




TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number	SHES160400243101
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Applicant's name	Zhejiang Dahua Vision Technology Co.,Ltd.
Address	The 1st Floor, Building F, No.1199 Binan Road, Changhe Street, Binjiang District, Hangzhou, P.R.China
Test specification:	
Standard	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure	SGS-CSTC
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 Ethernet Switch	
Trade Mark	
Manufacturer	Same as applicant
Model/Type reference	See page 6
Ratings	110-230V~, 2A Max, 50-60Hz, Class I

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing location/ address.....:		588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address.....:		
Tested by (name + signature).....:		Bruce Wu <i>Bruce Wu</i>
Approved by (name + signature).....:		Cherry Sun <i>Cherry S</i>
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address.....:		
Tested by (name + signature).....:		
Approved by (name + signature).....:		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address.....:		
Tested by (name + signature).....:		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address.....:		
Tested by (name + signature).....:		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
Supervised by (name + signature).....:		

<p>List of Attachments (including a total number of pages in each attachment):</p> <p>Attachment 1 – 8 pages of Photos documents;</p> <p>Attachment 2 – 19 pages of European group differences and national differences.</p>	
<p>Summary of testing:</p> <p>The sample(s) tested complies with the requirements of IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 and EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013.</p> <p>When determining the test conclusion, the Measurement Uncertainty of test has been considered.</p> <p>Unless otherwise specified, tests on model DH-PFS5424-24T were considered representative.</p> <p>Heating test (4.5):</p> <p>Ta = 55°C (declared by manufacturer)</p> <p>Tamb = 25,3°C – 25,8°C</p> <p>K-type thermocouple used for temperature measurement.</p>	
<p>Tests performed (name of test and test clause):</p> <p><input checked="" type="checkbox"/> 1. GENERAL</p> <p><input checked="" type="checkbox"/> 2. PROTECTION FROM HAZARDS</p> <p><input checked="" type="checkbox"/> 3. WIRING, CONNECTIONS AND SUPPLY</p> <p><input checked="" type="checkbox"/> 4. PHYSICAL REQUIREMENTS</p> <p><input checked="" type="checkbox"/> 5. ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</p> <p><input type="checkbox"/> 6. CONNECTION TO TELECOMMUNICATION NETWORKS</p> <p><input type="checkbox"/> 7. CONNECTION TO CABLE DISTRIBUTION SYSTEMS</p>	<p>Testing location:</p> <p>SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.</p> <p>588 West Jindu Road, Xinqiao, Songjiang , 201612 Shanghai, China</p>
<p>Summary of compliance with National Differences:</p> <p>List of countries addressed:</p> <p>1. EU Group Differences (EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013)</p> <p>2. EU Special National Conditions, EU A-deviations: none</p> <p>The product fulfils the above requirements.</p>	

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Marking for DH-PFS5424-24T

Remark: The marking plates for other models are of the same pattern.

As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being place on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities

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 checked="" 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)	N/A
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" 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	IPX0
Altitude during operation (m)	≤ 2000m
Altitude of test laboratory (m)	≤ 100m
Mass of equipment (kg)	3,96 kg

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	2016-05-18
Date (s) of performance of tests	2016-05-18 to 2016-06-14

General remarks:

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

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

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Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:

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) : Zhejiang Dahua Vision Technology Co.,Ltd.
 No.1199 Binan Road, Changhe Street, Binjiang District, Hangzhou, P.R.China

General product information:

Product name	Ethernet Switch
Functions	The EUT is a class I Ethernet Switch, which is powered by building-in power supply.
Material of enclosure	Metal
Model difference	All models are identical except for model name and software version which have no impact on safety.
Other features	Indoor use only

Model name:

DH-PFS5424-24T	PFS5424-24T	DH-PFS5924-24X	PFS5924-24X
DH-PFS6428-24T	PFS6428-24T	--	--

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)			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 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		P
1.5.4	Transformers	Transformers used are suitable for it's intended application and comply with relevant parts of this standard and particularly Annex C.	P
1.5.5	Interconnecting cables	The interconnection cables contain only SELV.	P
1.5.6	Capacitors bridging insulation	X2 and Y1 or Y2 capacitors according to IEC 60384-14. (see appended table 1.5.1)	P
1.5.7	Resistors bridging insulation	See below.	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Bleeder resistors (R1 and R2) between live and neutral located after main fuse.	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	No 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	No 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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9	Surge suppressors	See below.	P
1.5.9.1	General	Certified RV1 located after fuse F1 bridging two opposite polarity lines. (see appended table 1.5.1)	P
1.5.9.2	Protection of VDRs	Fuse for protecting RV1.	P
1.5.9.3	Bridging of functional insulation by a VDR		P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

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	Not a hand-held equipment.	N/A
1.6.4	Neutral conductor	Neutral is insulated from earth with basic insulation.	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.....:	Single power connection.	N/A
	Rated voltage(s) or voltage range(s) (V)	110-230V~	P
	Symbol for nature of supply, for d.c. only	The equipment is for a.c.	N/A
	Rated frequency or rated frequency range (Hz)	50-60 Hz	P
	Rated current (mA or A)	2A	P
1.7.1.2	Identification markings	See below	P
	Manufacturer's name or trade-mark or identification mark	Trade-mark: 	P
	Model identification or type reference	See page 6	P
	Symbol for Class II equipment only	Class I equipment	N/A
	Other markings and symbols	The additional marking does not give rise to misunderstandings.	P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking	See below.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	General	The user manual contains necessary information.	P
1.7.2.2	Disconnect devices	The equipment is provided with an appliance coupler.	N/A
1.7.2.3	Overcurrent protective device	Pluggable equipment Type A.	N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone	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	No voltage adjustment.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	F1: T3,15A, 250V	P
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals	The equipment provided with appliance inlet.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Not permanently connected or provided with non-detachable power supply cord.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	See below.	N/A
1.7.8.1	Identification, location and marking	No control.	N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417.....		N/A
1.7.8.4	Markings using figures	No control uses figures.	N/A
1.7.9	Isolation of multiple power sources	Single power supply.	N/A
1.7.10	Thermostats and other regulating devices	No such device.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	The label was subjected to the permanence of marking test. The label 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 label. The marking on the label did not fade. There was no curling or lifting of the label edge.	P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries	No replaceable batteries in the equipment.	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations	The equipment not intended for installation in RAL.	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). No hazardous voltages exceeding 1000V a.c. or 1500V d.c.	P
	Test by inspection	See below.	P
	Test with test finger (Figure 2A)	No access.	P
	Test with test pin (Figure 2B)	No access.	P
	Test with test probe (Figure 2C)	No TNV circuit in the equipment.	N/A
2.1.1.2	Battery compartments	No TNV circuit in the equipment.	N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV.	N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No internal wiring at ELV accessible to the operator.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.5	Energy hazards	No energy hazard in operator access area. Checked by means of the test finger.	P
2.1.1.6	Manual controls	No such part.	N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s)	Max. Time constant measured max. 66ms. The X-capacitors and bleeding resistors used are at max. Rated value, see Table 1.5.1.	—
2.1.1.8	Energy hazards – d.c. mains supply	Not intended to be connected to d.c. 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 amplifier.	N/A
2.1.2	Protection in service access areas		P
2.1.3	Protection in restricted access locations	The equipment not intended for installation in RAL.	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)	Under SELV limit. (see appended table 2.2)	P
2.2.3	Voltages under fault conditions (V)	Under SELV limit. (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.	P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuit.	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	The limits of 2.4.2 were not exceeded under normal operating condition.	P
2.4.2	Limit values	See below. Via measurement instrument of figure D.1.	P
	Frequency (Hz).....:	60Hz	—
	Measured current (mA).....:	0,58	—
	Measured voltage (V)	0,288	—
	Measured circuit capacitance (nF or μ F).....:	C13=3300pF	—
2.4.3	Connection of limited current circuits to other circuits		P
2.5	Limited power sources		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :		—
	Current rating of overcurrent protective device (A) ..:		—
2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	Accessible conductive parts are reliably connected to protective earth.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.2	Functional earthing	Functional earthing is separated from hazardous voltages by basic insulation and protective earth.	P
	Use of symbol for functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors	See below.	P
2.6.3.1	General	Refer to 2.6.3.2, 2.6.3.3 and 2.6.3.4.	P
2.6.3.2	Size of protective earthing conductors	No power supply cord provided.	N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors	Refer to 2.6.3.4.	P
	Rated current (A), cross-sectional area (mm ²), AWG	Rated current of the circuit under test: 16A. Refer to 2.6.3.4.	—
	Protective current rating (A), cross-sectional area (mm ²), AWG		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	1. From GND pin of appliance inlet to metal enclosure: 4 m Ω , 0,128V, 32 A, 2 min, 2. From GND pin of appliance inlet to Y - Capacitor (C3, C4, C25, C26, C28) GND pin: 3 m Ω , 0,096V, 32 A, 2 min,	P
2.6.3.5	Colour of insulation	Protective earth terminal and bonding conductors are in appliance inlet. Green/yellow insulated protective earth conductors are provided.	P
2.6.4	Terminals		P
2.6.4.1	General	See below.	P
2.6.4.2	Protective earthing and bonding terminals	The earth terminal of appliance inlet is considered as the main protective earth terminal.	P
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	The equipment is provided with an appliance inlet.	P
2.6.5	Integrity of protective earthing		P
2.6.5.1	Interconnection of equipment	No interconnection of equipment.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	There are no switches or overcurrent protective devices in the protective earthing / bonding conductors.	P
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect protective earth without disconnecting mains. The appliance coupler is used as disconnect device.	P
2.6.5.4	Parts that can be removed by an operator	No operator removable parts with protective earth connection except supply cord.	P
2.6.5.5	Parts removed during servicing	Protective earthed parts cannot be removed in a way which impair safety.	P
2.6.5.6	Corrosion resistance	No risk of corrosion.	P
2.6.5.7	Screws for protective bonding	Adequate connection of protective bonding.	P
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 devices are integrated in the equipment.	P
	Instructions when protection relies on building installation	Not rely on building installation.	N/A
2.7.2	Faults not simulated in 5.3.7		P
2.7.3	Short-circuit backup protection		P
2.7.4	Number and location of protective devices :	The protective device is located adequately therefore able to interrupt the overcurrent flowing in any possible fault current path.	P
2.7.5	Protection by several devices	Fuse provided.	P
2.7.6	Warning to service personnel :	Symbol used.	P

