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TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Reference No.	187376
Date of issue	September 10, 2011
Total number of pages	58, refer to page 6 for List of attachments
CB/CCA Testing Laboratory Name :	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
Factory's name	Refer to page 6
Address	Refer to page 6
Test specification:	
Standard	IEC 60950-1:2005 (2 nd Edition)
Test procedure	CB
Non-standard test method	N/A
Test Report Form No.	IEC60950_1A
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2009-09
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Test item description	Power supply for business machine
Trade Mark	GlobTek
Manufacturer	GlobTek, Inc.
Model/Type reference	GT-41132-WWVV-X.X-T2 (Refer to page 8 for the model designation)
Ratings	Input: 1.5A, 100-240Vac, 50-60Hz output: 5-1.25A, 12-48Vdc. Max 60W for output voltage (12-19V, 24-48V, excluded 19V and 24V), Max 65W for output voltage (19-24V, included 19V and 24V)

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Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB/CCA Testing Laboratory: Testing location/ address :	Nemko Shanghai Ltd 7 th 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 (+ signature)..... :	Sam-Geun Gwack 
<input type="checkbox"/> Testing procedure: TMP Tested by (name + signature)..... : Approved by (+ signature)..... : Testing location/ address :	
<input type="checkbox"/> Testing procedure: WMT Tested by (name + signature)..... : Witnessed by (+ signature) : Approved by (+ signature)..... : Testing location/ address :	
<input type="checkbox"/> Testing procedure: SMT Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address :	
<input type="checkbox"/> Testing procedure: RMT Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address :	



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Summary of testing:	
Radio and television interference Suppression 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.	Must be considered when entering applicable countries.
1.5, 3.2.5 Power supply cord	The cord set was not evaluated. The cord set shall be suitable to the authorities in the country where the equipment is to be sold.
1.7.2.1 Language of safety markings/ instructions.	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.
1.7.2.4 The equipment is intended and tested for installation to IT power system (Norway)	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"
2.5 Limited power sources	Only models with output voltage between 19V and 48V evaluated for compliance with Limit Power Source.
2.7.4 Number and location of protective devices	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.
2.7.6 Warning to service persons.	After operation of the protective device, the equipment is still under voltage if it is connected to an IT power system. A warning is required for service personnel. Norway does not require this warning.



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Tests performed (name of test and test clause):	Testing location:
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 4.7; Resistance to fire 5.1; Touch current 5.2; Electric strength 5.3; Abnormal operation and fault conditions Annex C	Refer to page 2.



