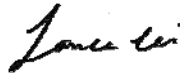



Test Report issued under the responsibility of



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TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number	215111
Date of issue	2012-08-28
Total number of pages	56 pages, refer to page 3 for the List of attachments.
CB Testing Laboratory	Nemko Shanghai Ltd Phone: +86 21 5445 3132
Address	7th Floor, Building 1, No.2007 Hongmei Road Xuhui District, Shanghai, China
Applicant's name	GlobTek, Inc.
Address	186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer's name	GlobTek, Inc.
Address	186 Veterans Dr. Northvale, NJ 07647 USA
Test specification:	
Standard	IEC 60950-1:2005 (2nd Edition); Am 1:2009
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No	IEC60950_1B
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2010-04
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Test item description	Switching mode Power Supply for building-in
Trade Mark	GlobTek
Manufacturer	GlobTek, Inc.
Model/Type reference	GT-43001130505
Ratings	0.2A 200-240Vac 50-60Hz Class II. Output: 2.2A 4.5Vdc

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	Nemko Shanghai Ltd
Testing location/ address		7th Floor, Building 1, No.2007 Hongmei Road Xuhui District, Shanghai, China
<input type="checkbox"/>	Associated CB Laboratory:	
Testing location/ address		
Tested by (name + signature)		Lance Lei 
Approved by (name + signature)		Sam-Geun Gwack 
<input type="checkbox"/>	Testing procedure: TMP	
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: WMT	
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: SMT	
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		
<input type="checkbox"/>	Testing procedure: RMT	
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		

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

Attachment 1: Photos (4 pages)

Attachment 2: European Group Differences and National Differences EN 60950-1:2006/A11:2009/A1:2010/A12:2011 (17 pages).

Attachment 3: National Differences

National differences: Australia/New Zealand (7 pages), China (1 page), Israel (4 pages), Korea (1 page), Singapore (6 pages), Ukraine (1 page).

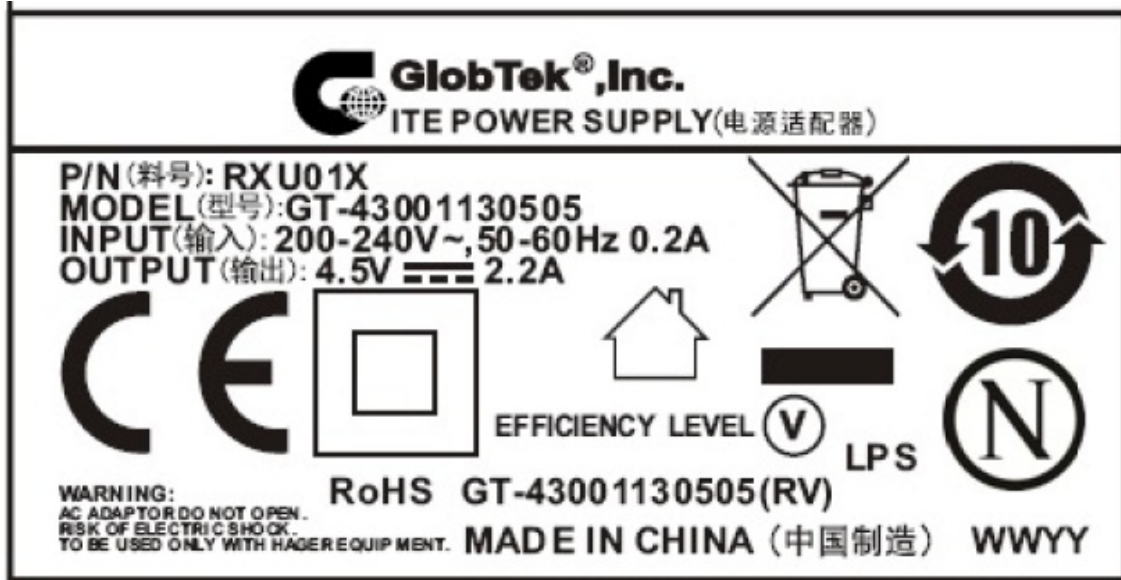
Summary of testing:

<p>Compliance with the EMC directive is necessary for achieving type certification. The appliance shall comply with the relevant EMC standards, depending on the equipment in question. In NO, compliance with standards for radio interference suppression is a part of Nemko's certification. In FI, DK and SE compliance is not necessary for achieving safety certification.</p>	<p>It's a building-in product. Should be checked in the end product.</p>
<p>1.5, 3.2.5 Power supply cord</p>	<p>Building-in product, must be considered in the end product.</p>
<p>1.7.2.1 Language of safety markings/instructions.</p>	<p>Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.</p>
<p>1.7.2.4 The equipment is intended and tested for installation to IT power system (Norway)</p>	<p>The following information should be given (but it is not required) in the installation: "This Product is also designed for IT power system with phase to phase voltage 230V"</p>
<p>2.7.4 Number and location of protective devices</p>	<p>The standard requires protective device in NEUTRAL when connected to IT power system. For Norway this is not required. For other countries additional requirement may apply.</p>

Tests performed (name of test and test clause): 1.6.2; Input current 1.7.11; Durability test 2.1.1.1; Access to energized parts 2.2; SELV circuits 2.4; Limited current circuits 2.5; Limited power sources 2.9; Electrical insulation 2.10; Clearances, creepage distances and distances through insulation 4.2; Mechanical strength 4.5.1; Temperature test 4.5.5; Resistance to abnormal heat 5.1; Touch current 5.2; Electric strength 5.3; Abnormal operation and fault conditions Annex C; Transformers	Testing location: Refer to page 2.
Summary of compliance with National Differences List of countries addressed: All CENELEC members as listed in EN 60950-1:2006 +A11:2009 +A1:2010+A12:2011. All CB members listed in the IECEE Online Bulletin, except the countries which cannot cover by the input rating of this equipment. the separate national deviation report for Australia/New Zealand, China, Israel, Korea, Singapore and Ukraine attached in this test report. At the time of issuing this report, not all countries are listed for IEC 60950-1:2005 (ed.2). Therefore this report includes National differences to IEC 60950-1:2001(ed.1) and IEC 60950 3rd Edition. <input checked="" type="checkbox"/> The product fulfils the requirements of IEC 60950-1:2005 (2nd Edition); Am1: 2009 and EN 60950-1:2006/A11:2009/A1:2010/A12:2011	

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.



Test item particulars:	
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" 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 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V).....:	230Vac
Class of equipment.....:	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A).....:	16A
Pollution degree (PD).....:	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class.....:	IP20
Altitude during operation (m).....:	< 2000m
Altitude of test laboratory (m).....:	< 2000m
Mass of equipment (kg).....:	0.11kg Dimension (WHD): 75mmx42mmx68mm
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A (or N)
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing:	
Date of receipt of test item.....:	July, 2012
Date(s) of performance of tests.....:	July – August, 2012
General remarks:	
<p>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	

Manufacturer's Declaration per sub-clause 6.2.5 of IEC 60950-1:

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)..... :

1. GlobTek (Suzhou) Co., Ltd
Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China
2. GlobTek, Inc.
186 Veterans Dr. Northvale, NJ 07647 USA

General product information:

The equipment under test is a class II, building-in switching mode power adaptor for ITE and indoor use only.

External enclosure is made of min. V-1 plastic material. Two pieces of enclosure are enclosed with screws.

Normal load: loaded to rated output.

Circuit characteristics: The equipment contains primary circuit and SELV circuit in secondary.

Maximum recommended ambient (Tma): 55°C.

1.1.2 – Additional requirements:

Exposure to extreme temperatures, excessive dust, moisture or vibration; to flammable gases; to corrosive or explosive atmospheres:

This equipment is intended to operate in a "normal" environment (Offices and homes).

Electromedical equipment connected to the patient:

This equipment is not an electromedical equipment intended to be physically connected to a patient.

Equipment used in vehicles, ships or aircrafts, in tropical countries, or at elevations > 2000m:

This equipment is intended to operate in a "normal" environment (Offices and homes).

Abbreviations used in the report:

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

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	Refer below.	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	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. 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. 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
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	Transformers used are suitable for their intended applications and comply with relevant parts of this standard and particularly Annex C.	P
1.5.5	Interconnecting cables	No interconnecting cables.	N/A
1.5.6	Capacitors bridging insulation	X2, Y1 and Y2 capacitors are certified according to IEC 60384-14: 2ed.	P
1.5.7	Resistors bridging insulation	Refer below.	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Discharge resistors are located after fuse bridging functional insulation.	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	No resistor bridging double or reinforced insulation.	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No resistor bridging double or reinforced insulation.	N/A
1.5.8	Components in equipment for IT power systems	No such components.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9	Surge suppressors	Certified varistor connected between line and neutral after mains fuse, refer to appended table 1.5.1 and Annex Q.	P
1.5.9.1	General	Refer below.	P
1.5.9.2	Protection of VDRs	Mains fuse used as protection of varistor which is located before VDR.	P
1.5.9.3	Bridging of functional insulation by a VDR	Refer to 1.5.9.	P
1.5.9.4	Bridging of basic insulation by a VDR	No such part.	N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR	VDR not bridging of supplementary, double or reinforced insulation	N/A
1.6	Power interface		P
1.6.1	AC power distribution systems	TN, and IT for Norway	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	The equipment is not hand-held.	N/A
1.6.4	Neutral conductor	Neutral is insulated from the body with reinforced insulation throughout the equipment.	P
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	The required marking is located on the outside surface of the equipment.	P
1.7.1.1	Power rating marking	Refer below.	P
	Multiple mains supply connections.....:	Only one mains supply connections.	N/A
	Rated voltage(s) or voltage range(s) (V)	220-240Vac	P
	Symbol for nature of supply, for d.c. only.....:	The equipment is for a.c. supply.	N/A
	Rated frequency or rated frequency range (Hz):	50-60Hz	P
	Rated current (mA or A)	0.2A	P
1.7.1.2	Identification markings	Refer below.	P
	Manufacturer's name or trade-mark or identification mark	GlobTek	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Model identification or type reference	GT-43001130505	P
	Symbol for Class II equipment only	Class II symbol (IEC 60417-1, symbol No. 5172) is applied to the label.	P
	Other markings and symbols	The additional marking does not give rise to misunderstandings.	P
1.7.2	Safety instructions and marking	Refer below.	P
1.7.2.1	General	Refer below.	P
1.7.2.2	Disconnect devices	Building-in product, must be considered in the end product.	—
1.7.2.3	Overcurrent protective device	Building-in product, must be considered in the end product.	—
1.7.2.4	IT power distribution systems	The following or similar information should be given in the installation instruction: "This product is also designed for IT power distribution system with phase-to-phase voltage 230 V".	N/A
1.7.2.5	Operator access with a tool	Building-in product, must be considered in the end product.	—
1.2.7.6	Ozone	The equipment does not produce ozone.	N/A
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage selector.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No standard power outlets in the equipment.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Non-replaceable PCB-mount fuse: F1, T1A 250V.	P
1.7.7	Wiring terminals	Refer below.	N/A
1.7.7.1	Protective earthing and bonding terminals	Class II equipment.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Building-in product, must be considered in the end product.	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7.3	Terminals for d.c. mains supply conductors	Not for d.c. mains supply.	N/A
1.7.8	Controls and indicators	Refer below.	N/A
1.7.8.1	Identification, location and marking	No indicators, switches and other controls affecting safety.	N/A
1.7.8.2	Colours	No indicators.	N/A
1.7.8.3	Symbols according to IEC 60417.....	No switch.	N/A
1.7.8.4	Markings using figures	No controls use figures.	N/A
1.7.9	Isolation of multiple power sources	Only one connection supplying hazardous voltages and energy levels to the equipment.	N/A
1.7.10	Thermostats and other regulating devices	No adjustable thermostat and other regulating device intended to be adjusted.	N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts	No marking is placed on removable parts.	P
1.7.13	Replaceable batteries	No battery.	N/A
	Language(s)	English	—
1.7.14	Equipment for restricted access locations	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	Refer 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, also after operator detectable parts are removed and doors and covers are opened. No hazardous voltages exceeding 1000V a.c. or 1500V d.c. Checked by test finger and test pin.	P
	Test by inspection	No access to hazardous part.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test with test finger (Figure 2A)	No access to hazardous part.	P
	Test with test pin (Figure 2B)	The test pin cannot touch hazardous bare parts through any openings in the enclosure.	P
	Test with test probe (Figure 2C)	No TNV circuit.	N/A
2.1.1.2	Battery compartments	No battery compartments or TNV circuits.	N/A
2.1.1.3	Access to ELV wiring	No ELV circuits.	N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	All accessible parts are separated from internal wiring at hazardous voltage by double or reinforced insulation, complying with 2.10.5 and 3.1.4.	P
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 shafts of knobs etc.	N/A
2.1.1.7	Discharge of capacitors in equipment	The capacitance of the input circuit is 0.1µF.	P
	Measured voltage (V); time-constant (s).....	No test considered necessary.	—
2.1.1.8	Energy hazards – d.c. mains supply	Not connected to DC mains supply.	N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	No Audio amplifier.	N/A
2.1.2	Protection in service access areas	Building-in product, must be considered in the end product.	—
2.1.3	Protection in restricted access locations	Equipment not intended for installation in RAL.	N/A
2.2	SELV circuits		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.1	General requirements	SELV limits are not exceeded under normal condition and after a single fault. (see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V)	Within SELV limits.	P
2.2.3	Voltages under fault conditions (V)	Within SELV limits.	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 circuits.	N/A
	Type of TNV circuits.....		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements	Limits are not exceeded.	P
2.4.2	Limit values	(See appended table 2.4)	P
	Frequency (Hz)		—
	Measured current (mA).....		—
	Measured voltage (V).....		—
	Measured circuit capacitance (nF or µF)		—
2.4.3	Connection of limited current circuits to other circuits	No connection to other circuits.	N/A