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlock used.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
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 asbestos nor hygroscopic materials are used as insulation. No driving belts or couplings used.	P
2.9.2	Humidity conditioning	Tested for 120 hrs.	P
	Relative humidity (%), temperature (°C)	93%, 40°C	—
2.9.3	Grade of insulation	Insulation is considered to be functional, basic, supplementary, reinforced or double insulation.	P
2.9.4	Separation from hazardous voltages	See below	P
	Method(s) used	Method 1 and 2 are used.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below.	P
2.10.1.1	Frequency	The frequency not exceeding 30kHz.	P
2.10.1.2	Pollution degrees	2	P
2.10.1.3	Reduced values for functional insulation		P
2.10.1.4	Intervening unconnected conductive parts		P
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	See below.	P
2.10.2.1	General	See below.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.2	RMS working voltage	(see appended table 2.10.2)	P
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	See below.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply	2500V _{peak} .	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 circuits will not generate starting pulse.	N/A
2.10.3.6	Transients from a.c. mains supply		P
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		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
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.4.1	General	See below.	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 appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General	(see appended table 2.10.5)	P
2.10.5.7	Separable thin sheet material	(see appended table 2.10.5)	P
	Number of layers (pcs)..... :	3 layers	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		P
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components		P
2.10.5.12	Wire in wound components		P
	Working voltage :	(see appended table 2.10.3 and 2.10.4)	P
	a) Basic insulation not under stress :		N/A
	b) Basic, supplementary, reinforced insulation :		N/A
	c) Compliance with Annex U :		P
	Two wires in contact inside wound component; angle between 45° and 90° :	By tube and insulation tape.	P
2.10.5.13	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		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.	P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.8	Tests on coated printed boards and coated components		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	For optocouplers, see appended table 1.5.1.	P

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.	P
3.1.2	Protection against mechanical damage	The Wireways are smooth and free from sharp edges.	P
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage.	P
3.1.5	Beads and ceramic insulators	No such component.	N/A
3.1.6	Screws for electrical contact pressure	Electrical screw connection is only connecting protective earth to chassis. Metal screw engages more than 2 threads. Screws made of insulating material are not used where electrical connections, including protective earthing are involved.	P
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	P
3.1.8	Self-tapping and spaced thread screws	No self- tapping or spaced thread screws for electrical connections.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
3.2	Connection to a mains supply		P
3.2.1	Means of connection	See below	P
3.2.1.1	Connection to an a.c. mains supply	The equipment is provided with appliance inlet.	P
3.2.1.2	Connection to a d.c. mains supply	Not intended to be connected 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	Not permanently connected equipment.	N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		P
3.2.5	Power supply cords	No power supply cord provided.	N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		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		N/A
3.2.8	Cord guards		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

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Clause	Requirement + Test	Result - Remark	Verdict
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 below.	P
3.4.2	Disconnect devices	The equipment is provided with an appliance coupler.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	No parts remain energized after the disconnect device is pull out.	N/A
3.4.5	Switches in flexible cords		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 switches provided.	N/A
3.4.9	Plugs as disconnect devices	The appliance coupler is regared as disconnect device.	N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources	Only one power supply connection.	N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits :	SELV circuit.	P
3.5.3	ELV circuits as interconnection circuits	No ELV.	N/A
3.5.4	Data ports for additional equipment		P

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Clause	Requirement + Test	Result - Remark	Verdict
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	Mass < 7kg.	N/A
	Test force (N):	Not floor-standing equipment.	N/A
4.2	Mechanical strength		P
4.2.1	General		P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	No hazards.	P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	No hazards. The test is performed at all sides of enclosure.	P
4.2.5	Impact test		P
	Fall test		P
	Swing test		P
4.2.6	Drop test; height (mm):		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes	No cathode ray tube.	N/A
	Picture tube separately certified:		N/A
4.2.9	High pressure lamps	No high pressure lamp.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N):	Not intended to be mounted on a wall or ceiling.	N/A
4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N).....:	No knobs, grips, handles, lever etc.	N/A
4.3.3	Adjustable controls	No adjustable control.	N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets	SELV connectors do not comply with IEC 60320 or IEC 60083.	P
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque:		—
	Compliance with the relevant mains plug standard:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	No batteries in the equipment.	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
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases	No such containers used.	N/A
4.3.12	Flammable liquids	No flammable liquids.	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation		P
4.3.13.1	General	See below.	P
4.3.13.2	Ionizing radiation	No 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	No UV lamp used.	N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	No UV radiation.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	See below.	P
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	The LED is used as indicating lights.	P
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		P
4.4.1	General	The EUT contains two DC Fans.	P
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.3	Protection in restricted access locations	Not intended for installation in RAL.	N/A
4.4.4	Protection in service access areas	Unintentional contact is not likely in service access areas.	N/A
4.4.5	Protection against moving fan blades		P
4.4.5.1	General	See below.	P
	Not considered to cause pain or injury. a).....:	The DC Fan is within the limits under normal and fault conditions. DC Fan MB40201V1-000C-A99 in system: $K=6 \times 10^{-7} (0,031 \times 20^2 \times 7200^2) = 385,69$ $7200/15000 + 385,69/2400 = 0,64$ $1 < 1$; According to above calculation, moving fans blade are considered not likely to cause pain or injury.	P
	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	Rated load with continuous operation.	—
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	Openings in left side enclosure do not allow foreign objects entering the equipment to fall on bare parts. Also, openings are not located within 5° of fire hazardous parts.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Dimensions (mm)	Metal enclosure: Front: no opening. Top: no opening. Rear: no opening. Left side: numerous Ø 2,85mm.	—
4.6.2	Bottoms of fire enclosures	No opening.	P
	Construction of the bottom, dimensions (mm) ..		—
4.6.3	Doors or covers in fire enclosures	No cover can be removed by hand.	N/A
4.6.4	Openings in transportable equipment	Not transportable equipment.	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		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		P
	Method 1, selection and application of components wiring and materials		P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure covers all parts.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
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	The fire enclosure is constructed metal.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No parts outside the fire enclosure.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Other materials inside fire enclosure are minimum V-2 material.	P
4.7.3.5	Materials for air filter assemblies	No air filter.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage component.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply	No multiple power sources.	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	No multiple power sources.	N/A
5.1.3	Test circuit	Figure 5A is used.	P
5.1.4	Application of measuring instrument	Measuring instrument D1 is used.	P
5.1.5	Test procedure		P
5.1.6	Test measurements	See below.	P
	Supply voltage (V)	253V	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	(see appended table 5.1)	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)		—
5.1.7	Equipment with touch current exceeding 3,5 mA	Not exceed 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 system.	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

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Clause	Requirement + Test	Result - Remark	Verdict

5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	Table 5B used.	P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	Certified component.	P
5.3.3	Transformers	(see appended Annex C)	P
5.3.4	Functional insulation	Complies with a) and c).	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE	No audio amplifier.	N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment		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 test is made on functional, basic 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	No TNV.	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	No TNV.	N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	No TNV.	—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	Not connected to cable Distribution System.	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		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
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)		P
B.1	General requirements		P
	Position	In SELV circuits.	—
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—

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Clause	Requirement + Test	Result - Remark	Verdict
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	(see appended table 5.3)	P
B.7.1	General		P
B.7.2	Test procedure	(see appended table 5.3)	P
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		N/A
B.9	Test for three-phase motors		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	T1	—
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
	Method of protection	Inherent protection.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 5.2)	P
	Protection from displacement of windings		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
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P

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Clause	Requirement + Test	Result - Remark	Verdict
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
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used		—
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
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Considered.	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)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
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		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Preferred climatic categories	(see appended table 1.5.1.)	P
	- Maximum continuous voltage		P
	- Combination pulse current		P
	Body of the VDR Test according to IEC60695-11-5.....		P
	Body of the VDR. Flammability class of material (min V-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
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
W.2.2	Common return, isolated from earth		N/A
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		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		N/A
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
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		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

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

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Metal enclosure	Interchangeable	Interchangeable	Metal, min. 1,2mm thickness	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance	
Appliance inlet	Zhejiang LECI Electronics Co., Ltd	DB-14	10A, 250V~, 70°C	EN 60320-1	VDE 40032137	
Primary lead wire	SHENZHEN ZELONGKANG ELECTRIC LTD	1007	Min. 18AWG, 600V, 105°C, VW-1	UL 758	UL E330488	
Heat shrinkable tubing (on F1, inlet, secondary output wire)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR-H	600V, 125°C, VW-1	UL 224	UL E203950	
- Alt.	DONGGUAN QUANTAI INDUSTRIAL CO LTD	T-2	600V, 125°C, VW-1	UL 224	UL E227336	
PCB (For PSU)	PREMIER ELECTRONIC PLASTIC LTD	ZR-01; ZR-04	V-0, 130°C, min. 1,6mm thickness	UL 796	UL E317642	
- Alt.	BOLUO EVERSUN ELECTRONICS PLANT	YY-CK11; YY-VK10; YY-CZ11; YY-VZ10	V-0, 130°C, min. 1,6mm thickness	UL 796	UL E250664	
- Alt.	EASTOP INTERNATIONAL LTD	ET-002; ET-003; ET-005	V-0, 130°C, min. 1,6mm thickness	UL 796	UL E226038	
- Alt.	DONG GUAN NEW ENERGY PRINTED CIRCUIT BOARD CO LTD	NE1000; NE1000A; NE5000; NE5000A	V-0, 130°C, min. 1,6mm thickness	UL 796	UL E206420	
- Alt.	WALEX ELECTRONIC (WUXI) CO LTD	T2; T2A; T2B; T4	V-0, 130°C, min. 1,6mm thickness	UL 796	UL E154355	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
- Alt.	MEI ZHOU LI YU DA CRICUIT BOARD CO LTD	LYD-2; LYD-3; LYD-4	V-0, 130°C, min. 1,6mm thickness	UL 796	UL E320265
- Alt.	Interchangeable	Interchangeable	V-0, 130°C, min. 1,6mm thickness	UL 796	UL
PCB (For main board, light board)	SHEN ZHEN SHI CHANG DONG XIN PCB CO LTD	CDX-2	V-0, 130°C, min. 1,6mm thickness	UL 796	UL E327349
- Alt.	Interchangeable	Interchangeable	V-0, 130°C, min. 1,6mm thickness	UL 796	UL
Primary connector (CN1)	SHANGHAI YUESHEN ELECTRONIC CO LTD	YSF6	V-0, Min. 65°C	UL 1977 UL 94	UL E204074
- Alt.	SHENZHEN YONG FENG YING ELECTRONIC CO LTD	CS-1120	V-0, Min. 65°C	UL 1977 UL 94	UL E241915
- Alt.	ZHEJIANG JINDA ELECTRONICS CO LTD	3.96T-02	V-0, Min. 65°C	UL 1977 UL 94	UL E237523
- Alt.	Interchangeable	Interchangeable	V-0, Min. 65°C	UL 1977 UL 94	UL
Fuse (F1)	Dongguan Better Electronics Technology Co., Ltd	334 – Serie(s)	T3,15A, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40025428
- Alt.	Shenzhen Lanson Electronics Co., Ltd	3N – Serie(s)	T3,15A, 250Vac	EN 60127-1 EN 60127-3	VDE 40016660
- Alt.	Dongguan Hongda Electronic Technology Co., Ltd	31TC	T3,15A, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40028150
- Alt.	XC-Electronics (Shen Zhen) Corp. Ltd.	4T-Serie(s)	T3,15A, 250Vac	IEC 60127-1 IEC 60127-3	VDE 40029295
Varistor (VR1)	Thinking Electronic Industrial Co., Ltd.	TVR14561	Min. 300Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051- 2-2	VDE 5944

