of clearance and creepage distances. Electric strength test is made on functional, supplementary and reinforced insulation.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2.3	Compliance criteria		N/A
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6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		¾
	Current limiting method		¾

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test	(see appended table 5.2)	N/A
7.4.3	Impulse test	(see appended table 5.2)	N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples.....		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material.....:		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures	(see appended table 5.3)	N/A
B.4	Running overload test	(see appended table 5.3)	N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—

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Clause	Requirement + Test	Result - Remark	Verdict

	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors	(see appended table 5.3)	N/A
B.9	Test for three-phase motors	(see appended table 5.3)	N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	Inside the fire enclosure.	3/4
	Manufacturer	(see appended table 1.5.1)	3/4
	Type	(see appended table 1.5.1)	3/4
	Rated values	(see appended table 1.5.1)	3/4
	Method of protection	Electronic protection	3/4
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 5.2)	P
	Protection from displacement of windings	See table C.2	P

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	Figure D.1 used.	P
D.2	Alternative measuring instrument		N/A

E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
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G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Considered	$\frac{3}{4}$

K	Annex K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V):		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		3/4
M.3.1.2	Voltage (V)		3/4
M.3.1.3	Cadence; time (s), voltage (V)		3/4
M.3.1.4	Single fault current (mA)		3/4
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		P

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Clause	Requirement + Test	Result - Remark	Verdict
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories	See table 1.5.1	P
	b) Maximum continuous voltage	See table 1.5.1	P
	c) Pulse current	See table 1.5.1	P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			3/4
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		See table 1.5.1	3/4
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	See below	P
V.2	TN power distribution systems	Single-phase TN power system considered and used for the testing.	P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		P
X.1	Determination of maximum input current	Considered.	P
X.2	Overload test procedure		P
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		3/4
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250N, including end stops.....		N/A
DD.4	Compliance.....		N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A
	Information of user instructions, maintenance and/or servicing instructions.....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A



1.5.1	TABLE: List of critical components				P
Part no.	Manufacturer /trademark	Type/model	Technical data	Certified mark	
APPLIANCE INLET (Alternative)	YUEQING YANHUI ELECTRONICS CO. , LTD	DB-14	AC250V 10A	VDE 40032008 SU04106- 8003 UL E334847	
(Alternative)	YUEQING LECI ELECTRONICS CO. , LTD.	DB-14	AC250V 10A	VDE 40032137 UL E302229	
Fuse (Alternative)	Conquer Electronics Co.,Ltd.	MST series T3.15A 250 V	IEC/EN60127-1,	VDE 40017118	
Fuse (Alternative)	Shenzhen Lanson Electronics Co., Ltd.	SMT series T3.15A 250 V	IEC/EN60127-1,	VDE 40012592	
Fuse (Alternative)	HONGHU BLUELIGHT ELECTRONICS CO.,LTD	6ET T3.15A 250 V	IEC/EN60127-1,	VDE 40034107	
Fuse (Alternative)	Various	Various T3.15A 250 V	IEC/EN60127-1,	VDE	
Y Capacitors(CY 1, CY2)	SHANTOU HIGH-NEW TECHNOLOGY DEV.ZONE SONGTIAN ENTERPRISE CO.,LTD.	CD	MAX 1000PF, 400V	VDE 40025754 UL E208107	
	Shaanxi Huaxiang Electronic Deveopment Co.Ltd.	CT7Y1	MAX 1000PF, 400V	VDE 40015542 UL E217400	
Alternative	WALSIN TECHNOLOGY CORP	AH Series	MAX 1000 pF, 125°C, min.250 Vac, Y1 type	VDE 40001804 UL E146544	
Alternative	JYA-NAY CO LTD	JN	MAX 1000 pF, 125 °C, min.250 Vac, Y1 type	VDE 40001831 UL E201384	
Alternative	Various	Various	AC 400V MAX 1000pF Y1	VDE	
Y Capacitors(CY 3)	SHANTOU HIGH-NEW TECHNOLOGY DEV.ZONE SONGTIAN ENTERPRISE CO.,LTD.	CD	MAX 3300PF, 400V	VDE 40025754 UL E208107	
	Shaanxi Huaxiang Electronic Deveopment Co.Ltd.	CT7Y1	MAX 3300PF, 400V	VDE 40015542 UL	