2.5	Limited power sources		P
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	DC output complies with limited power source.	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) .. :		—
	Use of integrated circuit (IC) current limiters		—

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	Class II equipment.	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG..... :		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG..... :		—
	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)..... :		N/A
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	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		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV circuit.	N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Protective device is integrated in the equipment, see also 5.3.	P
	Instructions when protection relies on building installation	Protective device are integrated in the equipment.	N/A
2.7.2	Faults not simulated in 5.3.7	Considered.	P
2.7.3	Short-circuit backup protection	Adequate protective device.	P
2.7.4	Number and location of protective devices :	In Norway, IT power distribution system is used. Equipment with a single protective device is accepted in Norway. Other countries (e.g. Germany and Belgium) may have additional requirements.	P
2.7.5	Protection by several devices	Only one protective device in line conductor, see 2.7.4.	N/A
2.7.6	Warning to service personnel :	After operation of the protective device, the equipment is still under voltage if it is connected to an IT power distribution system. A warning is required for service persons. Norway does not require this warning. See also 2.7.4.	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlock.	N/A
2.8.2	Protection requirements		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
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	Humidity treatment performed for 120h.	P
	Relative humidity (%), temperature (°C)	93.0%, 30°C	—
2.9.3	Grade of insulation	Insulation is considered to be functional, reinforced or double insulation.	P
2.9.4	Separation from hazardous voltages	Double or reinforced Insulation.	P
	Method(s) used	Method 1 is used.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See the following clauses:	P
2.10.1.1	Frequency	Considered.	P
2.10.1.2	Pollution degrees	Pollution degree 2.	P
2.10.1.3	Reduced values for functional insulation	Refer to Cl. 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	No such unconnected conductive parts.	N/A
2.10.1.5	Insulation with varying dimensions	No such insulation.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.1.6	Special separation requirements	Not used.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No generating starting plus.	N/A
2.10.2	Determination of working voltage	Refer below.	P
2.10.2.1	General	Refer below.	P
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	Refer below.	P
2.10.3.2	Mains transient voltages	Refer below.	P
	a) AC mains supply	2500V peak.	P
	b) Earthed d.c. mains supplies	Not for d.c. mains supply.	N/A
	c) Unearthed d.c. mains supplies	Not for d.c. mains supply.	N/A
	d) Battery operation	No such battery.	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 functional insulation in secondary circuits.	P
2.10.3.5	Clearances in circuits having starting pulses	No component having starting pulse.	N/A
2.10.3.6	Transients from a.c. mains supply	Considered.	P
2.10.3.7	Transients from d.c. mains supply	Not for d.c. mains supply.	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	Not connected to telecommunication networks and cable distribution systems.	N/A
2.10.3.9	Measurement of transient voltage levels	Refer below:	N/A
	a) Transients from a mains supply	Measurement not relevant.	N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	Refer below:	P
2.10.4.1	General	Considered.	P
2.10.4.2	Material group and comparative tracking index	Refer below:	P
	CTI tests	Material group IIIb is assumed to be used.	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation	Refer below.	P
2.10.5.1	General	Refer below.	P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	For optical isolators, see appended table 1.5.1.	P
2.10.5.4	Semiconductor devices	No such semiconductor.	N/A
2.10.5.5.	Cemented joints	No cemented joints.	N/A
2.10.5.6	Thin sheet material – General	Refer below.	P
2.10.5.7	Separable thin sheet material	Reinforced insulation consists of two layers of material, each of which passes the electric strength test for reinforced insulation.	P
	Number of layers (pcs)..... :	Two layers of insulation tape wrapped around T1, including bottom of transformer core. Tested with 1 layer.	—
2.10.5.8	Non-separable thin sheet material	Not used.	P
2.10.5.9	Thin sheet material – standard test procedure	See 2.10.5.10.	N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		P
	Electric strength test	(see appended table 5.2)	—
2.10.5.11	Insulation in wound components	See 2.10.5.12.	P
2.10.5.12	Wire in wound components	Insulation on winding wire on T1 complies with Annex U.	P
	Working voltage	Ref. Annex C	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U	(see appended table 1.5.1)	P
	Two wires in contact inside wound component; angle between 45° and 90°	Protection against mechanical stress is provided by polyester film tape.	P
2.10.5.13	Wire with solvent-based enamel in wound components	No wire with solvent-based enamel in wound components.	N/A
	Electric strength test		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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	Refer 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	No special coating in order to reduce distances.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	No such part.	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board	PCB layout does not serve as insulation barrier.	N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations	Coatings not used over terminations to increase effective creepage and clearance distances.	N/A
2.10.8	Tests on coated printed boards and coated components	No special coating in order to reduce distance.	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling	For optical isolators, see appended table 1.5.1.	P
2.10.10	Test for Pollution Degree 1 environment and insulating compound	For optical isolators, see appended table 1.5.1.	P
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts	For optical isolators, see appended table 1.5.1.	P

3	WIRING, CONNECTIONS AND SUPPLY	P
3.1	General	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.1.1	Current rating and overcurrent protection	No internal wiring and interconnecting cables.	N/A
3.1.2	Protection against mechanical damage		N/A
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators	No beads or similar ceramic insulators on conductors.	N/A
3.1.6	Screws for electrical contact pressure	No screw for electrical contact.	N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material for electrical connection.	N/A
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections.	P
3.1.9	Termination of conductors	Terminations cannot become displaced so that clearances and creepage distances can be reduced.	P
	10 N pull test	All terminations.	P
3.1.10	Sleeving on wiring	No sleeving.	N/A

3.2	Connection to a mains supply		—
3.2.1	Means of connection	Refer below:	—
3.2.1.1	Connection to an a.c. mains supply	Building-in product, must be considered in the end product.	—
3.2.1.2	Connection to a d.c. mains supply	The equipment is not for connection to a d.c. mains supply.	N/A
3.2.2	Multiple supply connections	Only one supply connection.	N/A
3.2.3	Permanently connected equipment	Building-in product, must be considered in the end product.	—
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	Appliance inlet is not provided.	N/A
3.2.5	Power supply cords	Refer below:	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	AC power supply cords	Building-in product and no power supply cord is provided. Must be considered in the end product.	—
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords	AC power supply.	N/A
3.2.6	Cord anchorages and strain relief	Building-in product and no power supply cord is provided. Must be considered in the end product.	—
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage	Building-in product and no power supply cord is provided. Must be considered in the end product.	—
3.2.8	Cord guards	Building-in product and no power supply cord is provided. Must be considered in the end product.	—
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space	Building-in product, must be considered in the end product.	—

3.3	Wiring terminals for connection of external conductors		—
3.3.1	Wiring terminals	Building-in product, must be considered in the end product.	—
3.3.2	Connection of non-detachable power supply cords		—
3.3.3	Screw terminals		—
3.3.4	Conductor sizes to be connected		—
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		—
3.3.7	Grouping of wiring terminals		—
3.3.8	Stranded wire		—

3.4	Disconnection from the mains supply		—
3.4.1	General requirement	Building-in product, must be considered in the end product.	—
3.4.2	Disconnect devices		—
3.4.3	Permanently connected equipment		—
3.4.4	Parts which remain energized		—
3.4.5	Switches in flexible cords		—
3.4.6	Number of poles - single-phase and d.c. equipment		—
3.4.7	Number of poles - three-phase equipment		—
3.4.8	Switches as disconnect devices		—
3.4.9	Plugs as disconnect devices		—
3.4.10	Interconnected equipment		—
3.4.11	Multiple power sources		—

3.5	Interconnection of equipment		—
3.5.1	General requirements	Building-in product, must be considered in the end product.	—
3.5.2	Types of interconnection circuits		—
3.5.3	ELV circuits as interconnection circuits		—
3.5.4	Data ports for additional equipment		—

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	< 7kg	N/A
	Test force (N)		N/A