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
- Alt.	Lien Shun Electronics Co., Ltd	14D561K	Min. 300Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005858
- Alt.	Shaanxi Huaxing electronic group Co., Ltd.	MYG20G14K561	Min. 350Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40018747
- Alt.	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd	STE-14D561K	Min. 350Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40023049
- Alt.	Brightking (Shenzhen) Co., Ltd.	14D561K	Min. 300Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027827
- Alt.	Centra Science Corp.	CNR-14D561K	Min. 300Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008220
- Alt.	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	ZVR-14D561K	Min. 300Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027789
- Alt.	EPCOS OHG	S14*	Min. 300Vac, 85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027582
X- Capacitor (C1)	Tenta Electric Industrial Co. Ltd.	MEX	Max. 0,22µF, Min. 275V, 100°C, X2 type	IEC 60384-14 EN 60384-14	VDE 119119
- Alt.	Dain Electronics Co., Ltd.	MPX/NPX/MEX	Max. 0,22µF, Min. 275V, 110°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40018798
- Alt.	Dongguan Easy-gather Electronic Co., Ltd.	MKP-X2	Max. 0,22µF, Min. 300V, 105°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40022258

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹
- Alt.	Shenzhen Su Rong Capacitors Co., Ltd.	MPX/MKP	Max. 0,22µF, Min. 280V, 100°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40008924
- Alt.	Shantou High-New Technology Development Zone Songtian Enterprise Co., Ltd	MPX	Max. 0,22µF, Min. 275V, 110°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40034679
X- Capacitor (C2)	Tenta Electric Industrial Co. Ltd.	MEX	Max. 0,47µF, Min. 275V, 100°C, X2 type	IEC 60384-14 EN 60384-14	VDE 119119
- Alt.	Dain Electronics Co., Ltd.	MPX/NPX/MEX	Max. 0,47µF, Min. 275V, 110°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40018798
- Alt.	Dongguan Easy-gather Electronic Co., Ltd.	MKP-X2	Max. 0,47µF, Min. 300V, 105°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40022258
- Alt.	Shenzhen Su Rong Capacitors Co., Ltd.	MPX/MKP	Max. 0,47µF, Min. 280V, 100°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40008924
- Alt.	Shantou High-New Technology Development Zone Songtian Enterprise Co., Ltd	MPX	Max. 0,47µF, Min. 275V, 110°C, X2 type	IEC 60384-14 EN 60384-14	VDE 40034679
Y- Capacitor (C3, C4, C25, C26, C28)	Shaanxi Huaxing Electronic Development Co. Ltd	CT7Y2	Max. 2200pF, Min. 250V, 125°C, Y2 type	IEC 60384-14 EN 60384-14	VDE 40032125
- Alt.	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	Max. 2200pF, Min. 250V, 125°C, Y2 type	IEC 60384-14 EN 60384-14	VDE 40036246
- Alt.	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd	CE Series	Max. 2200pF, Min. 250V, 125°C, Y2 type	IEC 60384-14 EN 60384-14	VDE 40025748
- Alt.	Dongguan Easy-gather Electronic Co., Ltd.	DCF	Max. 2200pF, Min. 250V, 125°C, Y2 type	IEC 60384-14 EN 60384-14	VDE 40015758

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹
- Alt.	JYA-NAY CO., LTD	JR08B5R1CY62 N	Max. 2200pF, Min. 250V, 125°C, Y2 type	EN 60384-14	TUV R 50232060
Y- Capacitor (C13)	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	Max. 3300pF, Min. 400V, 125°C, Y1 type	IEC 60384-14 EN 60384-14	VDE 40036393
- Alt.	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd	CD-Series	Max. 3300pF, Min. 400V, 125°C, Y1 type	IEC 60384-14 EN 60384-14	VDE 40025754
- Alt.	Shaanxi Huaxing Electronic Development Co. Ltd	CT7Y1	Max. 3300pF, Min. 400V, 125°C, Y1 type	IEC 60384-14 EN 60384-14	VDE 40015542
- Alt.	Dongguan Easy-gather Electronic Co., Ltd.	DCF	Max. 3300pF, Min. 400V, 125°C, Y1 type	IEC 60384-14 EN 60384-14	VDE 40022942
- Alt.	JYA-NAY CO., LTD	JNA09B8R0CY 02N	Max. 3300pF, Min. 400V, 125°C, Y1 type	EN 60384-14	TUV R 50232059
Bleeder resistor (R1, R2)	Interchangeable	Interchangeable	330kΩ, 1/4W	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance
Line filter (L1)	SHENZHEN TOPOW ELECTRONICS CO., LTD	T12x8x5	130°C	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance
- Triple insulated wire	SHENZHEN XILIAN ELECTRONIC CO LTD	TIW-HG(B)	130°C	UL 60950-1	UL E358723
- Varnish	JOHN C DOLPH CO	BC-346A	200°C	UL 1446	UL E317427

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹
Line filter (L2)	SHENZHEN TOPOW ELECTRONICS CO., LTD	T18x10x7	130°C	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance
- Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEW/U	130°C	UL 1446	UL E201757
- Varnish	JOHN C DOLPH CO	BC-346A	200°C	UL 1446	UL E317427
Thermistor (RT1)	Thinking Electronic Industrial Co., Ltd.	SCK-055	5A min., 5Ω at 25°C	EN 60539-1 EN 60730-1	TUV R 50050155
- Alt.	Nanjing Shiheng Electronics Co., Ltd.	MF72-5D13	5A min., 5Ω at 25°C	EN 60539-1	TUV R 50245892
Bridging Diode (BD1)	Interchangeable	Interchangeable	Min. 10A, Min. 800V	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance
Electrolytic capacitor (C5)	Interchangeable	Interchangeable	Max. 120μF, min. 450V min., 105°C	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance
Transistor (Q1)	Interchangeable	Interchangeable	Min. 10.2A, min. 650V	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹
Optocoupler (IC2, IC3)	Everlight Electronics Co., Ltd	EL817	dti \geq 0,5mm, ext. cr.=7,7mm, int. cr.=6,0mm, 110°C	EN 60747-5-5	VDE 132249
- Alt.	Bright Led Electronics Corp.	BPC 817 C	dti \geq 0,4mm, ext. cr.=8,0mm, int. cr.=7,6mm, 100°C	DIN EN 60747-5-2	VDE 40007240
- Alt.	Lite-On Technology Corporation	LTV-817	dti \geq 0,4mm, ext. cr.=8mm, int. cr.= > 4mm, 115°C	EN 60747-5-5	VDE 40015248
Transformer (T1)	SHENZHEN TOPOW ELECTRRONICS CO. , LTD	PQ3225; TPT72S1206A	Class B	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested in appliance
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375J	150°C, phenolic, min. thickness 0,45mm	UL 94	UL E59481
- Magnet wire	DONG GUAN YIDA INDUSTRIAL CO LTD	QA-1/130	130°C	UL 1446	UL E344055
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ*(b)	130°C	UL 510	UL E165111
- Margin tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	WF	130°C	UL 510	UL E165111
- Teflon tube	GREAT HOLDING INDUSTRIAL CO LTD	TFT	300V, 200°C	UL 224	UL E156256
- Varnish	JOHN C DOLPH CO	BC-346A	200°C	UL 1446	UL E317427

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Mylar sheet under PSU PCB	MIANYANG LONGHUA FILM CO LTD	PC-770; PC-770F; PC-770F-A	V-0, min. 0,4mm thickness	UL 94	UL E254551
- Alt.	SUZHOU OMAY OPTICAL MATERIAL CO LTD	SE42; SE42B	V-0, min. 0,4mm thickness	UL 94	UL E249605
- Alt.	Interchangeable	Interchangeable	V-0, min. 0,4mm thickness	UL 94	UL
DC Fan	Sunonwealth Electric Machine	MB40201V1-000C-A99	12Vdc, 0.84W, 7200r/min	IEC 60950-1: 2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	TUV R 50152959 & Tested in appliance
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : See table 1.5.1 Type..... : See table 1.5.1 Separately tested : See table 1.5.1 Bridging insulation : Reinforced insulation External creepage distance..... : See table 1.5.1 Internal creepage distance..... : See table 1.5.1 Distance through insulation : See table 1.5.1 Tested under the following conditions..... : Reinforced		
Input..... : Tested with appliance Output..... : Tested with appliance		
supplementary information		

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

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	
99V/50Hz	0,51	--	29,4	F1	0,51	Normal operation condition.	
99V/60Hz	0,52	--	29,5	F1	0,52	Normal operation condition.	
110V/50Hz	0,45	2	29,2	F1	0,45	Normal operation condition.	
110V/60Hz	0,44	2	29,3	F1	0,44	Normal operation condition.	
230V/50Hz	0,32	2	29,7	F1	0,32	Normal operation condition.	
230V/60Hz	0,30	2	29,6	F1	0,30	Normal operation condition.	
253V/50Hz	0,24	--	29,0	F1	0,24	Normal operation condition.	
253V/60Hz	0,25	--	29,2	F1	0,25	Normal operation condition.	
Supplementary information:							

2.1.1.5 c) 1)	TABLE: max. V, A, VA test					N/A
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)		
--	--	--	--	--		
supplementary information:						

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 8, 9 to pin 10, 11 (SGND)		68,3	--	--	
After R20 to GND		68,3	--	--	
After R21 to GND		65,9	--	--	
After D4 to GND		--	12,5	D4, D5, C14, C15	
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
D4 S-C		0	
D5 S-C		0	
C14 S-C		12,7Vdc	
C15 S-C		12,5Vdc	
supplementary information:			
S-C: Short Circuit. Input voltage: 253V, 60Hz.			

2.5	TABLE: Limited power sources				N/A	
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components		Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
--		--	--	--	--	--
supplementary information:						

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.2	Table: working voltage measurement		P
Location	RMS voltage (V)	Peak voltage (V)	Comments
T1 pin 1 to pin 8, 9	217	368	
T1 pin 1 to pin 10, 11	219	424	
T1 pin 2 to pin 8, 9	208	376	
T1 pin 2 to pin 10, 11	217	368	
T1 pin 4 to pin 8, 9	248	488	
T1 pin 4 to pin 10, 11	257	504	Cr=5,2mm, Cl=4,4mm
T1 pin 6 to pin 8, 9	220	416	
T1 pin 6 to pin 10, 11	211	360	
IC2 pin 3 to pin 1	215	368	
IC2 pin 4 to pin 1	216	368	
IC2 pin 3 to pin 2	211	360	
IC2 pin 4 to pin 2	207	376	
IC3 pin 3 to pin 1	221	368	
IC3 pin 4 to pin 1	214	368	
IC3 pin 3 to pin 2	225	368	
IC3 pin 4 to pin 2	212	360	
C13 primary to secondary	215	360	
supplementary information:			
Input voltage: 230Vac, 60Hz			

IEC 60950-1							
Clause	Requirement + Test			Result - Remark		Verdict	
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:							
Line to Neutral before fuse ¹⁾		326	230	1,5	2,8	2,3	2,8
Traces under fuse F1 ¹⁾		326	230	1,5	2,8	2,3	2,8
Basic/supplementary:							
Live to GND ¹⁾		326	230	2,0	4,3	2,3	4,3
C28 primary to GND ¹⁾		326	230	2,0	4,3	2,3	4,3
C3 primary to GND ¹⁾		326	230	2,0	4,3	2,3	4,3
C4 primary to GND ¹⁾		326	230	2,0	4,3	2,3	4,3
T1 core to top metal enclosure		504	257	2,2	5,9	2,6	5,9
T1 primary to T1 core		504	257	2,2	3,5	2,6	3,5
T1 core to T1 secondary		504	257	2,2	5,4	2,6	5,4
Reinforced:							
C13 primary to secondary ¹⁾		360	230	4,0	7,0	4,6	7,0
IC2 primary to secondary ¹⁾		376	230	4,0	5,7	4,6	5,7
IC3 primary to secondary ¹⁾		368	230	4,0	5,7	4,6	5,7
T1 primary to secondary ¹⁾		504	257	4,4	7,0	5,2	7,0
Supplementary information: ¹⁾ Measured on PCB side. Mylay sheet is between power supply PCB solder side and metal enclosure. Three layers of insulation tapes wrapped on transformer T1.							