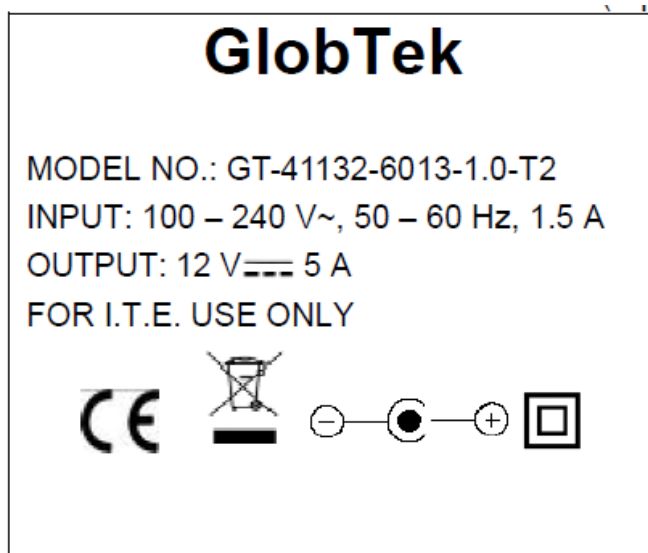
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Summary of compliance with National Differences:		
All CENELEC members as listed in EN 60950-1:2006 +A11:2009		
All CB members as listed in the IECEE Online Bulletin.		
Israel: Test results according to SI 60950:2000.		
Singapore: Consumer Protection Information Booklet, 2010 Edition, (Ver. 4).		
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 for IEC 60950-1:2005 (ed.2), IEC 60950-1:2001 (ed.1) and IEC 60950:1999 (ed.3).		
All National differences listed in the CB Bulletin are covered by the Common Modifications, Special National Conditions, National Deviations, and the National Requirements noted above except for the following countries which are documented in National differences Appendixes attached to this report.		
List from IEC 60950 (ed.3):	List from IEC 60950-1 (ed.1):	List from IEC 60950-1 (ed.2):
Countries listed in the IECEE Online CB Bulletin as follows: Argentina (AR), Austria (AT), Australia (AU) (including New Zealand (NZ)), Belgium (BE), Brazil (BR), Canada (CA), Switzerland (CH), China (CN), Czech Republic (CZ), Germany (DE), Denmark (DK), Spain (ES), Finland (FI), France (FR), United Kingdom (GB), Hungary (HU), Ireland (IE), Israel (IL), India (IN), Italy (IT), Japan (JP), Kenya (KE), Korea (KR), Malaysia (MY), The Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Russia (RU), Sweden (SE), Singapore (SG), Slovenia (SI), Slovakia (SK), Turkey (TR), Ukraine (UA), United States (US), South Africa (ZA).	Countries listed in the IECEE Online CB Bulletin as follows: Argentina (AR), Austria (AT), Australia (AU), Belgium (BE), Canada (CA), Switzerland (CH), China (CN), Germany (DE), Denmark (DK), Finland (FI), France (FR), United Kingdom (GB), Greece (GR), Hungary (HU), Israel (IL), India (IN), Italy (IT), Japan (JP), Kenya (KE), Korea (KR), Malaysia (MY), Netherlands (NL), Norway (NO), Poland (PL), Sweden (SE), Singapore (SG), Slovenia (SI), Slovakia (SK), United States (US). Australia (including New Zealand): National Differences to published IEC Documents. Japan: National Differences to published IEC Documents.	Countries listed in the IECEE Online CB Bulletin as follows: Austria (AT), Switzerland (CH), Germany (DE), Denmark (DK), Spain (ES), Finland (FI), France (FR), United Kingdom (GB), Ireland (IE), Italy (IT), Japan (JP), Korea (KR), Netherlands (NL), Norway (NO), Poland (PL), Sweden (SE), Slovenia (SI). Canada: National Differences to published IEC Documents. Korea: National Differences to published IEC Documents. United States: National Differences to published IEC Documents.
China: National Differences to published IEC Documents.		
Ukraine: National Differences to published IEC Documents.		



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Copy of marking plate:



Representative of all models

(The above label is a draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.)

Name and address of production-sites (Factories):

GlobTek (Suzhou) Co., Ltd
Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

GlobTek, Inc.
186 Veterans Dr. Northvale, NJ 07647 USA

List of attachments:

Attachment 1: Photos (3 pages)
Attachment 2: PCB layout (1 page)
Attachment 3: Transformer (2 pages)
Attachment 4: European Group Differences and National Differences EN 60950-1:2006 + A11:2009 (12 pages).
Attachment 5: National Differences
Australia (8 pages), Canada (6 pages), China (1 page), Israel (1 page), Japan (12 pages), Korea (1 page), Singapore (2 pages), Ukraine (1 page), USA (7 pages).



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Test item particulars	
Equipment mobility	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition	<input checked="" type="checkbox"/> continuous: <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	-10% and +10%
Tested for IT power systems	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V)	230V
Class of equipment	Class II
Considered current rating (A)	16A (20A for US and Canada)
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	Minimum IP 20 (not evaluated for ingress of water)
Altitude during operation (m)	<2000m
Altitude of test laboratory (m)	<2000m
Mass of equipment (kg)	235g
	Dimension: 31.5mm by 117.8mm by 50.2mm