4.2	Mechanical strength		P
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.1	General		P
	Rack-mounted equipment.	Not Rack-mounted equipment.	N/A
4.2.2	Steady force test, 10 N	No hazard.	P
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A
4.2.4	Steady force test, 250 N	No hazard. The test is performed at all of enclosure.	P
4.2.5	Impact test	Refer below:	P
	Fall test	No hazard as result from the steel sphere fall test.	P
	Swing test	No hazard as result from the steel sphere swing test.	P
4.2.6	Drop test; height (mm)	Drop test not applicable.	N/A
4.2.7	Stress relief test	Test is carried out at 81°C/ 7h. No risk of shrinkage or distortion on enclosures due to release of internal stresses.	P
4.2.8	Cathode ray tubes	No CRT.	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
4.2.11	Rotating solid media	No rotating solid media.	N/A
	Test to cover on the door.....		N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls; force (N).....	No such knobs, grips, handles, lever etc.	N/A
4.3.3	Adjustable controls	No hazardous adjustable control.	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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	Insulation is not exposed to oil, grease etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or powders, and does not contain flammable liquids or gases.	N/A
4.3.11	Containers for liquids or gases	No container for liquids or gases.	N/A
4.3.12	Flammable liquids	The equipment does not contain flammable liquid.	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	Refer below:	N/A
4.3.13.1	General	Refer below:	N/A
4.3.13.2	Ionizing radiation	The equipment does not generate ionising radiation.	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not produce UV radiation.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	The equipment does not produce UV radiation.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	Refer below.	N/A
4.3.13.5.1	Lasers (including laser diodes)	No laser.	N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	No LED.	N/A
4.3.13.6	Other types	The equipment does not generate other types of radiation.	N/A

4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No moving parts.	N/A
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a).....:		N/A
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning		N/A

4.5	Thermal requirements		P
4.5.1	General	Refer below.	P
4.5.2	Temperature tests	(see appended table 4.5)	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		—
4.6.1	Top and side openings	Building-in product, must be considered in the end product.	—
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		—
	Construction of the bottom, dimensions (mm)		—
4.6.3	Doors or covers in fire enclosures	No doors or covers in fire enclosure.	N/A
4.6.4	Openings in transportable equipment	Building-in product, must be considered in the end product.	—
4.6.4.1	Constructional design measures		—
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		—
4.6.4.3	Use of metallized parts		—
4.6.5	Adhesives for constructional purposes	No barrier secured by adhesive inside enclosure.	N/A
	Conditioning temperature (°C), time (weeks)		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 is used.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Refer below.	P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure is required to cover all parts.	P
4.7.2.2	Parts not requiring a fire enclosure	The fire enclosure is required to cover all parts.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Building-in product, must be considered in the end product.	—
4.7.3.3	Materials for components and other parts outside fire enclosures	Building-in product, must be considered in the end product.	—
4.7.3.4	Materials for components and other parts inside fire enclosures	Materials 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 part exceeding 4kV.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	Test conducted in accordance with 5.1.2 to 5.1.7.	P
5.1.2	Configuration of equipment under test (EUT)	No interconnection of equipment or multiple power sources.	N/A
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Tested for connection to IT power distribution system (also relevant for TN or TT power distribution system).	P
5.1.4	Application of measuring instrument	Measuring instrument D1 is used.	P
5.1.5	Test procedure	Considered.	P
5.1.6	Test measurements	Refer below:	P
	Supply voltage (V)	(see appended table 5.1)	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	(see appended table 5.1)	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Measured protective conductor current (mA)	(see appended table 5.1)	—
	Max. allowed protective conductor current (mA) ..	(see appended table 5.1)	—
5.1.7	Equipment with touch current exceeding 3,5 mA	The touch current does not exceed 3.5mA.	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	No TNV circuitry.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

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

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	There are no motors in the equipment.	N/A
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	No electromechanical components in secondary circuits.	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.8	Unattended equipment	No thermostats, temperature limiters and thermal cut-outs, or having a capacitor not protected by a fuse or the like connected in parallel with the contacts.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	Refer below:	P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure.	P
5.3.9.2	After the tests	No reduction of clearance and creepage distance. Electric strength test is made on 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 circuitry.	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 circuitry.	N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
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 circuitry.	—
	Current limiting method		—

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

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	No Cable distribution systems.	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

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

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)	All plastic materials have suitable flame class, no testing required.	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).....		—
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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	No motor.	N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
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)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	Primary to SELV.	—
	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	Regulation network.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 2.10 and 5.2)	P
	Protection from displacement of windings	Secured to the soldering pins with wrapping	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
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances	Alternate method not considered.	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	No thermal control.	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
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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.6	Motor-operated files		N/A
L.7	Other business equipment	See operating condition in General Product Information.	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	Ringling 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		—
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Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories	Approved VDR used. See appended table 1.5.1.	P
	b) Maximum continuous voltage	Approved VDR used. See appended table 1.5.1.	P
	c) Pulse current	Approved VDR used. See appended table 1.5.1.	P

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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General	No such equipment.	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	No such equipment.	N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A
	Information of user instructions, maintenance and/or servicing instructions.....		N/A
EE.3	Inadvertent reactivation test.....		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Enclosure	Teijin Chemicals	LN-1250G, LN-1250P	Min 1.7mm thick, flame class V-0	UL 94	UL	
Alternative	Sabic	SE100, SE100X, SE1, SE1X, HF500R C2950	Min 1.7mm thick, flame class V-1	UL 94	UL	
PCB material	Various	Various	Min. flame class V-1 or better, min. 105°C materials	UL 94	UL	
Screw termins (CN1)	Shenzhen Connection Electronic Co Ltd	ERTB1.5 (3)	15A, 300V, Wire Range 14- 28AWG, 105°C	UL 1059, IEC 60950-1	UL, Test in equipment	
Fuse (F1)	Conquer	MST	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Conquer	PDU	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Ever Island	2010	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Bussmann	SS-5	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Bel Fuse	RST	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Hollyland	5ET	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Walter	ICP	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Ever Island / Walter	2010	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Das & Sons	385 T Serie(s)	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Littelfuse	392	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Lanson	SMT	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Alternative	Sunny east	TSP	T1A, 250Vac	EN 60127-3 UL 248	VDE, UL	
Varistor, after fuse (ZNR1) (optional)	Joyin	10N471K, 14N471K	300Vac, 40/85/56	IEC 61051-2 2) UL 1449	VDE UL	
Alternative	Centra	CNR 10D471K, CNR 14D471K	300Vac, 40/85/56	IEC 61051-2 2) UL 1449	VDE UL	

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Alternative	Thinking Electronic	TVR10471K, TVR14471K	300Vac, 40/85/56	IEC 61051-2 2) UL 1449	VDE UL
Alternative	Success Electronics Co Ltd	SVR10D471K SVR14D471K	300Vac, 40/85/21	IEC 61051-2 UL 1449 3)	VDE UL
Alternative	Brightking	471KD14	300Vac, 40/85/56	IEC 61051-2 UL 1449 3)	VDE UL
Alternative	Lien Shun	14D471K	300Vac, 40/85/56	IEC 61051-2 2) UL 1449	VDE UL
Alternative	Ceramate	GNR10D471K, GND14D471K	300Vac, 40/85/56	IEC 61051-2 2) UL 1449	VDE UL
Line choke (NF2), optional No bobbin	GlobTek	NF00025	130°C	IEC 60950-1	Test in equipment
Line choke (NF1), optional Bobbin	GlobTek Chang Chun Plastics	NF00001D T373J, T375J	130°C Phenolic, 150°C, V-0	IEC 60950-1 UL94	Test in equipment UL
X cap (CX1) optional	Cheng Tung	CTX	Max 0.1µF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 UL 1414	VDE, UL
Alternative	Joey Electronics (Dong Guan) Co Ltd	MPX	Max 0.1µF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 UL 1414	VDE, UL
Alternative	Ultra Tech	HQX	Max 0.1µF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 UL 1414	VDE, UL
Alternative	Dain	MPX, NPX	Max 0.1µF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 UL 1414	VDE, UL
Alternative	Winday	MPX	Max 0.1µF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 UL 1414	VDE, UL
Alternative	Tenta	MEX	Max 0.1µF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Shenzhen Jinghao	CBB62B	Max 0.1µF, Min 250Vac 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Alternative	Shunde Da Hua	HD	Max 0.1 μ F, Min 250Vac 105°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Welson	WD	Max 0.1 μ F, Min 250Vac 125°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Murata	KH	Max 0.1 μ F, Min 250Vac 125°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Walsin	AC	Max 0.1 μ F, Min 250Vac 125°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Chiefcon	CKX	Max 0.1 μ F, Min 250Vac 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Okaya	RE	Max 0.1 μ F, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Bleed resistor, after fuse (R1, R2)	Various	Various	Max 1.5M Ω , 1/4W	IEC 60950-1	Test in equipment
Bridge diode (BD1)	Various	Various	Min 1A, min 400V	IEC 60950-1	Test in equipment
Bulk Capacitor (C1)	Various	Various	Max 33 μ F Min 400V 105°C	IEC 60950-1	Test in equipment
Bridging cap (CY1), optional	TDK	CD	Max 470pF Min 250Vac Min 105°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Walsin	AH	Max 470pF Min 250Vac Min 105°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Jya-Nay	JN	Max 470pF Min 250Vac 125°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Murata	KX	Max 470pF Min 250Vac 125°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Alternative	Success	SE, SB	Max 470pF Min 250Vac Min 105°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Welson	WD	Max 470pF Min 250Vac 125°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Optocoupler (PC1)	Lite-on	LTV-817	See appendix opto elec. Min 100°C	UL 1577 EN 60747-5-2 EN 60950	UL VDE FI
Alternative	Everlight	EL817	See appendix opto elec. Min 100°C	EN 60747-5-2 IEC 60950	VDE, FI
Alternative	Toshiba	TLP721	See appendix opto elec. Min 100°C	EN 60747-5-2, IEC 60950	VDE, FI
Alternative	Cosmo	K1010, KP1010	See appendix opto elec. Min 100°C	EN 60747-5-2 EN 60950 EN 60065	VDE
Alternative	Fairchild	H11A817B	See appendix opto elec. Min 100°C	EN 60747-5-2 EN 60950 EN 60065	VDE, S
Transformer (T1) 3)	GlobTek/ENG/ZE AL/ENS/Chang hong	XF00779	Class B	IEC 60950-1	Test in equipment
Bobbin	Chang Chun Plastic	T375J	Phenolic, 150°C, V-0	UL 94	UL
TIW	Great Leoflon	TRW(B)	130°C	UL 2353 IEC/EN 60950-1	UL, VDE
Insulation tape	3M Chyun Yih Tape YaHua	1350T-1 P298F PZ	130°C	UL 510	UL
Insulation tape wrapped around C9	3M	1350T-1, 44#, 1350F, 1350-1	130°C	UL 510	UL
Alternative	Symbio	35660Y	130°C	UL 510	UL
Alternative	Yahua	CT, PZ	130°C	UL 510	UL

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.

2) Varistor was tested additionally with IEC 60950-1:2005 (Annex Q) during the approval to IEC 61051-2.

3) The transformers from manufacturers GlobTek/ENG/ZEAL/ENS/Chang hong have the identical construction.

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : Lite-on / Everlight / Toshiba / Cosmo / Cosmo / Fairchild		
Type..... : LTV-817 / EL817 / TLP721 / K1010 / KP1010 / H11A817B		
Separately tested : VDE/ VDE/ VDE/ VDE/ VDE/ Semko		
Bridging insulation..... :		
External creepage distance..... : 7.8mm / 8.3mm / 8mm / 8mm / 8mm / >7mm		
Internal creepage distance..... : 5.2mm / 4.0mm / >4mm / 5.3mm / 5.3mm / *		
Distance through insulation..... : 0.8mm / 0.6mm / >0.4mm / 0.8mm / 0.5mm / 0.5mm / >1mm		
Tested under the following conditions..... : Reinforced insulation		
Input..... :		
Output..... :		
supplementary information		
* There is no any internal creepage distance. Thermal cycling test is performed.		