				E217400
Alternative	WALSIN TECHNOLOGY CORP	AH Series	MAX 3300 pF, 125°C, min.250 Vac, Y1 type	VDE 40001804 UL E146544
Alternative	Various	Various	AC 400V MAX 3300pF Y1	VDE
X-Capacitor (CX1, CX3)	Shenzhen Su Rong Capacitors Co. Ltd.	MPX	AC 250 V MAX 0.22uF 40/100/21/C	VDE 40008924
	Shantou high-new technology developmnt zone songtian enterprise co ltd	MPX	AC 275V MAX 0.22uF 40/110/56	VDE 40034679
	Dongguan city jurcc electronics Co.,ltd	MPX/MKP	AC 275V MAX 0.22uF 40/110/56	VDE 40034920
	Euoptronic(Taiwan)ind.corp	MPX2	AC275V MAX 0,22uF 40/110/56	VDE 40025981
X-Capacitor (CX1, CX3) Alternative	Various	Various	AC 250 V MAX 0,22uF 40/100/21/C	S & other EU certification marks
Diode bridge (DB1)	Various	Various	MAX 600 V 8A	--
PCB	Shantou Yuedong Lianfeng Electronic Industry Co., Ltd.	LF	V-0; 90 °C	UL E320326
Alternative	Meizhou City Hongtai Electronics Co., Ltd.	HH-1	V-0; 130 °C	UL E315852
Alternative	Jiabao Electronic Corporate (Meixian) Ltd.	JB0-1	V-0; 130 °C	UL E108448
Alternative	SHENZHEN JING SING FAI ELECTRONIC CO LTD	SF-3	V-0, 130°C	UL E233154
Alternative	SHANDONG JINBAO	ZD-68(G)F	V-0, 130°C	UL E141940

	ELECTRONICS CO LTD			
Alternative	MEI XIAN CHENG GONG ELECTRONICS CO LTD	CG-01	V-0	UL E351269
Alternative	DONGGUAN SHUO CHUANG ELECTRONICS CO LTD	SC-01	V-0, 130°C	UL E350345
Alternative	Various	Various	V-0, 130°C	UL
Enclosure	SABIC INNOVATIVE PLASTICS US LLC	950(f1)	PC, V-0, 120°C, 1.5 mm thickness minimum	UL E121562
	Nan Ya Plastics (Hui Zhou) Corp Ltd	4410G4	Rated V-0, 130 °C, measures 1.5 mm thick	UL E235269
Alternative	Various	Various	Rated V-0, 130 °C, measures 1.5 mm thick	UL
Optical Isolators(PC2)	SHENZHEN ORIENT COMPONENTS CO LTD	ORPC-817 (series)	Int./Ext./dti. 4.0/8.2/0.45 mm	VDE 40029733 UL E323844
	BRIGHT LED ELECTRONICS CORP	BPC817 (series)	Int./Ext./dti. 4.0/8.2/0.45 mm	VDE 40007240 UL E236324
	HUBEI KENTO ELECTRONIC STOCK CORPORATION.	JC817(A,B,C,D)		VDE4003710 9 UL E341140
	Everlight Electronic Co., Ltd.	EL817	IEC/EN 60747- 5-2	VDE 101347
	SHARP CORP ELECTRONIC COMPONENTS GROUP	PC817	Int./Ext./dti. 4.0/8.2/0.45 mm	VDE 40008087
Transformer T1	Jiaxu technology (shenzhen) co., LTD	PQ26-015	----	-----
--Bobbin	Various	Various	V-0, MIN50°C	UL
	CHANG CHUN PLASTICS CO LTD	T375J	V-0,	E59481
--Primary Winding	TAI-I ELECTRIC WIRE & CABLE CO LTD	UEW/	MW75-C 130°C	E85640
	SHANTOU SHENGANG ELECTRICAL	UEW/	MW75-C 130°C	UL E239508

	INDUSTRIAL CO LTD			
Alternative	PACIFIC ELECTRIC WIRE & CABLE CO LTD	DD	MW 75-C	E84081
Alternative	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD	xUEW/130, QA-x/130	xUEW/130, QA-x/130	E239508
- Triple Insulation wire	Various	Various	MW75-C 130℃	UL
Alternative	Shanghai Xiangxiang Electron Co., Ltd	TKW-B	130 ℃	UL:E308908 VDE:4002658 8
Alternative	Hui Zhou Golden Ocean Magnet Wire Factory	XYW-B	Class B, 130℃	VDE 40017563 UL E251775
--Insulation tape	Various	Various	130 ℃	VDE
Alternative	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ* (b) WF* (c)(h)	130℃	UL E165111
Alternative	P LEO & CO (B C) LTD	1P700	130℃	UL E126174
--Tube	Various	Various	130℃	UL
Alternative	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	200℃, 300V	UL E180908
Alternative	GREAT HOLDING INDUSTRIAL CO LTD	TFT	200℃, 300V	UL E156256
Alternative	CHUKOH CHEMICAL INDUSTRIES LTD	PTFE	200V, 300℃	UL E71017

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
90V/50Hz	1.323	--	78.0	F1	1.323	Max normal load	
90V/60Hz	1.314	--	78.2	F1	1.314	Max normal load	
100V/50Hz	1.218	1.7	77.8	F1	1.218	Max normal load	
100V/60Hz	1.215	1.7	77.8	F1	1.215	Max normal load	
240V/50Hz	0.531	1.7	77.3	F1	0.531	Max normal load	
240V/60Hz	0.525	1.7	77.4	F1	0.525	Max normal load	
264V/50Hz	0.479	--	77.3	F1	0.479	Max normal load	
264V/60Hz	0.477	--	77.5	F1	0.477	Max normal load	
Supplementary information:							
Max. normal load: output rated value.							