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<p>Possible test case verdicts:</p> <p>- test case does not apply to the test object: N/A</p> <p>- test object does meet the requirement: P (Pass)</p> <p>- test object does not meet the requirement: F (Fail)</p>																
<p>Testing</p> <p>Date of receipt of test item: September 2011</p> <p>Date(s) of performance of tests: September 2011</p>																
<p>General remarks:</p> <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>Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.</p> <p>Throughout this report a point is used as the decimal separator.</p>																
<p>General product information:</p> <p>The equipment under test is a class II switching 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 ultrasonic welding without screw.</p> <p>Explanation of model designation GT-41132-WWVV-X.X-T2: "WW" denotes the watt. When output voltage is between 12-19Vdc or 24-48Vdc (excluding 19Vdc and 24Vdc), "WW" can be max. 60W; When output voltage is between 19-24Vdc (including 19Vdc and 24Vdc), "WW" can be max. 65W. "VV" denotes the output voltage, which can be 12-48Vdc. "X.X" denotes the optional deviation, subtracted from standard output voltage "VV" in 0.1 volt increments or blank to indicate the no voltage different;</p> <p>All models are identical except minor differences in transformer secondary winding and secondary circuit.</p> <p>The models GT-41132-6013-1.0-T2, GT-41132-6526-7.0-T2 and GT-41132-6048-T2 represent the worst case because the models have highest V, A and VA.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: left;">Model designation</th> <th style="text-align: left;">Output voltage (DC)</th> <th style="text-align: left;">Output current (A)</th> <th style="text-align: left;">Max output power (W)</th> </tr> </thead> <tbody> <tr> <td>GT-41132-6013-1.0-T2</td> <td>12</td> <td>5</td> <td>60</td> </tr> <tr> <td>GT-41132-6526-7.0-T2</td> <td>19</td> <td>3.42</td> <td>65</td> </tr> <tr> <td>GT-41132-6048-T2</td> <td>48</td> <td>1.25</td> <td>60</td> </tr> </tbody> </table> <p>Unless otherwise specified, all tests were conducted under worst case.</p> <p>Normal load: loaded to rated output.</p> <p>Circuit characteristics: The equipment contains primary circuit and SELV circuit in secondary.</p> <p>Maximum recommended ambient (Tma): 40°C.</p>	Model designation	Output voltage (DC)	Output current (A)	Max output power (W)	GT-41132-6013-1.0-T2	12	5	60	GT-41132-6526-7.0-T2	19	3.42	65	GT-41132-6048-T2	48	1.25	60
Model designation	Output voltage (DC)	Output current (A)	Max output power (W)													
GT-41132-6013-1.0-T2	12	5	60													
GT-41132-6526-7.0-T2	19	3.42	65													
GT-41132-6048-T2	48	1.25	60													



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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).



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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(See appended table 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 and Y1 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	Bleed 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 such components 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		N/A
1.5.8	Components in equipment for IT power systems	Class II equipment.	N/A



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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9	Surge suppressors	Certified VDR connected between line and neutral, ref. appended table 1.5.1 and Annex Q.	P
1.5.9.1	General	Refer to 1.5.9.	P
1.5.9.2	Protection of VDRs	Mains fuse used as protection of varistor which is located after mains fuse.	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		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		P
1.6.1	AC power distribution systems	TN, 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	Class II equipment.	N/A
1.7	Marking and instructions		P
1.7.1	Power rating	The required marking is located in an operator access area.	P
	Rated voltage(s) or voltage range(s) (V)	100-240Vac	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)	1.5A	P
	Manufacturer's name or trade-mark or identification mark	GlobTek	P
	Model identification or type reference	GT-41132-WWVV-X.X-T2	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



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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2	Safety instructions and marking	Refer below:	P
1.7.2.1	General	Considered.	P
1.7.2.2	Disconnect devices	The equipment is provided with an appliance coupler.	P
1.7.2.3	Overcurrent protective device	Pluggable equipment type A	N/A
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".	P
1.7.2.5	Operator access with a tool	No tool used for access to operator access area.	N/A
1.7.2.6	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: FS1, T3.15A 250V	P
1.7.7	Wiring terminals	Refer below:	P
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	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	The equipment is not for connection to a 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 control.	N/A
1.7.8.2	Colours	No indicators with colour where safety is involved.	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