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)	
Optocoupler	376	230	3000Vac	0,4	See table 1.5.1	
Mylar sheet	326	230	3000Vac	0,4	See table 1.5.1	
Insulation tapes between primary and secondary in transformer T1 (Tested with 2 layers)	504	257	3000Vac	3 layers	3 layers	
Supplementary information:						

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

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available									N/A
Is it possible to install the battery in a reverse polarity position?									N/A
	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:									
- Chemical leaks									Verdict
- Explosion of the battery									N/A
- Emission of flame or expulsion of molten metal									N/A
- Electric strength tests of equipment after completion of tests									N/A
Supplementary information:									

4.3.8	TABLE: Batteries		N/A
Battery category : --			
Manufacturer : --			
Type / model..... : --			
Voltage : --			
Capacity..... : --			
Tested and Certified by (incl. Ref. No.) : --			
Circuit protection diagram: --			

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

MARKINGS AND INSTRUCTIONS (1.7.13)

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)	99V/ 60Hz	99V/ 60Hz	253V/ 60Hz	253V/ 60Hz	—	—
	Ambient T _{min} (°C)	25,4	55	25,3	55	—	—
	Ambient T _{max} (°C)	25,8	55	25,7	55	—	—
Maximum measured temperature T of part/at.....:		T (°C)				—	Allowed T (°C)
T1 winding (power board)		29,1	58,7	29,9	59,6	--	110
T1 core (power board)		29,1	58,7	28,6	58,3	--	Ref.
Surface of CON1 (power board)		30,7	60,3	31,7	61,4	--	65
Surface of E-cap C5 (power board)		34,2	63,8	36,5	66,2	--	105
Surface of Y-cap C13 (power board)		30,1	59,7	30,3	60,0	--	125
Surface of X-cap C1 (power board)		33,0	62,6	34,9	64,6	--	100
L1 winding (power board)		33,3	62,9	35,2	64,9	--	130
Surface of optocoupler IC2 (power board)		42,1	71,7	41,2	70,9	--	100
PWB near Q1 (power board)		43,7	73,3	44,2	73,9	--	130
PWB near U5 (main board)		37,3	66,9	39,7	69,4		130
PWB near U10 (main board)		35,7	65,3	35,6	65,3	--	130
Surface of E-cap CP6 (main board)		41,9	71,5	41,8	71,5	--	105
PWB near Q4 (main board)		34,6	64,2	35,7	65,4	--	130
Primary lead wire		40,7	70,3	41,7	71,4	--	105
AC inlet		28,4	58,0	29,7	59,4	--	70
Metal enclosure surface (Top, near power board)		36,7	66,3	39,5	69,2	--	70
Supplementary information:							
1) Temperature under ambient 55°C are calculated from test condition 99Vac and 253Vac under ambient 25,3°C – 25,8°C.							
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:							

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

4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm)	≤ 2 mm	—
Part	Test temperature (°C)	Impression diameter (mm)	
CON1	125	0,8	
Supplementary information: Bobbin of transformer use phenolic material, meet fire and insulation requirements.			

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
--	--	--	--	--	--	
Supplementary information: See table 1.5.1						

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
Line and metal enclosure (GND)	0,97	3,5	System on, With "e" opened	
Neutral and metal enclosure (GND)	0,99	3,5	System on, With "e" opened	
Line and secondary output connector	0,21	0,25	System on, With "e" closed	
Neutral and secondary connector	0,21	0,25	System on, With "e" closed	
supplementary information:				
1) Tested with 253Vac, 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:				
Line and neutral (fuse open)	AC	1500	No	

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

Basic/supplementary:			
Primary and metal enclosure (GND)	AC	1500	No
T1 primary and T1 core	AC	1772	No
T1 secondary and T1 core	AC	1772	No
Reinforced:			
Primary and secondary output connector	DC	4242	No
T1 primary and T1 secondary	AC	3000	No
3 layouts of insulation tape in T1 (tested with 2 layers)	AC	3000	No
Mylar sheet under power supply	AC	3000	No
Supplementary information: Transformers were tested separately with 3000Vac/ 60s from primary to secondary.			

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C)	25,3 - 26,4	—
	Power source for EUT: Manufacturer, model/type, output rating	See page 1	—

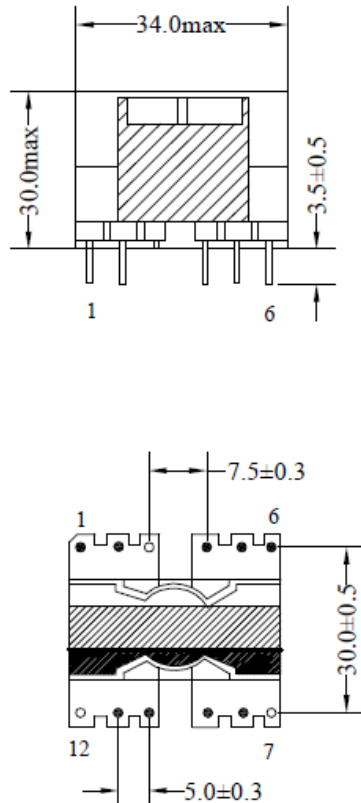
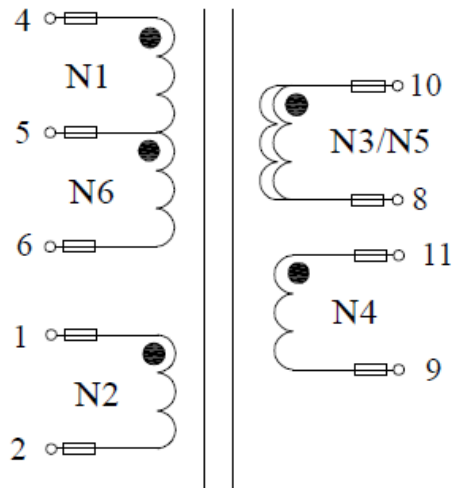
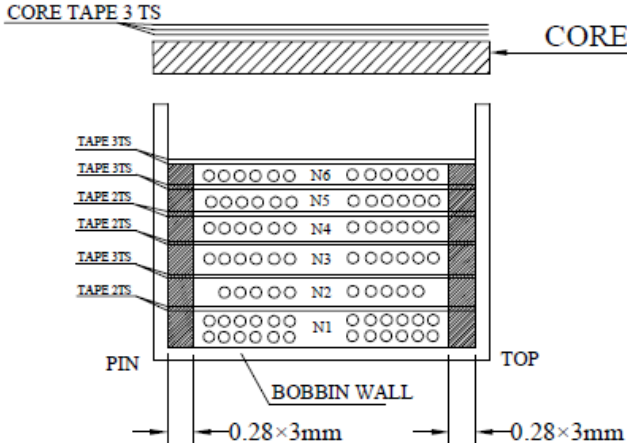
IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Ventilation openings	Blocked	253V	3 h 55 min	F1	0,25	The EUT operated normally. Max. temp. measured: T1 coil=48,5°C, T1 core=41,3°C, IC2 body=56,1°C, Ambient=25,4°C, No damaged, no hazards.
DC Fan	Locked	253V	7 h	F1	0,25	The EUT operated normally. Max. temp. measured: T1 coil=32,5°C, T1 core=31,8°C, IC2 body=51,0°C, Ambient=25,4°C, No damaged, no hazards.
Power supply output	Overload	253V	3 h 27 min	F1	0,88	Max. temp. measured: T1 coil=103,4°C, T1 core=103,3°C, IC2 body=80,5°C, Ambient=25,3°C, before shutdown power supply output is loaded to 8.2A, No damaged, no hazards.
BD1 pin 2- pin 1	S-C	253V	1 s	F1	0	Fuse open instantly, no hazards.
C5	S-C	253V	1 s	F1	0	Fuse open instantly, no hazards.
D1	S-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
Q1 G-S	S-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
Q1 G-D	S-C	253V	1 s	F1	0	Fuse open instantly, Q1, R15 damaged, no hazards.
Q1 S-D	S-C	253V	1 s	F1	0	Fuse open instantly, Q1, R15 damaged, no hazards.
IC1 pin 8 – pin 2	S-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
IC1 pin 8 – pin 6	S-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
R15	S-C	253V	1 s	F1	0	Fuse open instantly, Q1, damaged, no hazards.

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
IC2 pin 1 – pin 2	S-C	253V	10 min	F1	0,17	The EUT shutdown instantly, No damaged, no hazards.
IC2 pin 3 – pin 4	S-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
IC2 pin1	O-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
IC2 pin3	O-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
IC3 pin 1 – pin 2	S-C	253V	10 min	F1	0,17	The EUT shutdown instantly, No damaged, no hazards.
IC3 pin 3 – pin 4	S-C	253V	10 min	F1	0,17	The EUT shutdown instantly, No damaged, no hazards.
IC3 pin1	O-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
IC3 pin3	O-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
IC4	S-C	253V	10 min	F1	0,2	The EUT shutdown instantly, No damaged, no hazards.
IC5	S-C	253V	10 min	F1	0,2	The EUT shutdown instantly, No damaged, no hazards.
T1 pin 1 – pin 2	S-C	253V	10 min	F1	0,17	The EUT shutdown instantly, No damaged, no hazards.
T1 pin 4 – pin 6	S-C	253V	10 min	F1	0,2	The EUT shutdown instantly, No damaged, no hazards.
T1 pin 8, 9 – pin 10, 11	S-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
D4	S-C	253V	10 min	F1	0,17	The EUT shutdown instantly, No damaged, no hazards.
D5	S-C	253V	10 min	F1	0,17	The EUT shutdown instantly, No damaged, no hazards.