1.6.2		TABLE: Electrical data (in normal conditions)					P
U (V)	I _{rated} (A)	I (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
180V 50Hz	—	0.133	12.5	F1	0.133	Normal load	
180V 60Hz	—	0.133	12.5	F1	0.133	Normal load	
200V 50Hz	0.2	0.122	12.6	F1	0.122	Normal load	
200V 60Hz	0.2	0.122	12.6	F1	0.122	Normal load	
220V 50Hz	0.2	0.112	12.7	F1	0.112	Normal load	
220V 60Hz	0.2	0.113	12.7	F1	0.113	Normal load	
240V 50Hz	0.2	0.103	12.9	F1	0.103	Normal load	
240V 60Hz	0.2	0.103	12.9	F1	0.103	Normal load	
264V 50Hz	—	0.095	13.1	F1	0.095	Normal load	
264V 60Hz	—	0.094	13.1	F1	0.094	Normal load	
Supplementary information:							

2.1.1.5 c) 1)		TABLE: max. V, A, VA test			P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
4.5	2.2	4.52	2.46	11.0	
supplementary information:					
The above measurements are the maximum values (max. V and max. A not obtained at the same time).					

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 P1 – P2	27.2			
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
supplementary information:				
s-c=short circuit				

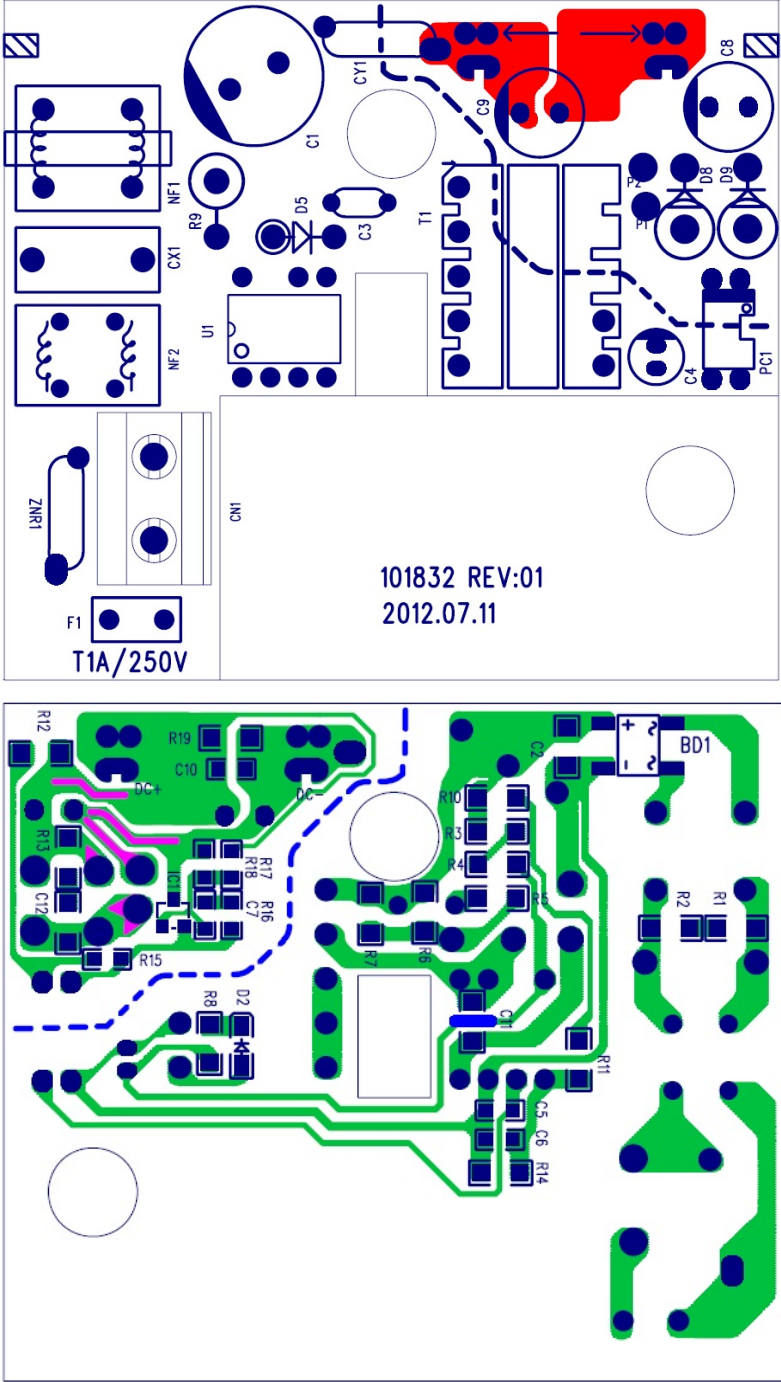
2.4	TABLE: Limited current circuits				P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	
CY1	12.4	6.2	64.1	44.87	
supplementary information:					
Tested at 264V 60Hz. 470pF for CY1					

2.5	TABLE: limited power sources				P
Circuit output tested: Output					
Measured Uoc (V) with all load circuits disconnected:		4.52V			
	I _{sc} (A)		VA		
	Meas.	Limit	Meas.	Limit	
Output	2.52	8	11.2	100	
Output (IC1 pin1-2, s-c) 1)	0	8	0	100	
Output (IC1 pin1-3, s-c) 1)	0	8	0	100	
Output (IC1 pin3-2, s-c) 1)	0	8	0	100	
supplementary information:					
Sc=Short circuit, Oc=Open circuit					
1) Unit shut down.					

2.10.2		Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments		
CY1	236	376	--		
T1 pin P1-1	240	384			
T1 pin P1-2	280	480	--		
T1 pin P1-3,4,5	249	448	--		
T1 pin P1-6	222	352	--		
T1 pin P1-7	233	368	--		
T1 pin P2-1	240	384	--		
T1 pin P2-2	279	480	--		
T1 pin P2-3,4,5	248	448	--		
T1 pin P2-6	222	352	--		
T1 pin P2-7	233	368	--		
PC1 pin1-3	239	380	--		
PC1 pin1-4	236	376	--		
PC1 pin2-3	238	376	--		
PC1 pin2-4	236	376	--		
supplementary information:					
The highest measured working voltages in transformer are indicated with bold characters.					

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 – Neutral (before fuse)	340	240	1.5	2.5	2.5	2.5	
Fuse pin1 – 2	340	240	1.5	2.7	2.5	2.7	
Reinforced:							
PC1	380	240	4.0	6.0	5.0	6.0	
CY1	376	240	4.0	6.9	5.0	6.9	
T1 primary – R16	480	280	4.2	6.7	5.6	6.7	
T1 winding – D8	480	280	4.2	6.0	5.6	6.0	
R8 – R16	480	280	4.2	5.7	5.6	5.7	
C9 – T1 core 1)	480	280	4.2	4.3	5.6	5.6	
PC1 – Enclosure	380	240	4.0	5.0	5.0	10.0	

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)
C3 – Screw	480	280	4.2	5.0	5.6	6.5
CX1 – Enclosure	340	240	4.0	4.8	5.0	10.0
Supplementary information: 10N applied to secondary components C3 and C4. Glue added on ZNR1 and CY1. T1 core is considered as primary, and two layers of insulation tape wrapped around the transformer core. 1) Two layers of insulation tape wrapped around C9.						

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements	P
		

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)	
Enclosure	480	280	3000V AC	0.4	2.0	
Reinforced: Bobbin for T1	480	280	3000V AC	0.4	0.4	
Supplementary information:						

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

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)	198V 50Hz	264V 50Hz	198V 50Hz 1)	264V 50Hz 1)	—		
	Ambient T _{min} (°C)	27.1	26.9	55.0	55.0	—		
	Ambient T _{max} (°C)	27.1	26.9	55.0	55.0	—		
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)		
CN1		32.8	36.3	60.7	64.4	105		
NF2		37.8	43.2	65.7	71.3	120		
CX1		40.0	45.0	67.9	73.1	100		
NF1 coil		42.5	44.4	70.4	72.5	120		
NF1 core		42.2	44.4	70.1	72.5	120		
BD1		41.7	43.8	69.6	71.9	--		
C1		43.9	47.3	71.8	75.4	105		
CY1		41.6	42.5	69.5	70.6	85		
T1 coil		65.4	70.3	93.3	98.4	110		
T1 core		67.3	71.7	95.2	99.8	110		
PCB under T1		58.7	63.4	86.6	91.5	105		
PC1		56.7	59.0	84.6	87.1	100		
Enclosure inside near T1		40.9	42.3	68.8	70.4	--		
Enclosure outside		33.9	36.4	61.8	64.5	95		
Supplementary information:								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulatio n class
Supplementary information:								
T _{ma} =55°C								
If no limit is provided, then the monitored location temperature result is for information only. Temperature limits were reduced 10°C, for inductors and transformer windings monitored by thermocouple method.								
1) T (°C) is calculated value: T (Measured) – Tamb (Room Amb.) + T _{ma} (Max. Amb.)								

4.5.5	TABLE: Ball pressure test of thermoplastic parts			P
	Allowed impression diameter (mm)	≤ 2 mm		—
Part		Test temperature (°C)	Impression diameter (mm)	
Screw terminals, type ERTB1.5 (3)		125	1.3	
Supplementary information:				

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

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
Line – Plastic enclosure (foil)	0.02	0.25	Operation	
Neutral – Plastic enclosure (foil)	0.02	0.25	Operation	
Line – Secondary connectors	0.05	0.25	Operation	
Neutral – Secondary connectors	0.05	0.25	Operation	
supplementary information:				
Tested at 264V 60Hz				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Primary – Enclosure	AC	3000	No	
Primary – Secondary connectors	AC	3000	No	
T1 primary/Core – Secondary	AC	3000	No	
Insulation tape for T1 and C9 (tested with 1 layer for each source)	AC	3000	No	
Supplementary information:				