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Clause	Requirement + Test	Result - Remark	Verdict
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.	N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts	No marking is placed on removable parts.	N/A
1.7.13	Replaceable batteries	No replaceable batteries.	N/A
	Language(s)		—
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	Complies.	P
	Test with test finger (Figure 2A)	Complies.	P
	Test with test pin (Figure 2B)	Complies.	P
	Test with test probe (Figure 2C)	No TNV 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 internal wiring at ELV.	N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		—



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Clause	Requirement + Test	Result - Remark	Verdict
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).....	Time-constant: Max. 548ms. X-Cap (CX1): 0.33µF Discharge resistors (RS1, RS2): each=1MΩ.	—
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	Checked by inspection, unintentional contact is unlikely during service operations.	P
2.1.3	Protection in restricted access locations	Equipment not intended for installation in RAL.	N/A
2.2	SELV circuits		P
2.2.1	General requirements	SELV limits are not exceeded under normal condition and after a single fault.	P
2.2.2	Voltages under normal conditions (V)	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



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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	a) Inherently limited output	Models with output voltage between 19V and 48V (including 19V and 48V) evaluated for compliance with Limit Power Source. (see appended table 2.5)	P
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	Considered.	P
	d) Overcurrent protective device limited output		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Max. output voltage (V), max. output current (A), max. apparent power (VA)	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) ∴		—
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
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



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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		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
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (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 48 h.	P
	Relative humidity (%), temperature (°C)	95%, 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	Refer below:	P
	Method(s) used	Method 1 used.	—
2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	Refer below:	P
2.10.1.1	Frequency	Considered.	P
2.10.1.2	Pollution degrees	Circuits operating in an environment judged to be Pollution Degree 2.	P
2.10.1.3	Reduced values for functional insulation	Refer to 5.3.4	N/A
2.10.1.4	Intervening unconnected conductive parts	Considered.	P
2.10.1.5	Insulation with varying dimensions	No such transformer used.	N/A
2.10.1.6	Special separation requirements	Not used.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No insulation in circuit generating starting pulses.	N/A
2.10.2	Determination of working voltage	See appended table 2.10.2.	P
2.10.2.1	General	Considered.	P



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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.2	RMS working voltage	See appended table 2.10.2.	P
2.10.2.3	Peak working voltage	See appended table 2.10.2.	P
2.10.3	Clearances	See appended table 2.10.3 and 2.10.4.	P
2.10.3.1	General	Refer below:	P
2.10.3.2	Mains transient voltages	Refer below:	P
	a) AC mains supply	2500V peak worst-case.	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	See appended table 2.10.3 and 2.10.4.	P
2.10.3.4	Clearances in secondary circuits	Only functional insulation in secondary circuit.	N/A
2.10.3.5	Clearances in circuits having starting pulses	The circuit will not generate starting pulses.	N/A
2.10.3.6	Transients from a.c. mains supply	Considered.	P
2.10.3.7	Transients from d.c. mains supply	Not connected to DC 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	—
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



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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.2	Distances through insulation	See appended table 2.10.5.	P
2.10.5.3	Insulating compound as solid insulation	For optocouplers, see appended table 1.5.1.	P
2.10.5.4	Semiconductor devices	No semiconductor devices.	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, tested with 1 layer.	—
2.10.5.8	Non-separable thin sheet material	Not used.	N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		P
	Electric strength test	(See appended table 5.2)	—
2.10.5.11	Insulation in wound components	Not used.	N/A
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		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No additional insulation used.	N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 parts.	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		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	For optocouplers, see appended table 1.5.1.	P
2.10.11	Tests for semiconductor devices and cemented joints	No such device used.	N/A
2.10.12	Enclosed and sealed parts	For optocouplers, see appended table 1.5.1.	P
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	P