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
C14	S-C	253V	10 min	F1	0,25	The EUT operated normally. No damaged, no hazards.
C19	S-C	253V	10 min	F1	0,16	The EUT shutdown instantly, No damaged, no hazards.
Supplementary information: S-C: Short Circuit, O-C: Open Circuit Test voltage: 253V, 60Hz						

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 distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
T1	Reinforced	504	257	3000Vac	4,4	5,2 ¹⁾	²⁾	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T1	Reinforced: Primary - Secondary			3000Vac	7,0	7,0	3 layers	
T1	Reinforced: Primary – core - Secondary			3000Vac	8,9	8,9	3 layers	
supplementary information:								
¹⁾ Linear interpolation used.								
²⁾ 2 layers / 0,4mm / Annex U								

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

C.2	TABLE: transformers	P
<p>Transformer OUTLINE DIMENSION(UNIT:mm):</p>  <p>34.0max 30.0max 3.5±0.5 1 6 7.5±0.3 1 6 12 7 5.0±0.3</p> <p>35.0max 12 1 Ø0.8±0.1</p> <p>28.0 10.0 1 6 TOPOW PQ3225/TPT72S1206A</p> <p>备注: 1. PIN 3、7、12 CUT OFF, PIN 5 CUT OFF 2/3; 2. 所有进出线套管需套到针脚根部和深入线包3 mm 3. 标签字脚朝PIN1-6脚边贴与产品顶部; 4. 成品需用29mm胶带沿整个变压器外围包3TS. 5. 底部磁芯靠次级侧需背(16.5mm宽*45mm长)胶布2层。 6. 生产全用淡黄色胶带。</p> <p>SCHEMATIC:</p>  <p>4 N1 5 N6 6 1 N2 2</p> <p>10 N3/N5 8 11 N4 9</p> <p>● : START □ : TEFLON TUBE</p> <p>WINDING CONSTRUCTION:</p>  <p>CORE TAPE 3 TS CORE TAPES 3TS TAPES 2TS TAPES 2TS TAPES 2TS TAPES 2TS PIN BOBBIN WALL TOP 0.28×3mm 0.28×3mm</p>		

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

Transformer							
WINDING:							
WDG	TERMINAL	WIRE SIZE/线径	MARGIN TAPES	TURNS	TAPES/胶带	TUBE/套管	REMARK
N1	4~5	QA-1/130 Φ 0.65mm*1P	4TS	18TS	2TS	20L/36mm	均匀密绕
N2	1~2	QA-1/130W Φ 0.25mm*3P	1TS	5TS	3TS	23L/36mm	居中密绕
N3	10~8	QA-1/130 Φ 0.45mm*3P	2TS	4TS	2TS	18L/36mm	均匀密绕
N4	11~9	QA-1/130 Φ 0.45mm*3P	2TS	4TS	2TS	18L/36mm	均匀密绕
N5	10~8	QA-1/130 Φ 0.45mm*3P	2TS	4TS	3TS	18L/36mm	均匀密绕
N6	5~6	QA-1/130 Φ 0.65mm*1P	2TS	9TS	3TS	20L36mm	居中密绕

*****End of Test report*****

Details of: ..General view (Model: DH-PFS5424-24T).....



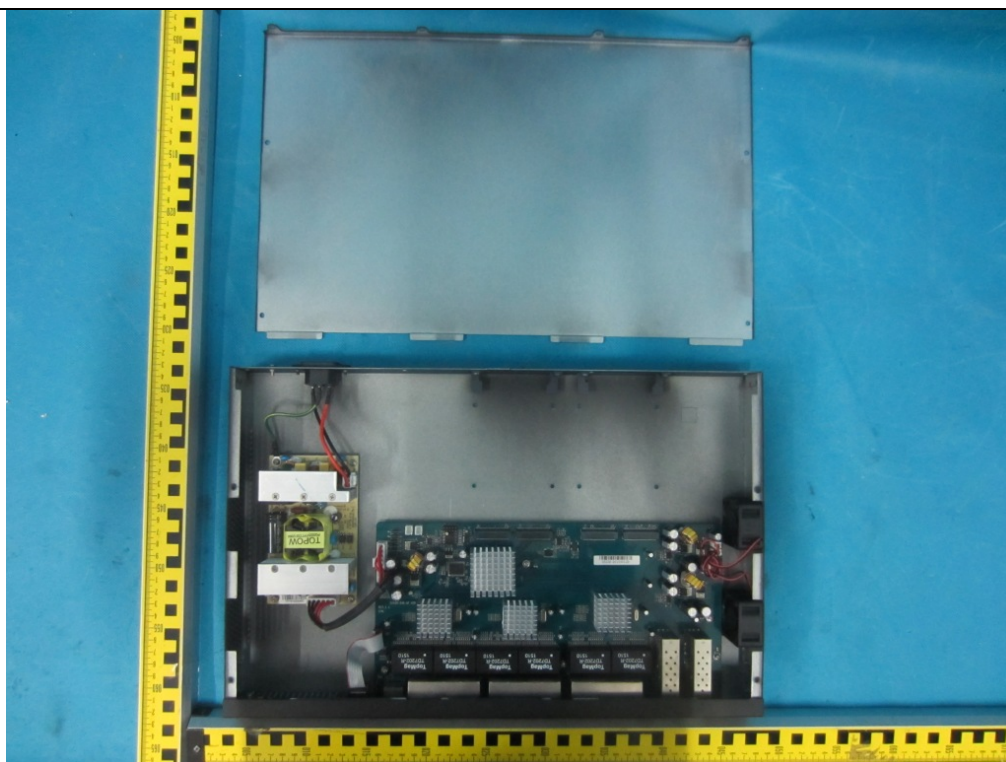
Details of: ..General view (Model: DH-PFS5424-24T).....