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
54.0	1.7	54.6	1.9	98.5	
supplementary information:					
Vin=240V/60Hz					
2.1.1.5 c) 2)	TABLE: stored energy				N/A
Capacitance C (μF)	Voltage U (V)		Energy E (J)		
supplementary information:					

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			P
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
T1 Pin 10– Pin 12	91.7	--	--	
After D2	--	54.6	D2	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
D2 shorted	0*			
supplementary information:				
*) output shutdown. Vin=240V/60Hz				

2.5	TABLE: Limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	Isc (A)		VA	
			Meas.	Limit	Meas.	Limit
Normal condition	--	54.6	1.9	2.77	98.5	100
PC2 (Pin1-2) shorted	--	0*	0*	2.77	0*	100
PC2 (Pin3-4) shorted	--	0*	0*	2.77	0*	100
PC2 Pin1 opened	--	0*	0*	2.77	0*	100
PC2 Pin3 opened	--	0*	0*	2.77	0*	100
R53 shorted	--	0*	0*	2.77	0*	100
supplementary information:						
Vin=240V/60Hz						
*) Unit shutdown						

2.10.2	Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments	
T1 Pin 1- Pin 10	219	377	--	
T1 Pin 1- Pin 12	217	357	--	
T1 Pin 2- Pin 10	220	440	--	
T1 Pin 2- Pin 12	220	372	--	
T1 Pin 4- Pin 10	267	510	--	

T1 Pin 4- Pin 12	286	532	*
T1 Pin 6- Pin 10	217	364	--
T1 Pin 6- Pin 12	219	430	--
PC2 Pin 1- Pin 3	217	376	--
PC2 Pin 2- Pin 3	219	374	--
PC2 Pin 1- Pin 4	231	374	--
PC2 Pin 2- Pin 4	230	374	--
CY3 primary and secondary	217	360	--
supplementary information:			
<p>“*”The highest measured working voltages in transformer are indicated with bold characters Vin = 240Vac, 60Hz</p>			

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							
Between L and N (before fuse)	340	240	1.5	4.6	2.5	4.6	
Between F1	340	240	1.5	3.0	2.5	3.0	
Basic/supplementary:							
Y-capacitor primary and secondary (CY1)	340	240	2.0	3.2	3.0	3.6	
Y-capacitor primary and secondary (CY2)	340	240	2.0	3.2	3.0	3.6	
Reinforced:							
Y-capacitor primary and secondary (CY3)	360	217	4.0	6.7	5.0	6.7	
Between primary trace and secondary trace	532	286	4.4	6.7	5.8	6.7	
Optocoupler primary trace and secondary trace	532	286	4.4	6.7	5.8	6.7	
Secondary components and transformer core	532	286	4.4	6.7	5.8	6.7	
Supplementary information: See appended table C.2 for internal distance of transformer. 2 layers insulation tape wrapped the transformer. Transformer core is considered as primary component. All components pass 10N force testing							

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Plastic enclosure		532	286	3000Vac	0.4	2.0
Insulation tape		532	286	3000Vac	2layers	2layers
Supplementary information:						

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available									
Is it possible to install the battery in a reverse polarity position?									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:								Verdict	
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:									

4.3.8	TABLE: Batteries	N/A
Battery category : (Lithium, NiMh, NiCad, Lithium Ion ...) Manufacturer : Type / model..... : Voltage..... : Capacity : mAh Tested and Certified by (incl. Ref. No.)..... : Circuit protection diagram: 		
MARKINGS AND INSTRUCTIONS (1.7.12, 1.7.15)		
Location of replaceable battery		
Language(s) ::		
Close to the battery:		
In the servicing instructions:		
In the operating instructions:		