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Clause	Requirement + Test	Result - Remark	Verdict
3.1.2	Protection against mechanical damage	Wireways are smooth and free from edges. Wires are adequately fixed to prevent excessive strain on wire and terminals and avoiding damage to the insulation of the conductors.	P
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation.	P
3.1.4	Insulation of conductors	Insulation on internal conductors is considered to be of adequate quality and suitable for the application and the working voltage involved. Also, see appended table 5.2.	P
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.	P
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections.	N/A
3.1.9	Termination of conductors	Terminations cannot become displaced so that clearances and creepage distances can be reduced.	P
	10 N pull test	Considered.	P
3.1.10	Sleeving on wiring	Sleeving is not used as supplementary insulation.	N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection	Refer below:	P
3.2.1.1	Connection to an a.c. mains supply	The equipment is provided with an appliance inlet.	P
3.2.1.2	Connection to a d.c. mains supply	The equipment is not for connection to a d.c. mains supply.	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
3.2.2	Multiple supply connections	Only one supply connection.	N/A
3.2.3	Permanently connected equipment	Not permanently connected equipment.	N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320-1 and is properly placed to avoid hazards after insertion of the appliance coupler.	P
3.2.5	Power supply cords	Refer below:	N/A
3.2.5.1	AC power supply cords	The power cord is not provided with equipment, refer to Summary of testing.	N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords	The equipment is not for connection to a d.c. mains supply.	N/A
3.2.6	Cord anchorages and strain relief	Equipment provided with an appliance inlet.	N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage	No sharp points or cutting edges on the equipment surfaces.	P
3.2.8	Cord guards	The equipment is neither handheld nor intended to be moved during operation.	N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space	Equipment provided with an appliance inlet.	N/A
3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Equipment provided with an appliance inlet.	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		P
3.4.1	General requirement	The equipment is provided with an appliance inlet.	P
3.4.2	Disconnect devices	The equipment is provided with an appliance inlet.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	No parts remain energized after the disconnect device is disconnected.	N/A
3.4.5	Switches in flexible cords	No switch in flexible cord.	P
3.4.6	Number of poles – single-phase and d.c. equipment	The disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles – three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices	No switch.	N/A
3.4.9	Plugs as disconnect devices	The appliance coupler is regarded as disconnect device, no warning is required.	N/A
3.4.10	Interconnected equipment	No interconnections using hazardous voltages.	N/A
3.4.11	Multiple power sources	One power source only.	N/A
3.5	Interconnection of equipment		P



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Clause	Requirement + Test	Result - Remark	Verdict
3.5.1	General requirements	Considered.	P
3.5.2	Types of interconnection circuits	SELV circuit.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A
3.5.4	Data ports for additional equipment	No data port.	N/A
4	PHYSICAL REQUIREMENTS		N/A
4.1	Stability		N/A
	Angle of 10°	< 7kg	N/A
	Test force (N)	The unit is not floor-standing.	N/A
4.2	Mechanical strength		P
4.2.1	General	Complies with the requirement also after tests described below are applied.	P
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.	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 swing test.	P
4.2.6	Drop test; height (mm)	Not hand-held equipment, drop test not applicable.	N/A
4.2.7	Stress relief test	Test is carried out at 101°C / 7h. No risk of shrinkage or distortion on enclosures due to release of internal stresses.	P
4.2.8	Cathode ray tubes	CRT(s) not used in the equipment.	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamps in the equipment.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not intended to be mounted on a wall or ceiling.	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
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 controls.	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur.	P
4.3.5	Connection by plugs and sockets	SELV connectors do not 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 generate ionizing radiation or use a laser, and does not contain flammable liquids or gases.	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	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	See below:	N/A
4.3.13.1	General	See below:	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.2	Ionizing radiation	The equipment does not generate ionizing radiation.	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not produce UV radiation.	N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	The equipment does not produce UV radiation.	N/A
4.3.13.5	Laser (including LEDs)	No lasers or LED.	N/A
	Laser class		—
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	No moving parts.	N/A
4.4.3	Protection in restricted access locations	Not intended for installation in RAL.	N/A
4.4.4	Protection in service access areas	No moving parts.	N/A
4.5	Thermal requirements		P
4.5.1	General	Considered.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L	Rated load with continuous operation.	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat		N/A
4.6	Openings in enclosures		P