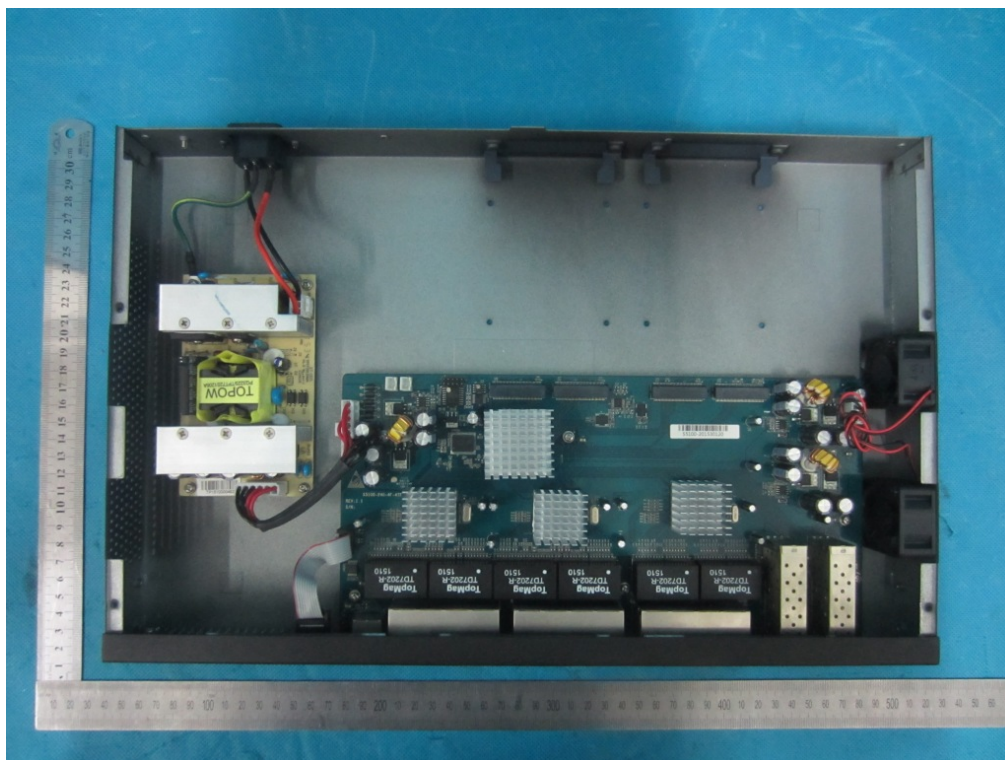
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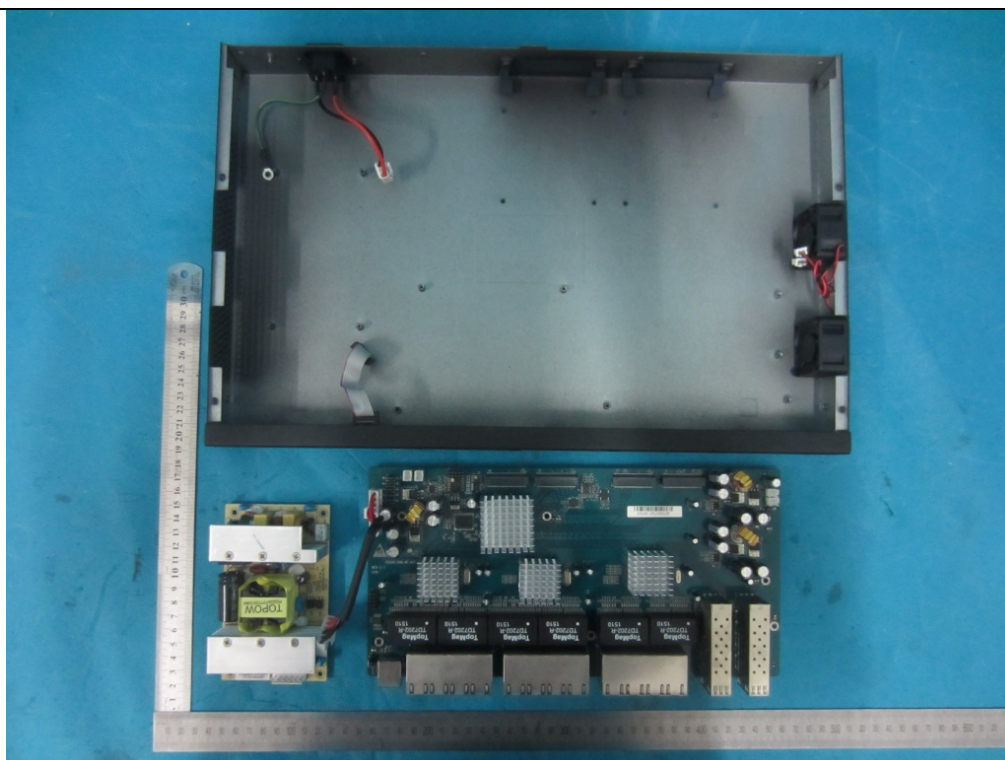
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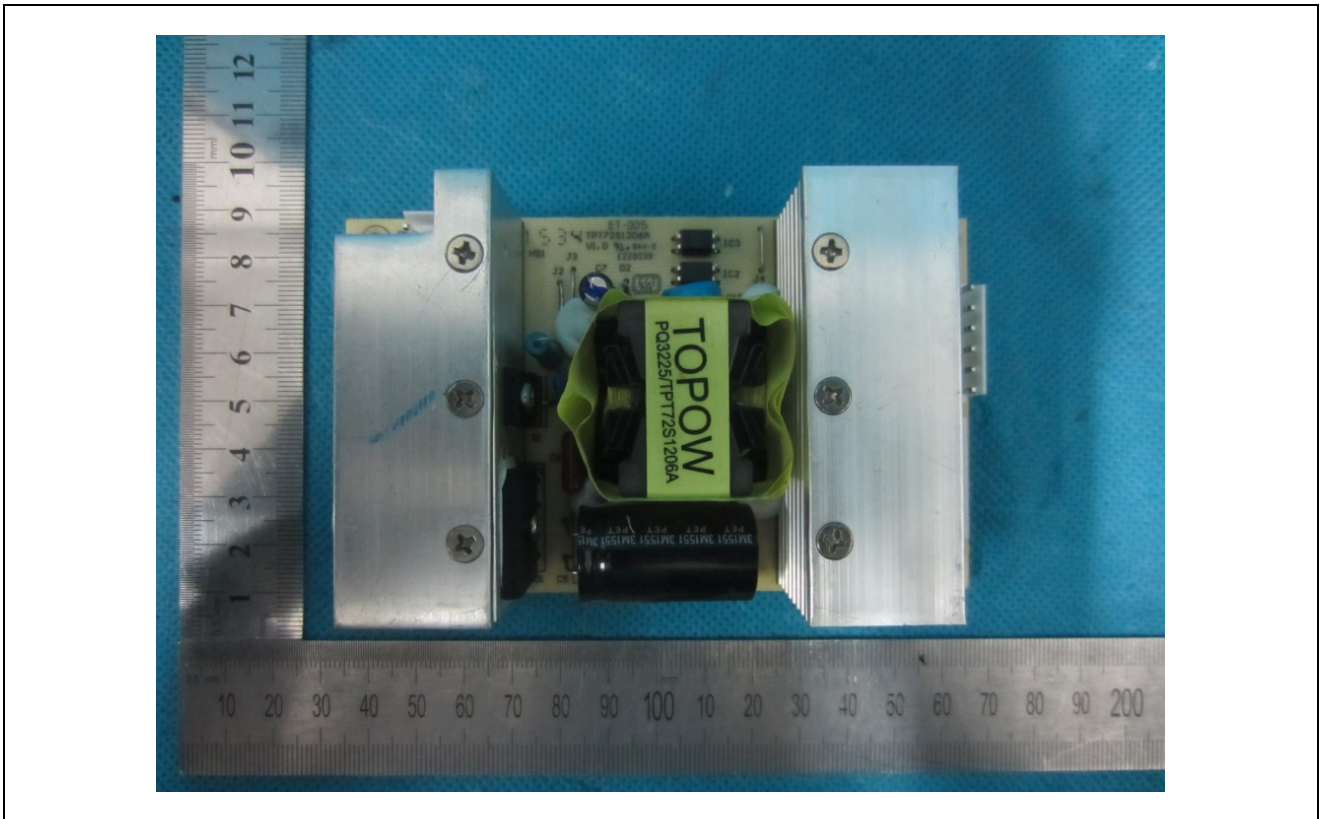
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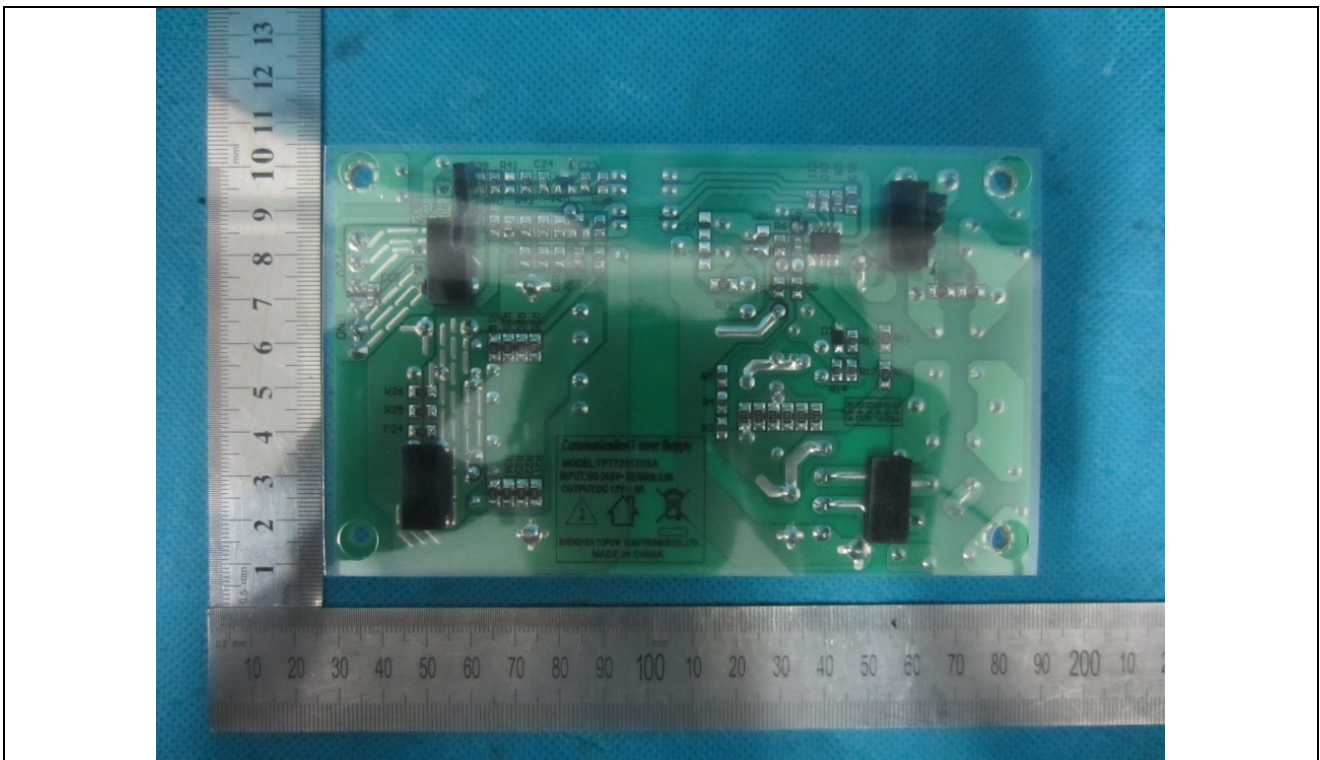
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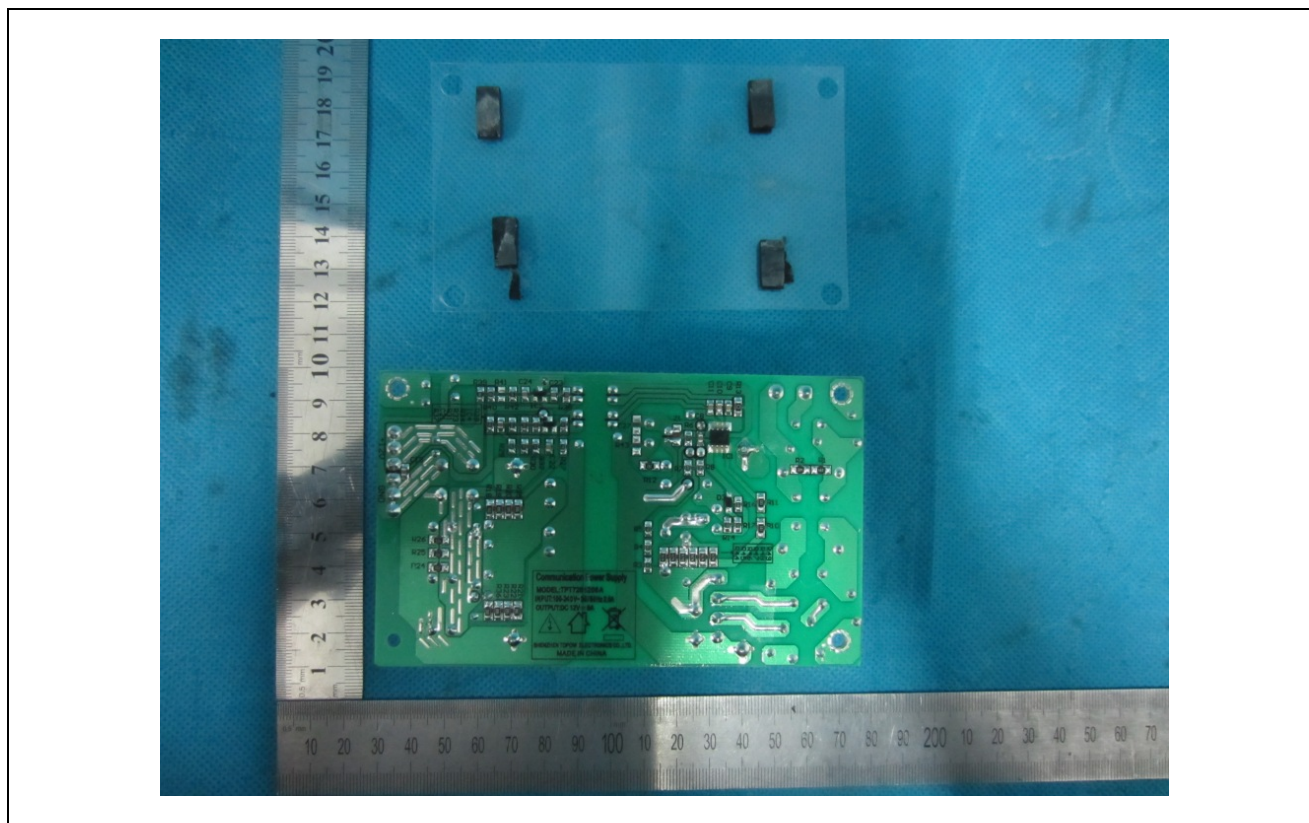
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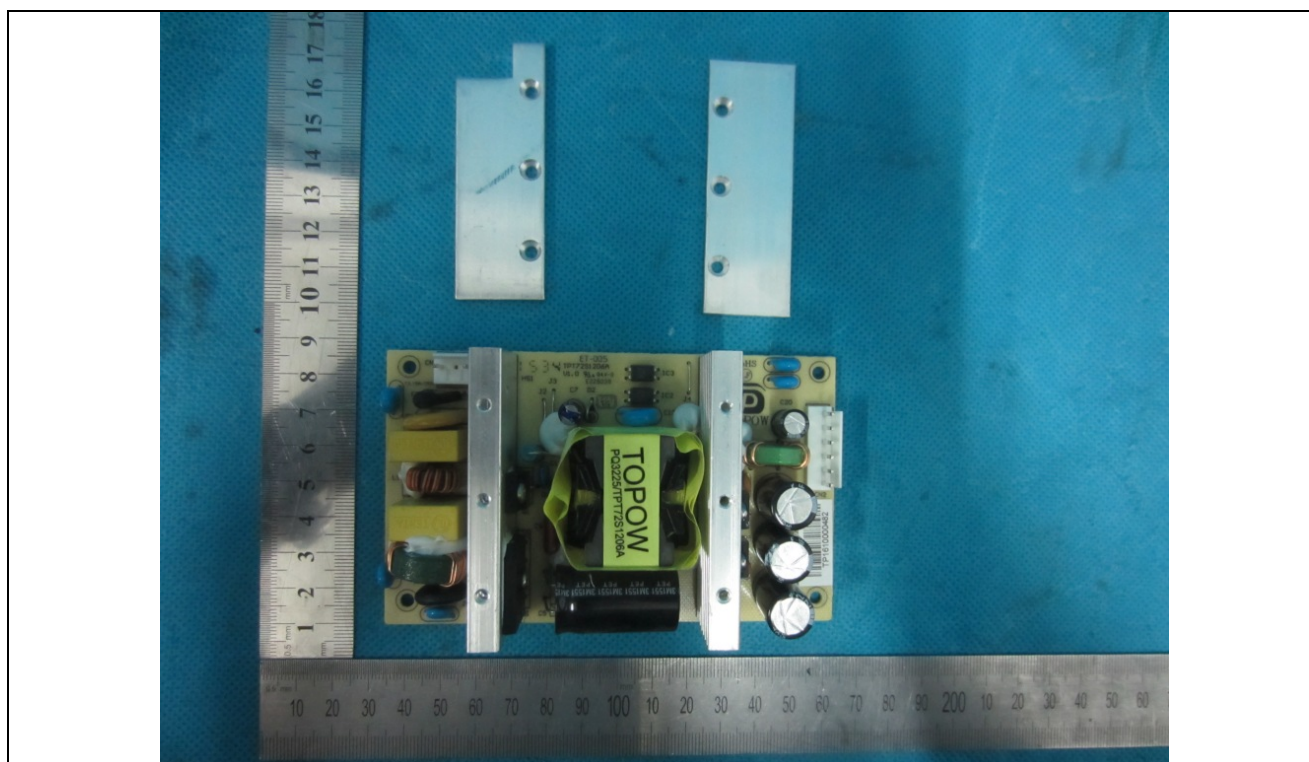
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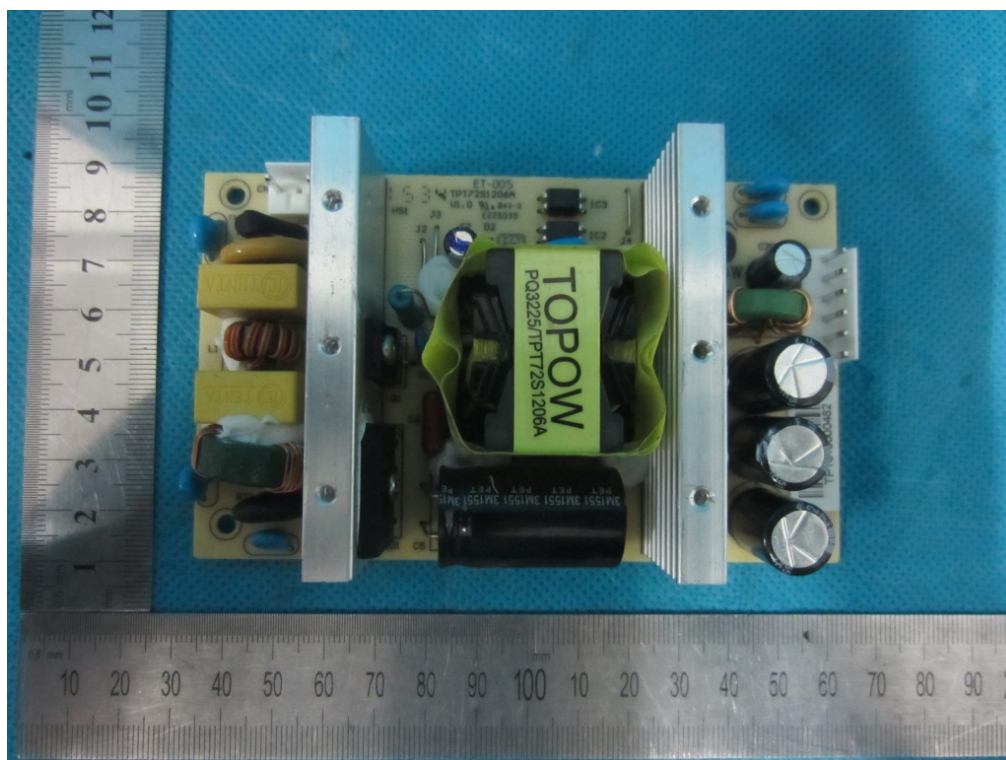
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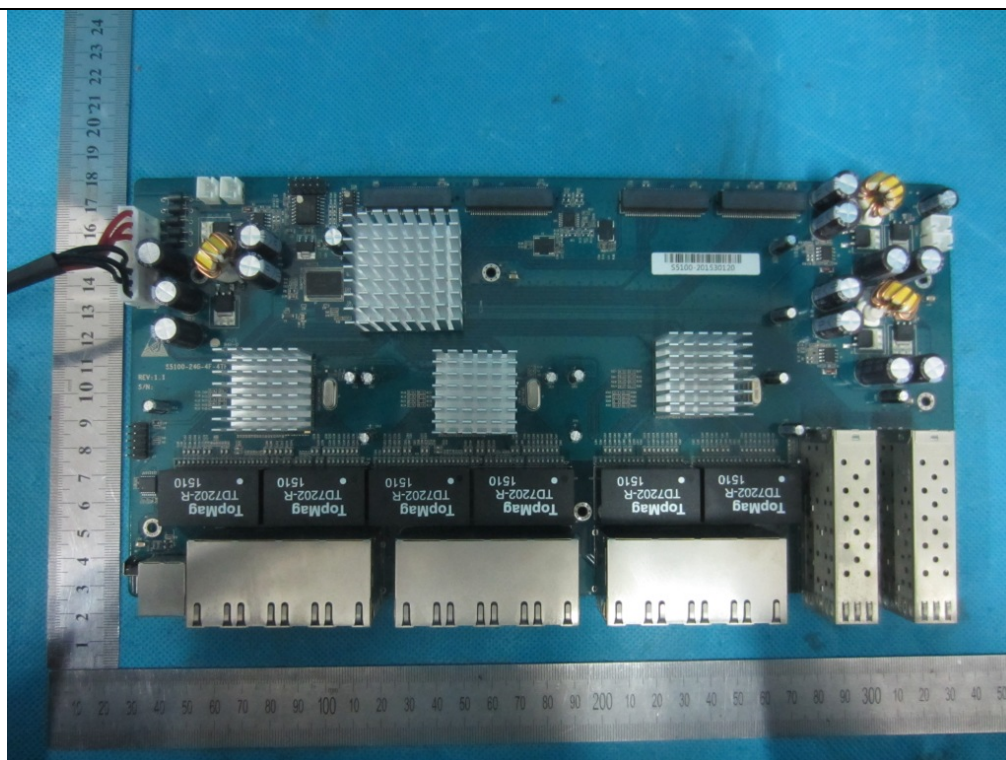
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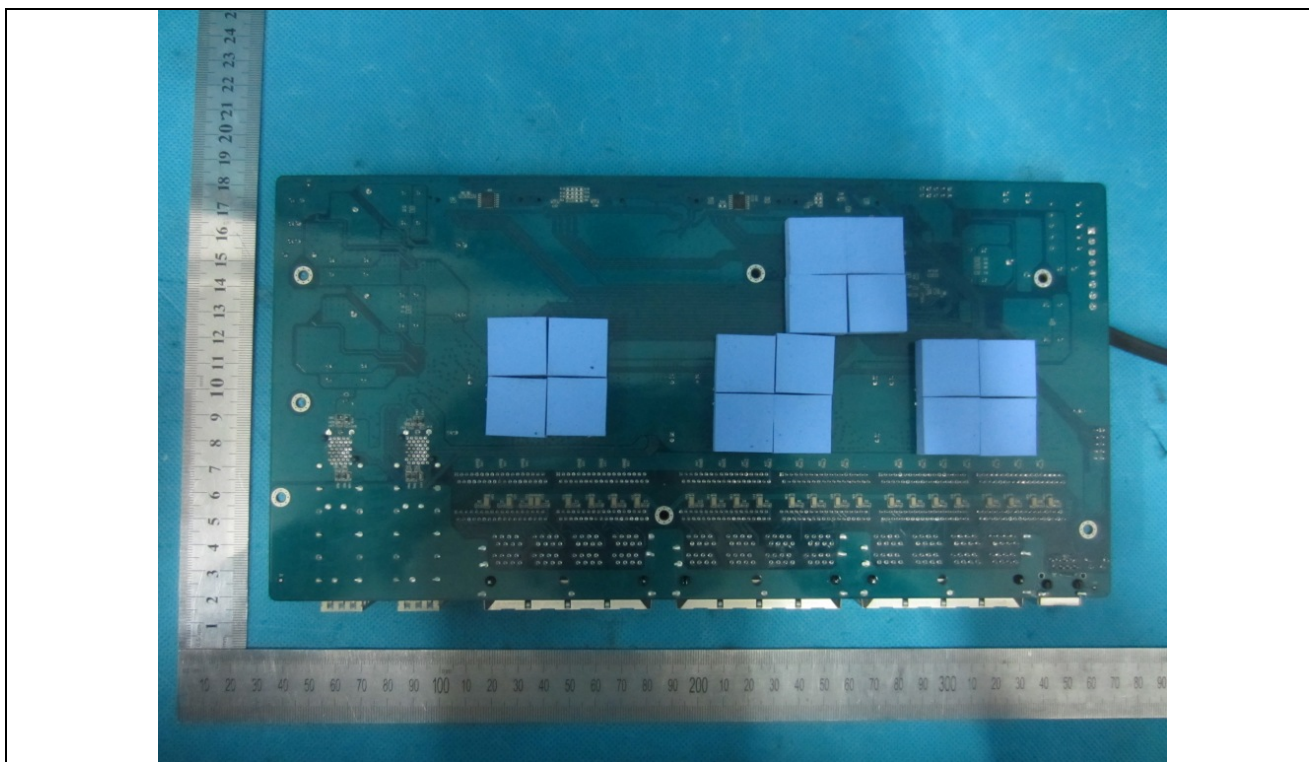
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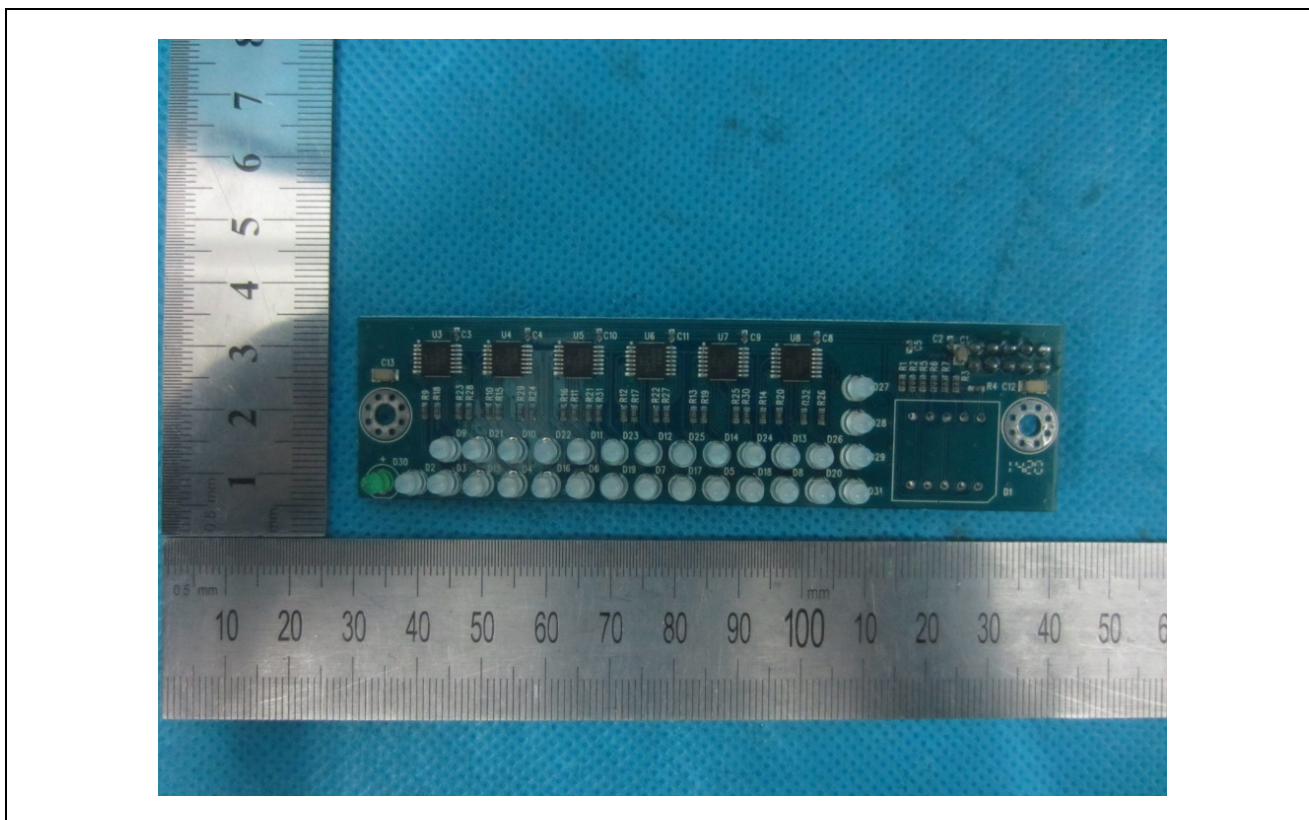
Details of: PCB-1