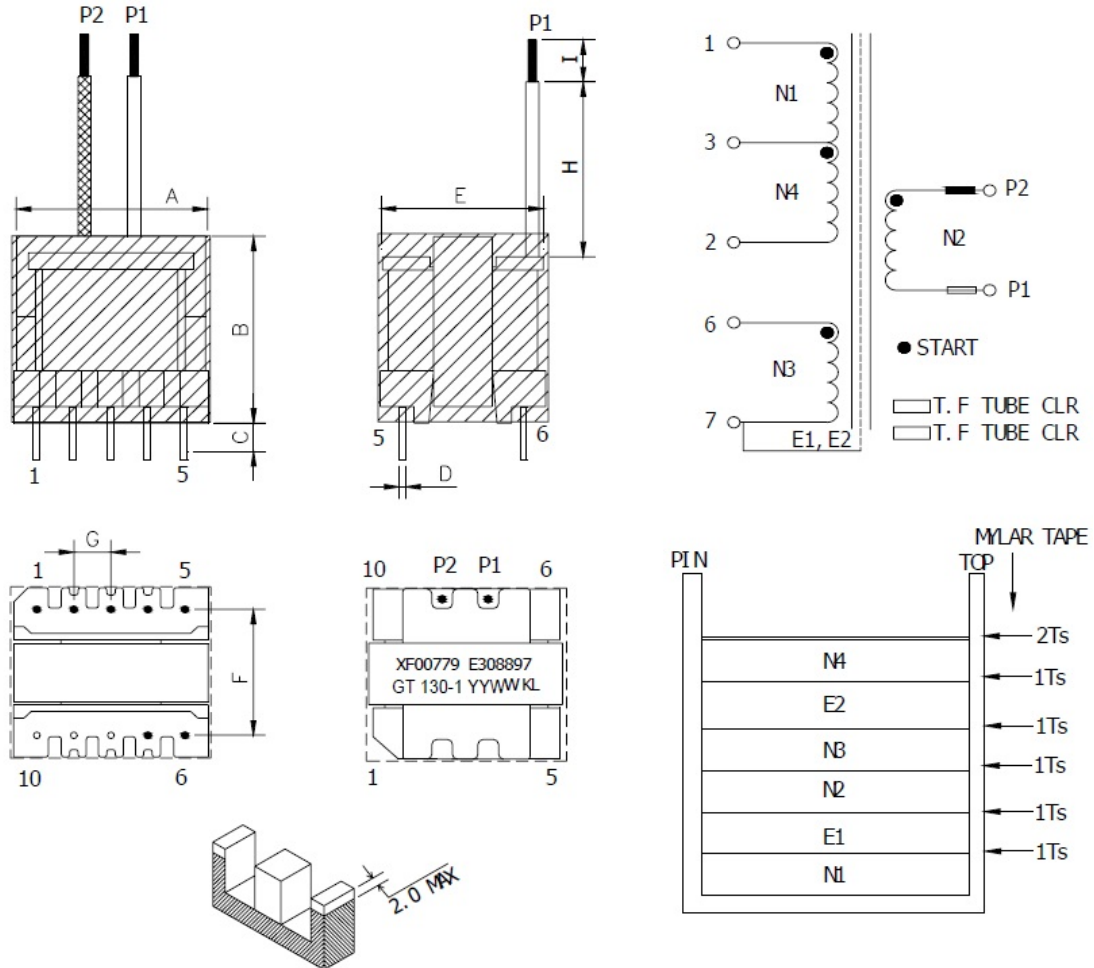
5.3		TABLE: Fault condition tests				P
		Ambient temperature (°C)	25°C if not mentioned		—	
		Power source for EUT: Manufacturer, model/type, output rating	See general production information		—	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Output	s-c	264V	15 min	F1	0.08	Unit shut down, no damage, no hazard.
T1 pin P1-P2	s-c	264V	15 min	F1	0.21	Unit shut down, no damage, no hazard.
D8	s-c	264V	15 min	F1	0.04	Unit shut down, no damage, no hazard.
PC1 pin1-2	s-c	264V	15 min	F1	0.10	Unit shut down, no damage, no hazard.
PC1 pin3-4	s-c	264V	15 min	F1	0.04	Unit shut down, no damage, no hazard.
IC1 pin1-2	s-c	264V	15 min	F1	0.06	Unit shut down, no damage, no hazard.
IC1 pin1-3	s-c	264V	15 min	F1	0.04	Unit shut down, no damage, no hazard.
IC1 pin2-3	s-c	264V	15 min	F1	0.04	Unit shut down, no damage, no hazard.
Output	o-l	264V	1h 45min	F1	0.04	Temperature stabilized at additional load current 2.4A. Unit shut down when the load current increased to more. Max temperature measured on T1 coil = 78.6°C T1 core = 80.3°C Ambient = 28.2°C No damage, no hazard.
BD1 pin1-2	s-c	264V	< 1s	F1	1)	Fuse opened immediately, no hazard.
BD1 pin1-3	s-c	264V	< 1s	F1	1)	Fuse opened immediately, no hazard.
R9	s-c	264V	15 min	F1	0.08	Unit shut down, no damage, no hazard.
R14	s-c	264V	15 min	F1	0.04	Unit shut down, no damage, no hazard.
R11	s-c	264V	15 min	F1	0.09	Unit shut down, no damage, no hazard.
C4	s-c	264V	15 min	F1	0.04	Unit shut down, no damage, no hazard.

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
R1	s-c	264V	15 min	F1	0.95	Unit normal operation, no damage, no hazard.
Supplementary information: s-c: short circuit; o-l: over load 1) Fuse current > fuse rating of which opened under test x 2.1 and repeated three times with same result.						

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: Primary– Secondary	480	280	3000V AC	4.2	5.6	1)
T1	Reinforced: Core – Secondary	480	280	3000V AC	4.2	5.6	1)
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			3000V AC	5.6	6.0	Annex U
T1	Reinforced: Core – Secondary			3000V AC	5.6	6.0	Annex U
supplementary information:							
1) 2 or 3 layers / 0.4mm / Annex U T1 core is considered as primary. Two layers of insulation tape wrapped around the transformer core. One layer of insulation tape wrapped around the bottom of transformer core.							

C.2 **TABLE: transformers** **P**

Transformer: T1 (The transformers from manufacturers GlobTek/ENG/ZEAL/ENS/Chang hong have the identical construction.)



WINDING ORDER									
WINDING	MARGIN TAPE	START	FINISH	WIRE SIZE	TURNS	TAPE	T. F TUBE		NOTES
							START	FINISH	
N1		1	3	Φ0.25(2UEW)*1P	55Ts	1Ts			密繞
E1		7	CU	0.025t*7W 背膠	1.1Ts	1Ts			
N2		P2	P1	Φ0.45(TEX-E)*3P	8Ts	1Ts	✓	✓	密繞
N3		7	6	Φ0.2(2UEW)*1P	23Ts	1Ts			密繞
E2		7	CU	0.025t*7W 背膠	1.1Ts	1Ts			
N4		3	2	Φ0.25(2UEW)*1P	55Ts	2Ts			密繞

Photos

Report No. 215111





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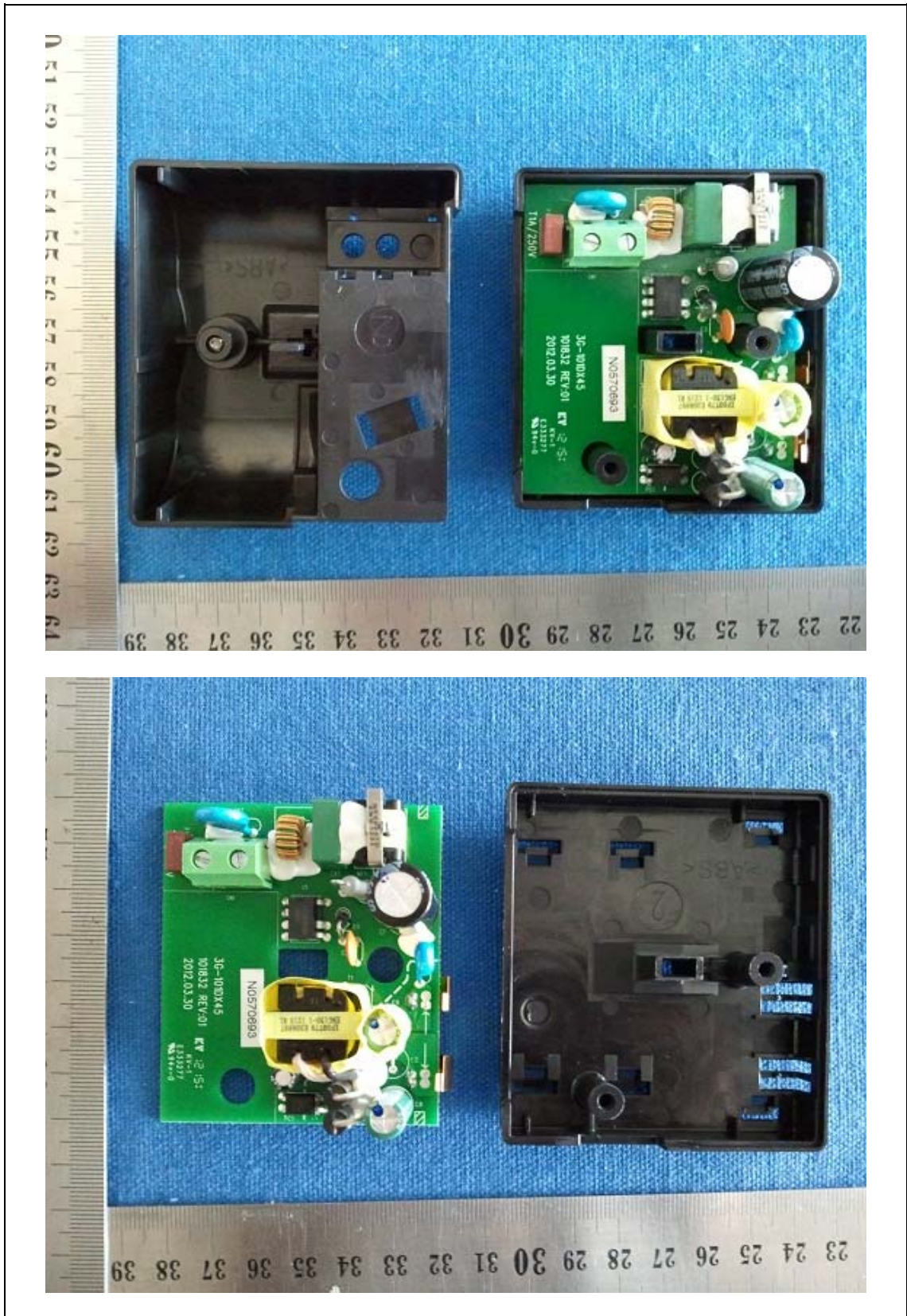
Photos