4.5	TABLE: Thermal requirements						P	
	Supply voltage (V) :		90V/ 60Hz		90V/60Hz		--	—
	Ambient T _{min} (°C) :		25.6	40.0	25.4	40.0	--	—
	Ambient T _{max} (°C) :		25.9	40.0	25.9	40.0	--	—
Maximum measured temperature T of part/at:			T (°C)				Allowed T _{max} (°C)	
			Label down		Label up			--
AC inlet			58.6	72.7	52.8	66.9	--	85
Y-capacitor (CY2)			84.3	98.4	82.1	96.2	--	125
X-capacitor (CX1)			76.2	90.3	75.9	90.0	--	100
L1 winding			77.4	91.5	76.8	90.9	--	130
L2 winding			87.9	102.0	88.6	102.7	--	130
Electrolytic capacitor (EC1)			82.2	96.3	80.5	94.6	--	105
PCB near BD1			90.3	104.4	87.4	101.5	--	130
PCB near Q3			91.8	105.9	89.7	103.8	--	130
Optocoupler (PC2)			74.9	89.0	76.6	90.7	--	100
Y-capacitor (CY3)			70.4	84.5	69.5	83.6	--	125
T1 coil			89.1	103.2	88.4	102.5	--	110
T1 core			82.3	96.4	81.7	95.8	--	110
PCB near D2			80.6	94.7	82.1	96.2	--	130
Electrolytic capacitor (EC2)			78.3	92.4	79.3	93.4	--	105
Plastic enclosure near T1, outside			55.7	69.8	51.7	65.8	--	95
Plastic enclosure near T1, inside			64.3	78.4	62.9	77.0	--	105
Plastic enclosure under T1, outside			56.4	70.5	55.1	69.2	--	95
Plastic enclosure under T1, inside			64.0	78.1	62.6	76.7	--	105
Output wire			48.3	62.4	47.7	61.8	--	105
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--		--	--	--	--	--	--	--
Supplementary information:								

4.5	TABLE: Thermal requirements							P
	Supply voltage (V)		264V/50Hz		264V/50Hz		--	—
	Ambient T _{min} (°C)		25.6	40.0	25.4	40.0	--	—
	Ambient T _{max} (°C)		26.0	40.0	26.0	40.0	--	—
Maximum measured temperature T of part/at:			T (°C)					Allowed T _{max} (°C)
			Label down		Label up		--	
AC inlet			48.7	62.7	47.9	61.9	--	85
Y-capacitor (CY2)			64.9	78.9	68.0	82.0	--	125
X-capacitor (CX1)			64.2	78.2	67.0	81.0	--	100
L1 winding			65.5	79.5	68.1	82.1	--	130
L2 winding			66.6	80.6	70.0	84.0	--	130
Electrolytic capacitor (EC1)			68.9	82.9	72.3	86.3	--	105
PCB near BD1			68.2	82.2	70.6	84.6	--	130
PCB near Q3			76.9	90.9	79.7	93.7	--	130
Optocoupler (PC2)			72.8	86.8	75.2	89.2	--	100
Y-capacitor (CY3)			64.6	78.6	66.9	80.9	--	125
T1 coil			86.0	100.0	88.1	102.1	--	110
T1 core			81.0	95.0	83.1	97.1	--	110
PCB near D2			79.6	93.6	82.3	96.3	--	130
Electrolytic capacitor (EC2)			77.4	91.4	79.5	93.5	--	105
Plastic enclosure near T1, outside			53.0	67.0	51.7	65.7	--	95
Plastic enclosure near T1, inside			59.7	73.7	61.5	75.5	--	105
Plastic enclosure under T1, outside			54.5	68.5	55.3	69.3	--	95
Plastic enclosure under T1, inside			62.1	76.1	62.6	76.6	--	105
Output wire			46.7	60.7	47.5	61.5	--	105
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--		--	--	--	--	--	--	--
Supplementary information:								

4.5.5	TABLE: Ball pressure test of thermoplastic parts			P
	Allowed impression diameter (mm) :	≤ 2 mm		—
Part		Test temperature (°C)	Impression diameter (mm)	
Plastic Enclosure		125	0.2mm	
Supplementary information:				

4.7	TABLE: Resistance to fire					P
Part		Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Enclosure		See table 1.5.1	See table 1.5.1	Min.1.5mm	Min.V-1	UL
Supplementary information:						

5.1	TABLE: touch current measurement			P
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions
L/N to Output		Max.0.14	0.25	System on
L/N to Enclosure with metal foil		Max.0.05	0.25	System on
supplementary information:				
Input :264V/60Hz				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
Between L and N (fuse F1 opened)		AC	1500	No
Basic:				
earth pin of AC inlet to GND pin of CY2		AC	1500	No
Reinforced:				
L/N to output terminal		AC	3000	No
L/N to enclosure (with metal foil)		AC	3000	No
Transformer primary and secondary		AC	3000	No
Transformer secondary and core		AC	3000	No

1 layer insulation tape of transformer	AC	3000	No
Supplementary information: Triple insulated wire used in transformer secondary windings, Transformer core is considered as primary.			