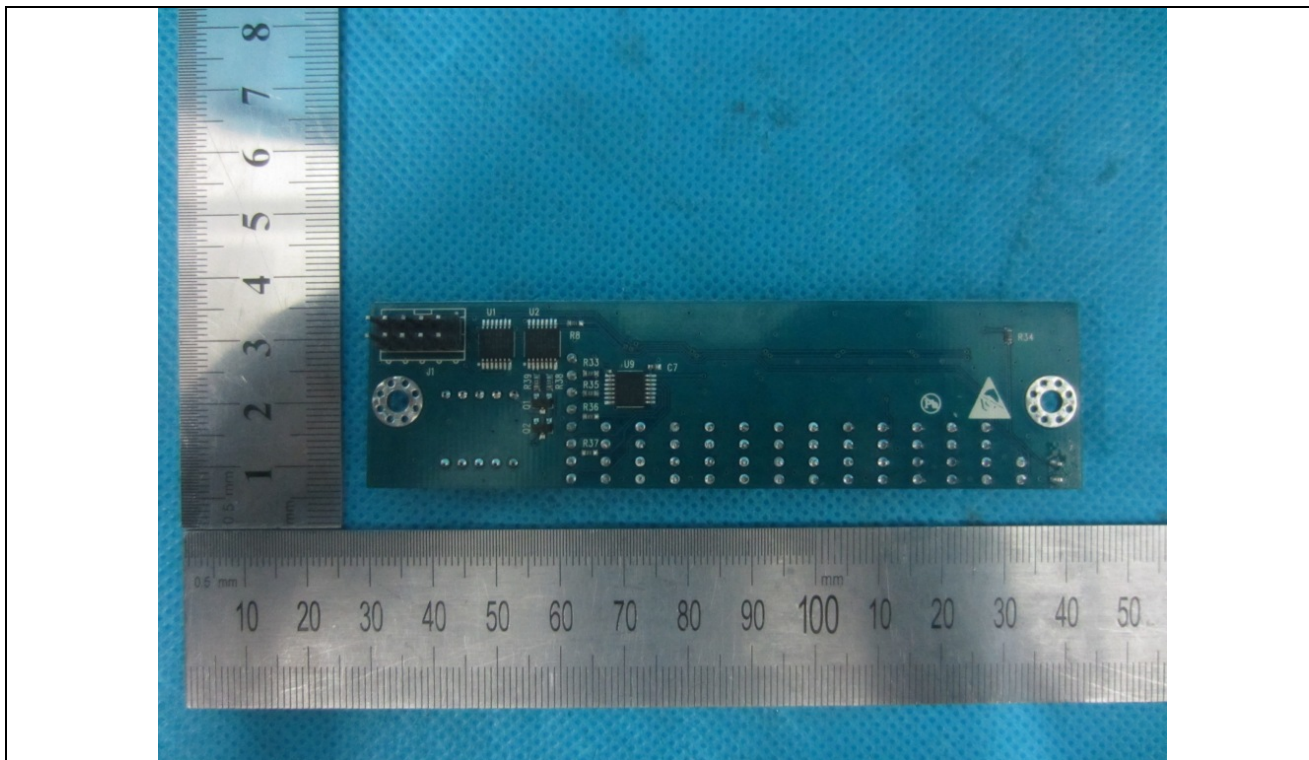
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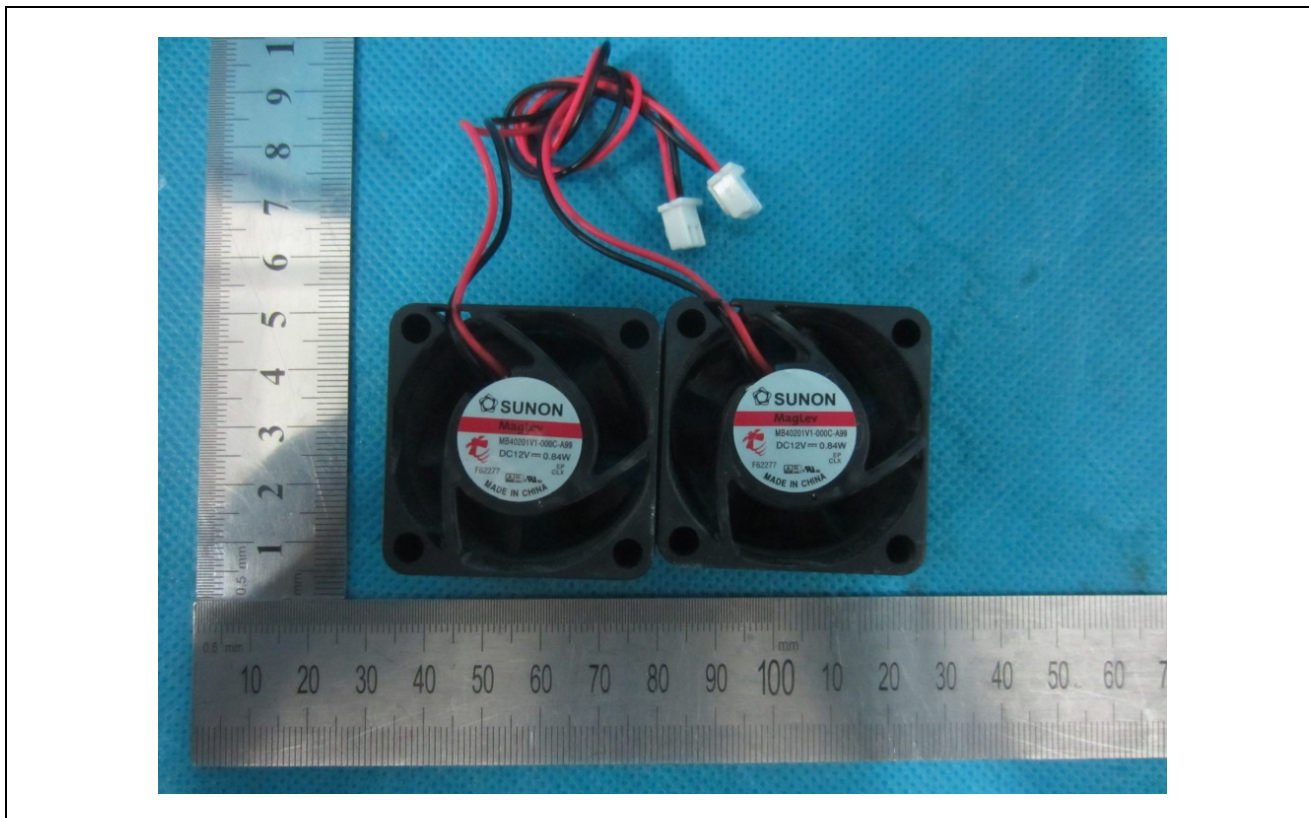
Details of: PCB-2