Report No. 215111



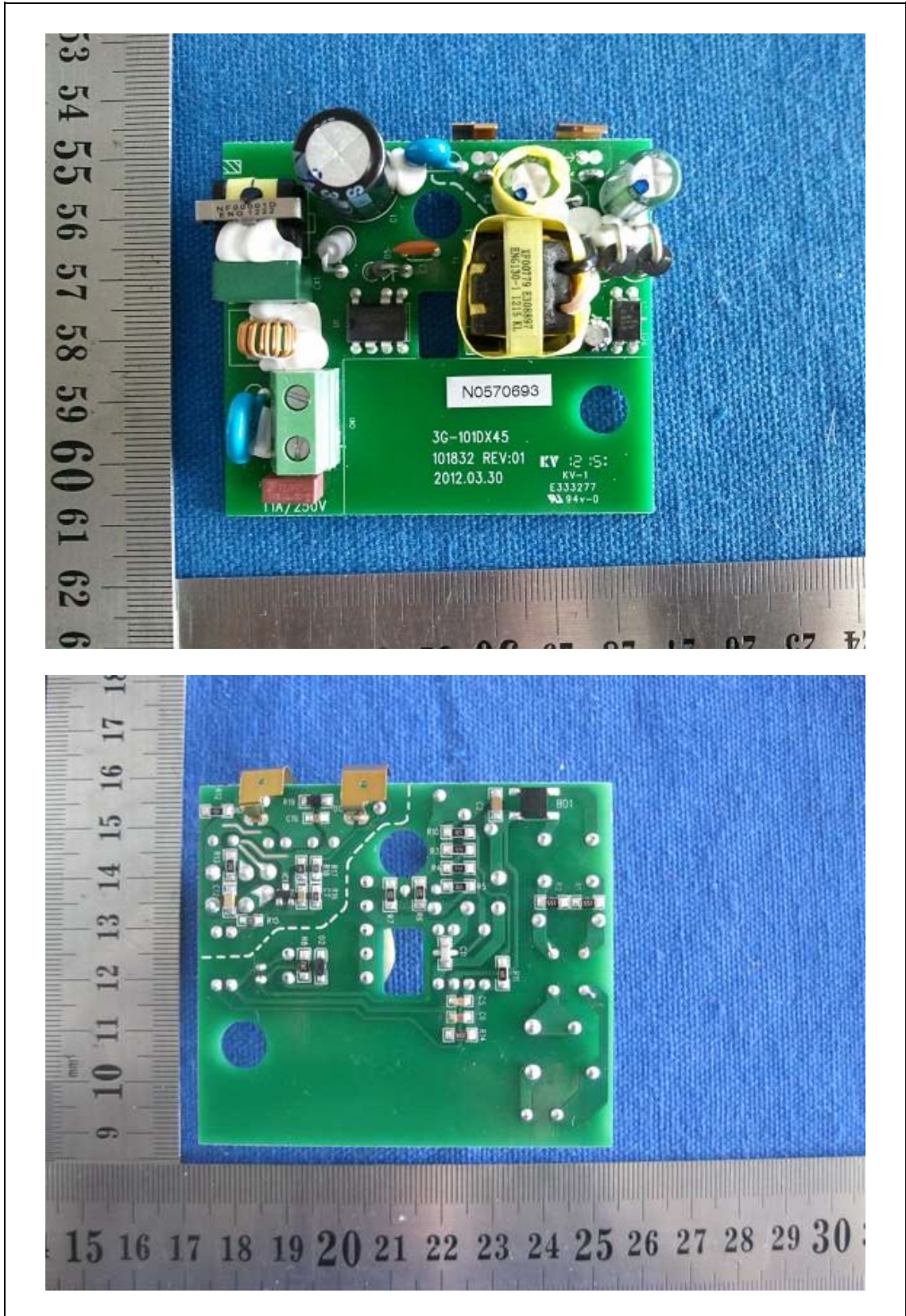
Photos

Report No. 215111



Photos

Report No. 215111



IEC60950_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60950-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: EN 60950-1:2006/A11:2009/A1:2010/A12:2011

Attachment Form No......: EU_GD_IEC60950_1B_II

Attachment Originator: SGS Fimko Ltd

Master Attachment.....: Date 2011-08

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EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

Clause	Requirement + Test	Result - Remark	Verdict
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions		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_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	<p>Add the following subclause:</p> <p>1.3.Z1 Exposure to excessive sound pressure</p> <p>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.</p> <p>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.</p>	Not such device.	N/A
(A12:2011)	<p>In EN 60950-1:2006/A12:2011</p> <p>Delete the addition of 1.3.Z1 / EN 60950-1:2006</p> <p>Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010</p>		—
1.5.1	<p>Add the following NOTE:</p> <p>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC</p>		P
1.7.2.1 (A1:2010)	<p>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.</p>	Not such device.	N/A
1.7.2.1 (A12.2011)	<p>In EN 60950-1:2006/A12:2011</p> <p>Delete NOTE Z1 and the addition for Portable Sound System.</p> <p>Add the following clause and annex to the existing standard and amendments.</p>	Not such device.	N/A
	<p>Zx Protection against excessive sound pressure from personal music players</p>		N/A

IEC60950_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.1 General</p> <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_1B - 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> <ul style="list-style-type: none"> – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – 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>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> <ol style="list-style-type: none"> a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and 		N/A

IEC60950_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <ol style="list-style-type: none"> 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		N/A

IEC60950_1B - 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> <div style="text-align: center;">  </div> <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
	<p>Zx.4 Requirements for listening devices (headphones and earphones)</p>		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_1B - 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_1B - 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> <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>	The equipment is provided with a fuse and complies with a).	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.	Building-in product, must be considered in the end product.	—						
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 border="0"> <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	Building-in product, must be considered in the end product.	—
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_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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	Building-in product, must be considered in the end product.	—
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.		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.	Class II building-in product.	N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A

IEC60950_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7.1	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).	No such component.	N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

IEC60950_1B - 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>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>	Class II building-in product.	N/A

IEC60950_1B - 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): "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: "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>		
1.7.5	<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>	No socket outlets.	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.	Considered.	P

IEC60950_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Not direct plug-in equipment.	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.	No such insulation.	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> <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>	Building-in product, must be considered in the end product.	—

IEC60950_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC60950_1B - 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.	Building-in product, must be considered in the end product.	—
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	Building-in product, must be considered in the end product.	—
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.	Building-in product, must be considered in the end product.	—
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.	Building-in product, must be considered in the end product.	—
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.	Not direct plug-in equipment.	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_1B - 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. 	Touch current does not exceed 3.5mA r.m.s.	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_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 		N/A
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	No CDS circuits.	N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.		N/A

<p>3.2.5.1</p>	<p>Modify Table 3B as follows:</p> <p>1. Delete the first four rows and replace with the following:</p> <table border="1" data-bbox="343 443 938 678"> <thead> <tr> <th rowspan="2">RATED CURRENT of equipment A</th> <th colspan="2">Minimum conductor sizes</th> </tr> <tr> <th>Nominal cross-sectional area mm²</th> <th>AWG or kcmil [cross-sectional area in mm²] see Note 2</th> </tr> </thead> <tbody> <tr> <td>Over 0.2 up to and including 3</td> <td>0,5 ^a</td> <td>18 [0,8]</td> </tr> <tr> <td>Over 3 up to and including 7.5</td> <td>0,75</td> <td>16 [1,3]</td> </tr> <tr> <td>Over 7.5 up to and including 10</td> <td>(0,75) ^b</td> <td>16 [1,3]</td> </tr> <tr> <td>Over 10 up to and including 16</td> <td>(1,0) ^c</td> <td>14 [2]</td> </tr> </tbody> </table> <p>2. Delete NOTE 1.</p> <p>3. Delete Footnote ^a and replace with the following:</p> <p>^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).</p>	RATED CURRENT of equipment A	Minimum conductor sizes		Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2	Over 0.2 up to and including 3	0,5 ^a	18 [0,8]	Over 3 up to and including 7.5	0,75	16 [1,3]	Over 7.5 up to and including 10	(0,75) ^b	16 [1,3]	Over 10 up to and including 16	(1,0) ^c	14 [2]	<p>Building-in product and no power supply cord is provided. Must be considered in the end product.</p>	<p>—</p>
RATED CURRENT of equipment A	Minimum conductor sizes																			
	Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2																		
Over 0.2 up to and including 3	0,5 ^a	18 [0,8]																		
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Over 7.5 up to and including 10	(0,75) ^b	16 [1,3]																		
Over 10 up to and including 16	(1,0) ^c	14 [2]																		
<p>4.1.201</p>	<p>Insert a new Clause 4.1.201 after Clause 4.1 as follows:</p> <p>4.1.201 Display devices used for television purposes</p> <p>Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.</p>		<p>N/A</p>																	
<p>4.3.6</p>	<p>Delete the third paragraph and replace with the following:</p> <p><i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</i></p>		<p>N/A</p>																	
<p>4.3.13.5</p>	<p>Add the following to the end of first paragraph: 'or AS/NZS 2211.1'.</p>	<p>No Laser product used.</p>	<p>N/A</p>																	
<p>4.7</p>	<p>Add the following new paragraph to the end of the clause:</p> <p>'For alternate tests refer to Clause 4.7.201.'</p>	<p>Alternative tests not performed.</p>	<p>N/A</p>																	

<p>4.7.201</p>	<p><i>Insert</i> a new Clause 4.7.201 after Clause 4.7.3.6 as follows:</p> <p>4.7.201 Resistance to fire – Alternative tests</p> <p>4.7.201.1 General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following:</p> <p>(a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length.</p> <p>(b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1750mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category FV-1, or better, according to AS/NZS 60695.11.10. <p>NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another.</p> <p>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5</p> <p>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p> <p>4.7.201.2 Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.</p>	<p>All materials have suitable flame class, no testing required.</p>	<p>N/A</p>
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<p>4.7.201</p>	<p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p> <p>4.7.201.3 Testing of insulating materials</p> <p>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C</p> <p>The test shall also be carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE: Contacts in components such as switch contacts are considered to be connections.</p> <p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table border="1" data-bbox="339 1238 930 1910"> <thead> <tr> <th>Clause of AS/NZS 60695.11.5</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td>9 Test procedure</td> <td></td> </tr> <tr> <td>9.2 Application of needle flame</td> <td> <p>Replace the first paragraph with:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner</p> <p>Replace the second paragraph with:</p> <p>The duration of application of the test flame shall be 30 s ±1 s.</p> </td> </tr> <tr> <td>9.3 Number of test specimens</td> <td> <p>Replace with:</p> <p>The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</p> </td> </tr> <tr> <td>11 Evaluation of test results</td> <td> <p>Replace with:</p> <p>The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p> </td> </tr> </tbody> </table> <p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.</p>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle flame	<p>Replace the first paragraph with:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner</p> <p>Replace the second paragraph with:</p> <p>The duration of application of the test flame shall be 30 s ±1 s.</p>	9.3 Number of test specimens	<p>Replace with:</p> <p>The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</p>	11 Evaluation of test results	<p>Replace with:</p> <p>The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>		<p>N/A</p>
Clause of AS/NZS 60695.11.5	Change												
9 Test procedure													
9.2 Application of needle flame	<p>Replace the first paragraph with:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner</p> <p>Replace the second paragraph with:</p> <p>The duration of application of the test flame shall be 30 s ±1 s.</p>												
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11 Evaluation of test results	<p>Replace with:</p> <p>The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>												

<p>4.7.201</p>	<p>4.7.201.4 Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p> <p>4.7.201.5 Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.</p> <p>The test is not carried out if the –</p> <ul style="list-style-type: none"> - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or 		<p>N/A</p>
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4.7.201	<p>- Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely.</p> <p>Compliance shall be determined using the smallest thickness of the material.</p> <p>NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power from more than 2 min when the circuit supplied is disconnected.</p>		N/A
6.2.2	<p>For Australia only, <i>delete</i> the first paragraph and Note, and <i>replace</i> with the following:</p> <p>In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.</p>	No TNV circuitry.	N/A
6.2.2.1	<p>For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> with the following:</p> <p><i>In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is:</i></p> <p><i>(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and</i></p> <p><i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i></p> <p>NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202 The 2.5 kV for 6.2.1 a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>	No TNV circuitry.	N/A
6.2.2.2	<p>For Australia only, <i>delete</i> the second paragraph including the Note, and <i>replace</i> with the following:</p> <p><i>In Australia only, the a.c. test voltage is:</i></p> <p><i>(i) for 6.2.1 a): 3 kV; and</i></p> <p><i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i></p> <p>NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>	No TNV circuitry.	N/A