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)				25°C if not mentioned	—
	Power source for EUT: Manufacturer, model/type, output rating				See page 2	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
BD1	SC	240Vac	1S	F1	*	Fuse F1 open immediately, repeat three times. No hazard.
EC1	SC	240Vac	1S	F1	*	Fuse F1 open immediately, repeat three times. No hazard.
R53	SC	240Vac	10mins	F1	0.017	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
Q3 (G-D)	SC	240Vac	10mins	F1	*	Fuse F1 open, U1 damaged, repeat three times. No hazard.
Q3 (D-S)	SC	240Vac	10mins	F1	*	Unit shutdown, No damaged, No hazard
Q3 (G-S)	SC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
U1 (pin 2- 8)	SC	240Vac	1S	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
U1 (pin 2- 6)	SC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
PC2 (pin 1-2)	SC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
PC2 (pin 3-4)	SC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
PC2 pin 2	OC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard

PC2 pin 3	OC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
T1 (pin 1- 2)	SC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
T1 (pin 4 - 6)	SC	240Vac	10mins	F1	0.023	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
T1 (pin 10-12)	SC	240Vac	10mins	F1	0.117	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
EC3	SC	240Vac	10mins	F1	0.117	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
D2	SC	240Vac	10mins	F1	0.117	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard
Output	SC	240Vac	10mins	F1	0.117	Unit shut down immediately, recoverable when the fault removed. No damaged, No hazard

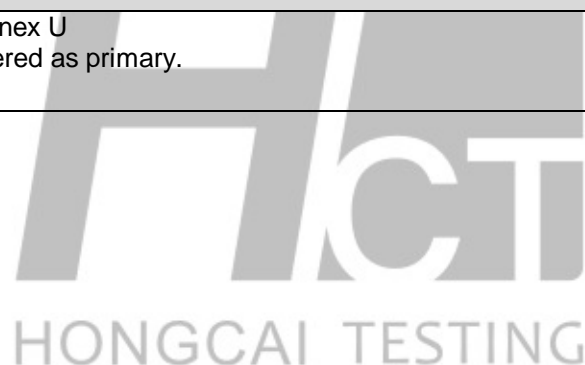
Supplementary information:

SC=short circuit, OC=open circuit, OL=over load

The Electric strength tests were successfully conducted after the completion of fault tests, no breakdown.

*) Fuse current is more than 2.1times fuse rating current.

C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage / mm (2.10.4)	Required distance thr. insul. (2.10.5)
Transformer T1	Reinforced	532	286	3000Vac	6.6	6.6	*
Loc.	Tested insulation			Test voltage/ V	Measure d clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
Transformer T1	Reinforced (Primary/core and secondary pins)			3000Vac	7.2	7.2	TIW (sec)
Supplementary information:							
* 2 or 3 layers / 0.4mm / Annex U Transformer core is considered as primary.							



IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<p align="center">ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements</p>			
Differences according to.....: EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013			
Attachment Form No.....: EU_GD_IEC60950_1F			
Attachment Originator.....: SGS Fimko Ltd			
Master Attachment.....: Date 2014-02			
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS
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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it's amendmets are prefixed "Z"		
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords		--
(A2:2013)			
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		--
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		--
(A1:2010)			

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		--
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		--
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		--
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		--
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1 (A12:2011)	<p>In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.</p> <p>Zx Protection against excessive sound pressure from personal music players</p> <p>Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.</p> <p>A personal music player is a portable equipment for personal use, that: is designed to allow the user to listen to recorded or broadcast sound or video; and primarily uses headphones or earphones that can be worn in or on or around the ears; and allows the user to walk around while in use.</p> <p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply: while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used.</p> <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to: hearing aid equipment and professional equipment;</p> <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p>		N/A


IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</p> <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A
	<p>Zx.2 Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <p>equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and</p> <p>a 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> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <p>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</p> <p>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</p>		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>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> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>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.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <ol style="list-style-type: none"> 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 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>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 is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>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 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, 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 dBA.</p>		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p>  <p>Figure 1 – 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>		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	<p>Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.4.2 Wired listening devices with digital input</p> <p>With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.</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, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A
	<p>Zx.4.3 Wireless 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 abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p>Zx.5 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 wireless equipment provided without listening device should be defined.</p>		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, 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 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>	The equipment is provided with fuse complies with a).	P
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N/A
2.7.2	This subclause has been declared 'void'.		--
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	<p>Replace “60245 IEC 53” by “H05 RR-F”; “60227 IEC 52” by “H03 VV-F or H03 VVH2-F”; “60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”.</p> <p>In Table 3B, replace the first four lines by the following: Up to and including 6 0,75 a) Over 6 up to and including 10 (0,75) b) 1,0 Over 10 up to and including 16 (1,0) c) 1,5 </p> <p>In the conditions applicable to Table 3B delete the words “in some countries” in condition a). In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Power supply cord has not been check, refer to Summary of Testing.	N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD	Power supply cord has not been check, refer to Summary of Testing.	N/A
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 </p> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>	Power supply cord has not been check, refer to Summary of Testing.	N/A
4.3.13.6 (A1:2010)	<p>Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).</p>		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	<p>Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.</p>	The unit does not emit X-ray radiation.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Should be considered when market into these countries	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Should be considered when market into these countries	N/A
1.5.9.4	In Finland , Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	Should be considered when market into these countries	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A 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, have a marking stating that the equipment 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 Finland: "Laite 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>	Should be considered when market into these countries	N/A
1.7.2.1 (A11:2009)	<p>In Norway and Sweden, the screen of the cable 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 cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p>		