Details of: PCB-2



Details of: DC fan (Model: MB40201V1-000C-A99)



*****End of Attachment 1*****

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 2 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

<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

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"		P
Contents (A2:2013)	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		P
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 4.7.3.1 Note 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		P
General (A1:2010)	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		P

IEC60950_1F - 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.		P
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.		P
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.	No headphone and earphone.	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		N/A
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 *		P
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.	No headphone and earphone.	N/A
1.7.2.1 (A12:2011)	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.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx Protection against excessive sound pressure from personal music players		N/A
	Zx.1 General <p>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:</p> <ul style="list-style-type: none"> – 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>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:</p> <ul style="list-style-type: none"> – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. <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:</p> <ul style="list-style-type: none"> – hearing aid equipment and professional equipment; <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_1F - 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

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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> <p>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</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1.</p> <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song 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_1F - 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</p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: <p>“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</p> <p>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.</p> <p>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).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A

IEC60950_1F - 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_1F - 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 and 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>		P						
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.	Not permanently connected equipment.	N/A						
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 </td><td>(0,75) ^{b)} 1,0 </td></tr><tr><td>Over 10 up to and including 16 </td><td>(1,0) ^{c)} 1,5 </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	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	Power supply cord has not been provided.	N/A
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								

IEC60950_1F - 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 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	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 Delete the fifth line: conductor sizes for 13 to 16 A	Power supply cord has not been provided.	N/A
4.3.13.6 (A1:2010)	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).		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	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.	No ionizing radiation.	N/A
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.	Not intended to be connected to cable distribution system.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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.		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).	Certified capacitors connected between line and earth.	P
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.		N/A

IEC60950_1F - 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>		P
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_1F - 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>		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: In Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”</p>		N/A
1.7.5 1.7.5 (A11:2009)	<p>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.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011.</p> <p>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.</p> <p>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.</p> <p>Justification the Heavy Current Regulations, 6c</p>		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.		P
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	<p>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:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p>		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>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:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>		
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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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
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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	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.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> 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
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_1F - 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	<p>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.</p>		N/A
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N/A
7.3 (A11:2009)	<p>In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>		N/A

IEC60950_1F - 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

*****End of Attachment 2*****