7.3	<p>Add the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.</p>		N/A
Annex P	<p>Add the following Normative References:</p> <p>AS/NZS 3191, Electric flexible cords</p> <p>AS/NZS 3112, Approval and test specification—Plugs and socket-outlets</p>	Considered.	P
Index	<p>1. <i>Insert</i> the following between ‘asbestos, not to be used as insulation’ and ‘attitude see orientation’:</p> <p>AS/NZS 2211.1.....4.3.13.5</p> <p>AS/NZS 3112.....4.3.6</p> <p>AS/NZS 3191..... 3.2.5.1 (Table 3B)</p> <p>AS/NZS 60064.....4.1.201</p> <p>AS/NZS 60695.2.11..... 4.7.201.2, 4.7.201.3</p> <p>AS/NZS 60695.11.10..... 4.7.201.1, 4.7.201.5</p> <p>AS/NZS 60695.11.5.....4.7.201.3</p> <p>2. <i>Insert</i> the following between ‘positive temperature coefficient (PTC) device’ and ‘powder’:</p> <p>potential ignition source 1.2.201, 4.7.201.3, 4.7.201.5</p>	Considered.	—

**ATTACHMENT TO TEST REPORT IEC 60950-1
China DIFFERENCES**

Differences according to: GB4943-2001

IEC Standard.....: 60950(ed.3)

Last Modification: Date (2010-06-23)

Clause	Requirement + Test	Result - Remark	Verdict
1.4.5	Supply voltage for tests If the equipment is intended for direct connection to an AC MAINS SUPPLY, the tolerances on RATED VOLTAGE shall be taken as +6 % and – 10 % in 1.4.5 of IEC60950(ed.3), but it shall be taken as +10 % and –10 % in 1.4.5 of GB4943-2001. The first dash paragraph“– the RATED VOLTAGE is 230 V single-phase or 400 V three-phase, in which case the tolerance shall be taken as +10 % and –10 % ” is deleted in GB4943-2001.	Tested with a supply tolerance $\pm 10\%$ which covered 220Vac for China, refer to main report.	P
1.7.1	There is no detailed requirement of RATED VOLTAGE specified in 1.7.1 of IEC 60950(ed.3), only some examples shown, but not conclude the mains supply voltage of China which is 220V. In GB 4943-2001, it is specified as following: The RATED VOLTAGE should be 220 V for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220 V, for multiple RATED VOLTAGES, one of them should be 220V and set on 220V when manufactured. It is specified in 1.7.1 of IEC 60950(ed.3) that RATED FREQUENCY or RATED FREQUENCY RANGE should be marked; in 1.7.1 of GB4943-2001, it is required that the RATED FREQUENCY or RATED FREQUENCY RANGE should be marked and should be 50Hz or include 50Hz. NOTE1,NOTE2 and NOTE3: Markings of rating shall include or cover 220V/50Hz at least.	The equipment voltage range include 220 V and rated frequency range include 50Hz.	P
1.7.12	Replaced by :Specification and markings related to safety shall be given in normative Chinese.	Must be considered before marketed in China.	—
3.2.1	After the first paragraph added flowing paragraph: Plugs connected to AC mains supply shall comply with GB1002.	Must be considered before marketed in China.	—

SI 60950 Part 1 (2009)			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT: NATIONAL DIFFERENCES – ISRAEL			
Test results according to Online CB BULLETIN (Last modified date of 2011-03-02)			
1.7	Marking and instructions The clause is applicable with the following additions: - Subclause 1.7.201 shall be added at the beginning of the clause as follows:		—
1.7.201	Marking in the Hebrew language The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language. The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed. 1. Name of the apparatus and its commercial designation; 2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture.	Must be considered before marketing in Israel.	—
1.7.2	Safety instructions and Marking 1.7.2.1 General The following shall be added to the clause: All the instructions and warnings related to safety shall also be written in the Hebrew language.	Must be considered before marketing in Israel.	—
2.	Protection from Hazards The clause is applicable with the following additions:		—

SI 60950 Part 1 (2009)			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	<p>Separation from hazardous voltages</p> <p>The following shall be added at the beginning of the clause :</p> <p>In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows:</p> <p>1) TN-S - Net work system earthing; TN-C-S - Network system earthing;</p> <p>2) TT - Network system earthing;</p> <p>3) IT - Network Insulation Terre;</p> <p>4) Isolated transformer;</p> <p>5) Safety extra low voltage (SELV or ELV) ;</p> <p>6) Residual current circuit breaker (30 ma =IΔ);</p> <p>7) Reinforced insulation; Double insulation (class II) <input type="checkbox"/>.</p> <p>Clause 2.201 shall be added at the end of the clause, as follows:</p>	Considered.	P
2.201	<p>Prevention of electromagnetic interference</p> <p>- Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked.</p> <p>The apparatus shall meet the requirements in the appropriate part of the Standard series.</p> <p>SI 961.</p> <p>- If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.</p>	Must be considered before marketing in Israel.	—
3.	<p>Wiring, connections and supply</p> <p>The clause is applicable with the following additions:</p>		—
3.2	<p>Connection to a mains supply</p>		—
3.2.1	<p>Means of connection</p>		—
3.2.1.1	<p>Connection to an a.c. mains supply</p> <p>After the note, the following note shall be added:</p> <p>Note:</p> <p>In Israel, the feed plug shall comply with the requirements of Israel Standard 51 32 Part I.</p>	Building-in product and no power supply cord is provided. Must be considered in the end product.	—
3.2.1.2	<p>Connection to a d.c. mains supply</p> <p>At the end of the first paragraph, the following note shall be added:</p> <p>Note:</p> <p>At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.</p>	No connection to d.c. mains supply.	N/A

SI 60950 Part 1 (2009)			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX P	Normative references		—	
	The annex is applicable with the following national deviations:			
	- The following Israel Standards have been inserted in place of some of the International Standards specified in this annex of the Standard, as follows:			
	The referenced International Standard	The substituted Israel Standard		Comments
	IEC 60065: 2001	SI 250(A) - Safety requirements for mains operated electronic and related apparatus for household and similar general use		The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 65:1985, including its amendments
	IEC 60227 (all parts)	SI 473, all parts - Cables, cords and insulated conductors for nominal voltage up to 1000 volt		-
	IEC 60309 (all parts)	SI 1109, all parts - Plugs, socket-outlets and couplers for industrial purposes		SI 1109, part I and part 2, excluding national deviations in them , are identical to the Standards of the International Electrotechnical Commission IEC 60309-1-1999 and IEC 60309-2-1999, respectively.
	IEC 60317 (all parts)	SI 1067 Part I – Self-fluxing enamelled(B) round copper wires with high mechanical properties		The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-1 (1980)
		SI 1067 Part 2 – Self-fluxing enamelled(B) round copper wires		The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-4 (1980)
		SI 1067 Part 3 - Self-fluxing enamelled ^(B) round copper wires with a temperature index of 180°		The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-8 (1980)
	IEC 60320 (all parts)	SI 60320 Part 1 - Appliance couplers for household and similar general purposes: General requirements		The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission , IEC 60320-1 (2001)
		SI 60320 Part 2.1 - Appliance couplers for household and similar general purposes: Sewing machine couplers		The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission , IEC 60320-2.1 (2000)
	IEC 60320 (all parts)	SI 60320 Part 2.2 – Appliance couplers for household and similar general purposes: Interconnection couplers for household and similar equipment		The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission , IEC 60320-2.2 (1998)
		SI 60320 Part 2.3 - Appliance couplers for household and similar general purposes: Interconnection couplers for household and similar equipment Appliance coupler for household and similar general purposes: Appliance coupler with a degree of protection higher than IPXO		The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission , IEC 60320-2.3 (1998)

SI 60950 Part 1 (2009)			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX P	Continued			—
	IEC 60730-1: 1999	SI 60730 Part] - Automatic electrical controls for household and similar use: General requirements	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60730-1 (1999)	
	IEC 60825-1	SI 60825 Part I - Safety of laser products: Equipment classification, requirements and user's guide	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60825-1 (2001).	
	IEC 60947-[: 2004	SI 60947 Part 1 - Low-voltage switchgear and controlgear: General rules	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60947-[: (1999)	
	IEC 61058-1: 2000	SI 61058 Part I – Switches for appliances: General requirements	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 61058-1 (2001)	
	ISO 3864 (all parts)	SI 3864 Part 1 -Graphical symbols – Safety colours and safety signs: Design principles for safety signs in workplaces and public areas	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission IEC 3864-1 (2002)	
	<p>Notes</p> <p>(A) This Standard will be replaced by SI 60065 - Audio, video and similar electronic apparatus – safety requirements - that excluding the national deviations indicated is identical to the Standard of the International Electrotechnical Commission IEC 60065 (2005).</p> <p>(B) Not relevant to the translation.</p>			
<p>B. Add the following to the clause:</p> <p>Israel Standards SI 32 Part 1.1 - Plugs and socket-outlets for household and similar purposes : Plugs and socket-outlets for single phase up to 16A - General requirements SI 96 1, all parts - Electromagnetic compatibility Israel documents Electricity Law, 1954, its regulations and revisions Kovetz Takanot 4465 dated 1983-02-24, Consumer Protection Order (Marking of goods), 1983</p>				

**ATTACHMENT TO TEST REPORT IEC 60950-1
KOREAN DIFFERENCES**

Differences according to: K 60950-1			
IEC Standard: 60950-1(ed.2);am1			
Last Modification: Date (2012-05-31)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Building-in product, must be considered in the end product.	—
8	EMC The apparatus shall comply with the relevant CISPR standards	Compliance with EMC must be considered when marketed in Korea.	—

<p align="center">ATTACHMENT TO TEST REPORT IEC 60950-1 Singapore DIFFERENCES</p>				
Differences according to: Singapore: Consumer Protection Information Booklet, 2012 Edition, (Ver. 4.2).				
IEC Standard: 60950-1(ed.1)				
Last Modification: Date (2012-03-29)				
No	Item	Requirement + Test	Result - Remark	Verdict
<p>The following is the national differences in accordance with safety authority website www.spring.gov.sg, ref. Singapore Consumer Protection (Safety Requirements) - Information booklet - chapter 7 (page 22 - 25). Based on information by Singapore NCB – PSB Corp.</p>				
<p>7 SAFETY AUTHORITY'S REQUIREMENTS</p> <p>The Safety Authority monitors the safety of the controlled goods sold in Singapore by investigating all complaints, incidents and accidents reported to the authority. Experiences gained are translated into the Safety Authority's Requirements. These requirements are to be fulfilled in addition to the applicable safety standards.</p>				
<p align="center">Applicable to all products</p>				
1	Test certificate / Test report	Test certificate / Test report more than three (3) years old shall be rejected.	Compliance must be considered when equipment marketed Singapore.	P
2	Controlled Goods incorporated with additional function	The additional function must be tested to its applicable safety standard.		P
<p align="center">Applicable to all electrical products</p>				
3	All appliances	All appliances must be tested to 230 VAC.	Testing covered 130Vac	P
4	Voltage selector (voltage mismatch test)	Appliance fitted with voltage selector shall be tested as follows: Connect appliance to 230 VAC mains with voltage selector switch to settings not suitable for operation at 230 VAC.	No voltage selector	N/A
5	Tropical condition test	All appliances (with tropical test requirements in applicable Standards) shall comply with the tropical condition test as stated in the relevant IEC Standards.	Complied with requirement, refer to main test report.	P
6	Class I appliances (3-pin mains plug)	All Class I appliances must be fitted with 3-pin mains plugs complied with SS 145/SS 472 that are registered with the Safety Authority.	Class II equipment.	N/A