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>NOTE In Norway, due to regulation for installations of cable distribution systems, 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.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“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.”</p> <p>Translation to Swedish:</p> <p>”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>	Should be considered when market into these countries	N/A
1.7.2.1 (A2:2013)	<p>In Denmark, CLASS I PLUGGABLE EQUIPMENT TYPE A 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, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in Denmark shall be as follows:</p> <p>In Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”</p>	Should be considered when market into these countries	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N/A
1.7.5 (A11:2009)	For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		
1.7.5 (A2:2013)	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. 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 by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In Switzerland , supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A		N/A
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A
3.2.1.1 (A2:2013)	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Justification the Heavy Current Regulations, 6c</p>		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A
3.2.1.1	<p>In the 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>		N/A
3.2.1.1	<p>In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.</p>		N/A
3.2.4	<p>In Switzerland, for requirements see 3.2.1.1 of this annex.</p>		N/A
3.2.5.1	<p>In the United Kingdom, a power supply cord with conductor of 1,25 mm² is allowed for equipment with a rated current over 10 A and up to and including 13 A.</p>		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. 		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, 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 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 		N/A
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3 (A11:2009)	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**Annex ZD
(informative)**

IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

Photos of Product

Photo 1

☒ Overview

☐ front

☐ rear

☐ right side

☐ left side

☐ top

☐ bottom

☐ internal

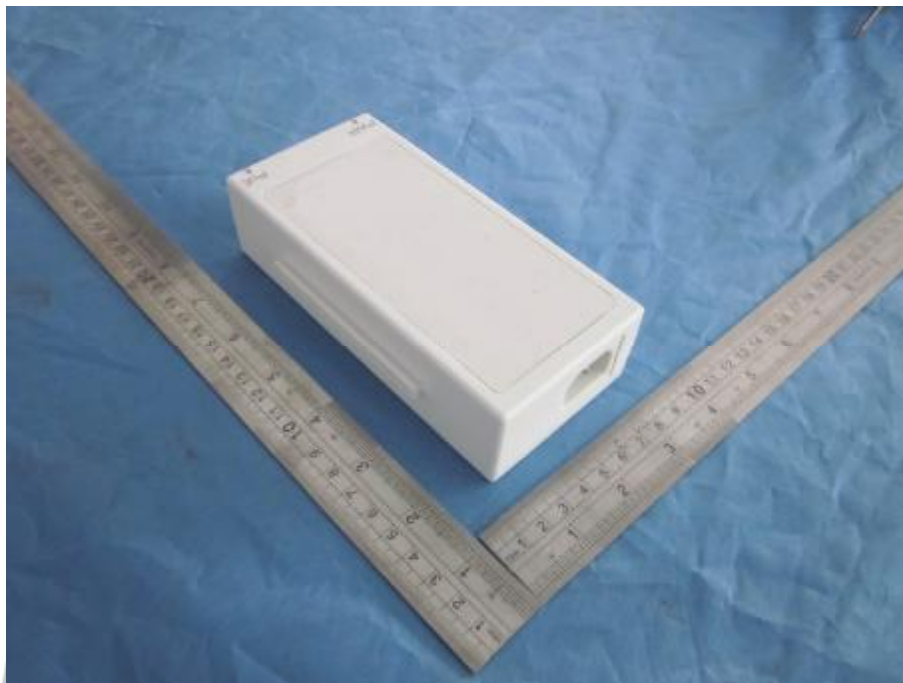


Photo 2

☒ Overview

☐ front

☐ rear

☐ right side

☐ left side

☐ top

☐ bottom

☐ internal

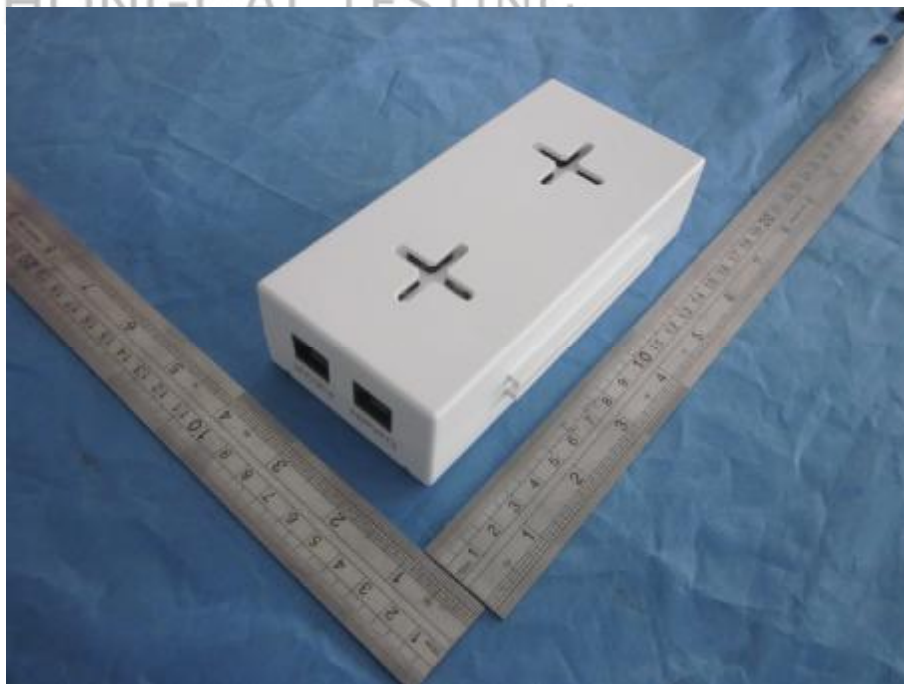


Photo 3

- ☒ Overview
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal

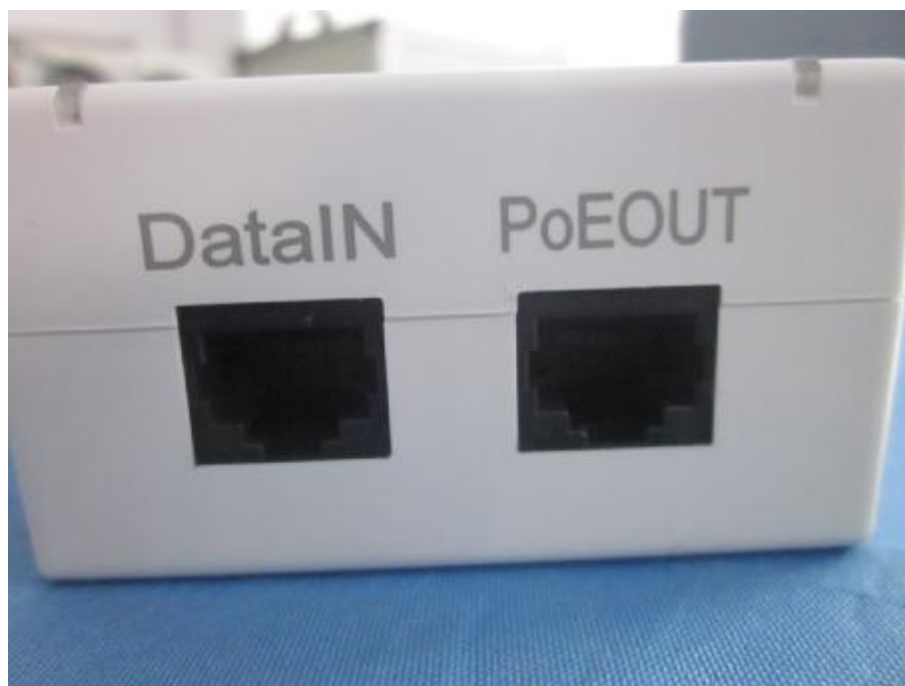


Photo 4

- ☐ Overview
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal

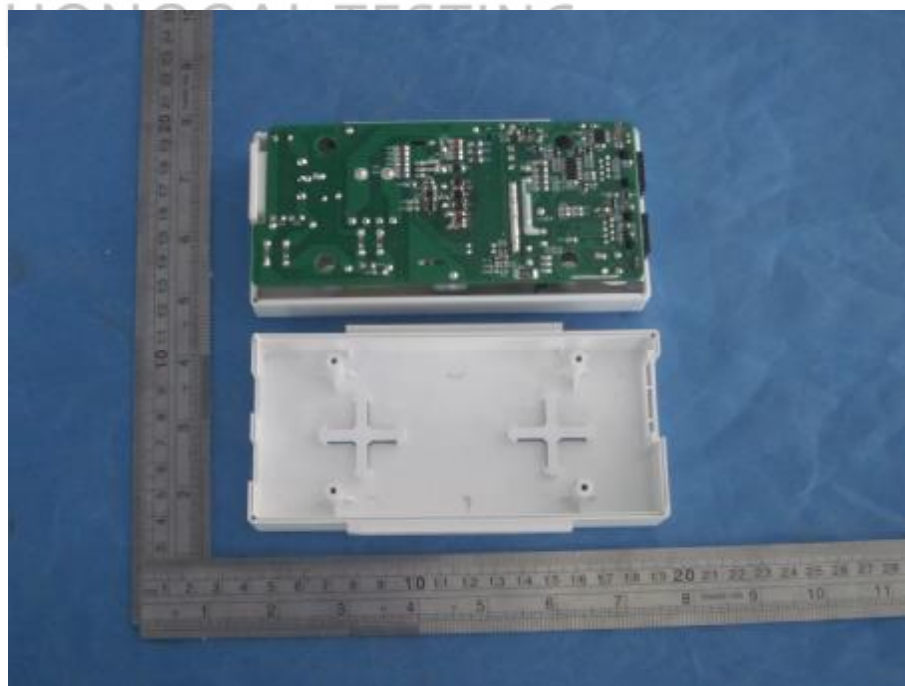


Photo 5
PCB

- ☐ Overview
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☒ top
- ☐ bottom
- ☐ internal