7	Class II appliances (mains plug)	<p>a) All Class II appliances must be fitted with 2-pin mains plug (Appendix W) complied with IEC 83: 1975 (Standard C5, Version II) or EN 50075: 1991.</p> <p>b) Class II appliances that are fitted with 3-pin mains plugs must use plugs that are complied with SS 145 and registered with the Safety Authority.</p>	Building-in product, must be considered in the end product.	—
8	Appliances rated ≥ 3 kW or connected to fixed wiring	Electric appliance ≥ 3 kW must be connected to fixed wiring. All connection to fixed wiring must be in accordance with Code of Practice CP5.	The rated power is less than 3kW.	N/A
9	Detachable power cord set (consists of mains plug, mains cord and appliance connector)	Detachable power cord set must be listed in the test report critical component list.	Building-in product and no power supply cord provided. Must be considered in the end product.	—
10	Circuit diagrams	Circuit diagrams must be indicated with component's values for products tested to IEC 60065 and IEC 60950.	Must be evaluated when market to Singapore	—
11	Circuit diagrams of electronic modules in electrical appliances	Circuit diagrams of the electronic modules in the electrical appliances must be provided.		N/A
12	Controlled goods likely to be treated as toy by children	Controlled goods, having an enclosure, which is shaped and decorated so that it is likely to be treated as a toy by children, shall not be accepted for certification and registration.	The equipment is not treated as toy by children.	N/A
Applicable to electric airpot				
13	Reboil switch	No part of the reboil switch is allowed to protrude into the water pot, even if it is located above the maximum water level mark.		N/A
Applicable to AC adaptor				
14	3-pin AC adaptor (Appendix V)	Test report showing that the 3-pin complied with sub-clauses 12.1 & 12.3 of SS 246 must be submitted.	Building-in product, must be considered in the end product.	—
15	2-pin AC adaptor (Appendix V)	The 2-pin (Appendix T) shall comply with EN 50075	Building-in product, must be considered in the end product.	—

16	Detachable power supply cord set not supplied by Registered Supplier	Registered Supplier who is not supplying the detachable power supply cord set together with the AC Adaptor must provide written instruction to its customer on the type of approved detachable power cord set to use.	Building-in product and no power supply cord provided. Must be considered in the end product.	—
Applicable to computer products				
17	CD/DVD ROM (used in personal computer)	Test certificate showing that CD/DVD ROM has complied with IEC 825 must be provided.	The equipment does not consist of CD/DVD ROM.	N/A
18	Modem Card (used in personal computer)	Modem card incorporated in the personal computer must be tested at set level (sub-clauses 5.1 & 6 of IEC 60950) or at component level.	The equipment does not consist of Modem Card.	N/A
Applicable to ceiling fan and cycle fan				
19	Ceiling fan and cycle fan	<p>a) These appliances must be tested to sub-clauses 5.7 and 5.8 of SS 360: 1992.</p> <p>b) Installation instruction must mention the 3 expansion bolts for fastening the main suspension, safety cord, expansion bolt with hook for fastening safety cord and mounting plate. (Appendix Q)</p> <p>c) Drawing (Appendix P) to show that the wires within the motor shaft are not stressed must be provided.</p>	Not such equipment.	N/A
Applicable to portable/wall socket-outlet and portable cable reel				
20	Portable/wall socket-outlet and portable cable reel	<p>a) If residual current device (RCD) is incorporated, its tripping current must be less than 30mA and operating time must be less than 0.1 second and testing to sub-clauses 9.9.2.1, 9.9.2.2, 9.9.2.3 and 9.16 of SS 97: Part 1: 2000 are required.</p> <p>b) The shutters screening the current-carrying socket contacts shall not be opened by the insertion of any corresponding SINGLE pin of the plug into any current-carrying socket aperture.</p>	Not such equipment.	N/A
21	Wall switched socketoutlet (2 x single socketoutlet)	Single socket-outlet with 2-gang faceplate/frame must be fulfilled with the test requirements as 2-gang socket-outlet.		N/A
22	Remote controlled portable/wall portable socket-outlet	Remote controlled portable/wall socket-outlet shall not be allowed for registration.		N/A

Applicable to roaster				
23	Roaster	A metal ring (Appendix U) must be provided to prevent the roaster from falling off in case the glass bowl shattered.	Not such equipment.	N/A
Applicable to gas appliances				
24	Test pressure of town gas for gas appliances	All gas appliances must be tested to 20 mbar for town gas.	Not such equipment.	N/A
25	Specifications of LPG and Town Gas	All gas appliances must be tested to the specifications stated on Appendix X.		N/A
26	Gas appliances tested to EN 30-1-1: 1998	Testing to sub-clause 6.1.6 (Temperature of the LPG cylinder and its compartment) and sub-clause 6.2.1 (Ignition, cross-lighting and flame stability) must be carried out.		N/A
27	Flame failure device (FFD) incorporated in gas appliances	a) Test report showing that the FFD complied with EN 126: 1995 or EN 125: 1991 for gas appliance tested to EN 30-1-1 or AG 204: 1984 for gas appliance tested to AG 101 at component level must be provided. b) Testing to sub-clause 6.1.3 of EN 30-1-1 or sub-clause 3.6.13 of AG 101 at set level must be carried out.		N/A
28	Distance between burner and injector	The distance (Appendix R) between bottom of burner ring and tip of the injector must not be too far apart such that the flame may be heating part of the burner instead of the cooking appliance.		N/A
29	Gas oven	It is compulsory for all gas ovens to be fitted with flame failure device.		N/A
30	Glass viewing door for gas hob and gas oven	Test report showing that the glass of the viewing door complied with BS 3193: 1993 (Specification for Thermally Toughened Glass Panels for use in domestic appliances) must be provided.		N/A
31	Toughened glass gas hob	a) A brochure, entitled "Toughened Glass – A Shattering Experience?" must be included for each toughened glass gas hob put up for sale. (Order for the brochure can be placed with the Safety Authority) b) Additional testing and compliance with sub-clauses 2.1.14, 2.1.15, 2.1.17, 2.10.15, 2.11.2.2 & 5.7.5 of AG 101 are required for toughened glass gas hob tested to EN 30-1-1: 1998.		N/A

32	Gasket for elbow joint of gas cooker	Installation instruction must mention about the fixing of gasket for the elbow joint, if applicable. (Appendix S)		N/A
33	Glass-ceramic gas hob (simulated gas explosion test)	The gas hob must be subject to 'simulated gas explosion' test. The hob is filled with an explosive mixture of gas and detonated with a source of ignition.		N/A
Applicable to Residual Current Circuit Breaker (RCCB)				
34	RCCB	Registration of RCCB is limited to 30 mA sensitivity and the operating time must be less than 0.1 second. Electronic RCCB will not be accepted for registration.		N/A
Applicable to electric instantaneous and storage water heater				
35	Instantaneous electric water heater and mains pressure electric storage water heater	Heating elements used must not be of the "bare-element" type.		N/A
36	Water heater incorporated with residual current device(RCD)	Testing to sub-clauses 9.9.2.1, 9.9.2.2, 9.9.2.3 and 9.16 of SS 97: Part 1: 2000 are required.		N/A
Applicable to multiway adaptor				
37	Multiway adaptor with 3-pin socket-outlets or combination of 3-pin and 2-pin socketoutlets	<p>a) The socket contacts of the adaptor shall only accept 13A 3-pin mains plug complying with SS 145 and/or 2.5A 2-pin mains plug complying with EN 50075.</p> <p>b) The shutters screening the current-carrying socket contacts shall not be opened by the insertion of any corresponding SINGLE pin of the plug into any current-carrying socket aperture.</p> <p>c) A barrier or other acceptable means shall be provided on the engagement surface of the 2.5A 2-pin socket-outlet of the adaptor to PREVENT entry of any types of 2-pin mains plugs except those complying with EN 50075. (note: shutters cannot be regarded as barriers)</p> <p>d) Adaptor incorporates with switch would require additional test to sub-clauses 13.11, 17.1.3 and 18.1.3 of SS 145: Part 2: 1997.</p>		N/A
Applicable to plasma/LCD display monitor				

38	Plasma/LCD display monitor with TV tuner	Plasma/LCD display monitor tested to IEC 60950 would require additional test to clauses 9 (related to antenna only), 10.1, 10.2, 10.3 and 12.5 of IEC 60065.	No such equipment.	N/A
Applicable to table lamp / standing lamp				
39	Child appealing table lamp/standing lamp	Child appealing table/standing lamp will not be allowed for registration unless it is powered by an AC Adaptor. Only the AC Adaptor would need registration.	No such equipment.	N/A
Applicable to hot/warm & cold water dispenser				
40	Hot/warm & cold water dispenser	Hot/warm water dispenser shall be tested IEC 60335-2-21. Testing to IEC 60335-2-24 shall be required if the water dispenser is incorporated with compressor for dispensing cold water.	No such equipment.	N/A

**ATTACHMENT TO TEST REPORT IEC 60950-1
Ukraine DIFFERENCES**

Differences according to: DSTU 4113-2001			
IEC Standard: 60950(ed.3)			
Last Modification: Date (2007-05-29)			
Clause	Requirement + Test	Result - Remark	Verdict
1.4.5	In Ukraine the NOMINAL VOLTAGE is 220 V for monophase or 380 V for three-phase supply.	Considered.	P
1.5.8	In Ukraine the components connected between phase and earthing or between phase and neutral terminal shall be calculated for the voltage between phases.	Considered.	P
1.7.2	In Ukraine for the APPARATUS of I CLASS the necessity of its obligatory earthing shall be indicated in the manuals.	Class II equipment.	N/A
2.3.3	In Ukraine the method b) is not used.	Considered.	N/A
6.2.2	In Ukraine the both tests in 6.2.2.1 and 6.2.2.2 are applied.	No TNV.	N/A
6.2.2.1	In Ukraine in 6.2.1 a) is used $U_c = 3.5$ kV.	No TNV.	N/A
6.2.2.2	In Ukraine in 6.2.1 a) is used 3.0 kV for telephones and headsets and 2.5 kV for other equipment and in 6.2.1 b) and c) is used 1.5 kV.	No TNV.	N/A
Annex N	In Ukraine in 6.2.1 a) is used 3.0 kV for telephones and headsets and 2.5 kV for other equipment, and in 6.2.1 b) and c) is used 1.5 kV.	No TNV.	N/A