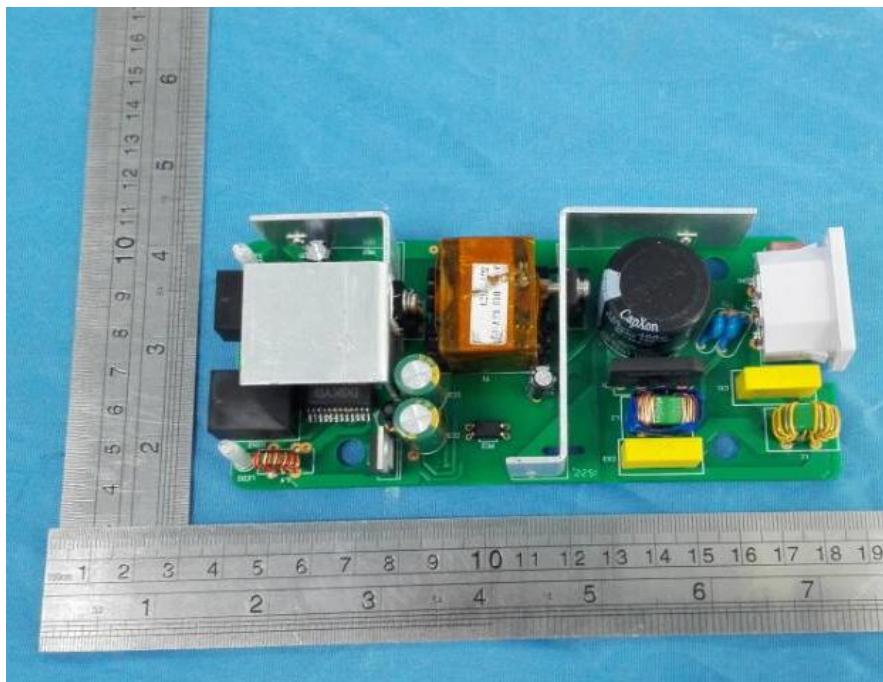
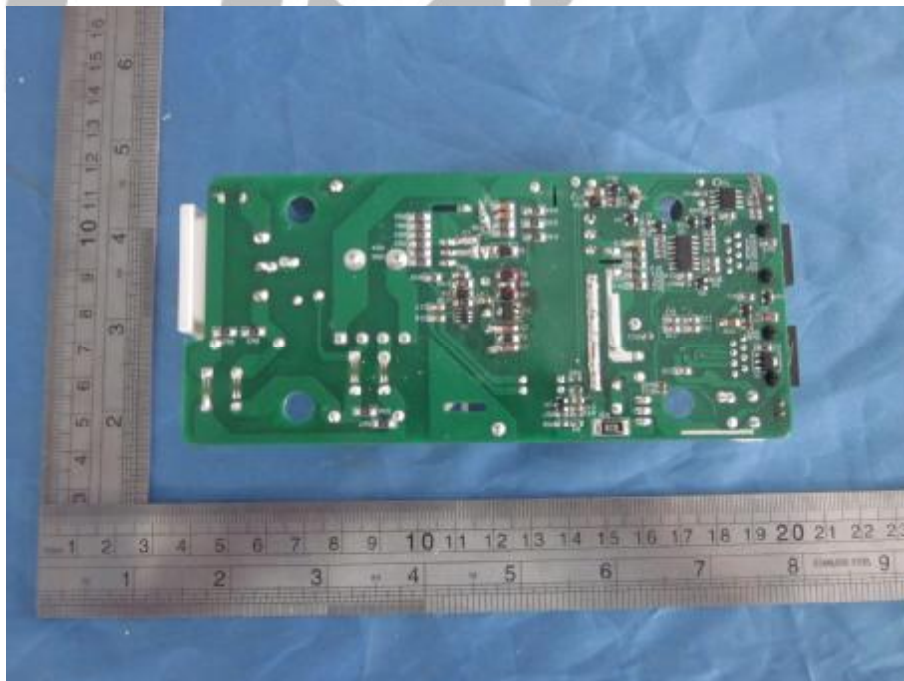


Photo 6
PCB

- ☐ Overview
- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☒ bottom
- ☐ internal



----- End of Report -----