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Clause	Requirement + Test	Result - Remark	Verdict
4.6.1	Top and side openings	No opening.	P
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	No opening.	P
	Construction of the bottom, dimensions (mm)		—
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	Not transportable equipment.	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes	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 1.5.1)	P
	Method 2, application of all of simulated fault condition tests	Not used.	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
4.7.3	Materials		P
4.7.3.1	General	Components and materials have adequate flammability classification. See appended table 1.5.1.	P
4.7.3.2	Materials for fire enclosures	The fire enclosure is of flame class V-1 material.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No components and other parts outside fire enclosure.	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.4	Materials for components and other parts inside fire enclosures	Other materials inside fire enclosure are minimum V-2 material.	P
4.7.3.5	Materials for air filter assemblies	No air filters in the equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N/A
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	Test conducted in accordance with 5.1.2 to 5.1.7.	P
5.1.2	Configuration of equipment under test (EUT)	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)	—
	Measured protective conductor current (mA)	Refer to touch current.	—
	Max. allowed protective conductor current (mA)....	Refer to touch current.	—
5.1.7	Equipment with touch current exceeding 3,5 mA	Not equipment with touch current exceeding 3.5 mA.	N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	No TNV circuitry.	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	No TNV circuitry.	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 Annex C and appended table C.2.	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 such device.	N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment	Equipment not intended for unattended use.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	Refer below:	P



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Clause	Requirement + Test	Result - Remark	Verdict
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests	No reduction of clearance and creepage distances. Electric strength test is made on basic, supplementary and reinforced insulation.	P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No TNV circuits in the equipment.	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 circuits in the equipment.	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 circuits in the equipment.	—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	Not connected to cable distribution systems.	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
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



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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)		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)		—



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Clause	Requirement + Test	Result - Remark	Verdict
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	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



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Clause	Requirement + Test	Result - Remark	Verdict
	Operating voltage (V)		—
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.....	Inherent protection.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	The insulation fulfils the requirements in 2.10 and relevant test for 5.2.2. (see appended table 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	Not used.	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



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Clause	Requirement + Test	Result - Remark	Verdict
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity	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



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Clause	Requirement + Test	Result - Remark	Verdict
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	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	No TNV.	N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories	Certified VDR used. (see appended table 1.5.1)	P



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Clause	Requirement + Test	Result - Remark	Verdict
	b) Maximum continuous voltage	Certified VDR used. (see appended table 1.5.1)	P
	c) Pulse current	Certified VDR used. (see appended table 1.5.1)	P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)	Annex R not used.	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	Annex S not used.	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)		P
		The TIW of T1 was certified by UL.	—
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



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Clause	Requirement + Test	Result - Remark	Verdict
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
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)		N/A
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—



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1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition)	Mark(s) of conformity ¹⁾
Enclosure	SABIC	SE1X	Min 2.0mm thick, flame class V-1	UL 94	UL
Appliance inlet	TECX	SO-222 Series	2.5A, 250V	IEC 60320 UL 498	VDE, UL
Alternative	Sun fair	S-01	2.5A, 250V	IEC 60320	VDE
Alternative	Supercom	SC-12S	2.5A, 250V	IEC 60320	VDE
Alternative	Rich Bay	R-201SN90	2.5A, 250V	IEC 60320	VDE
PCB material	Various	Various	Min. flame class V-1 or better, min. 105°C materials	UL 94	UL
Fuse (FS1)	Walter	ICP	T3.15AL, 250V	IEC 60127 UL 248	VDE, UL
Thermistor (THR1) (optional)	Various	Various	Max 2.5 A, 5Ω at 25°C	IEC 60950-1	Test in equipment
Varistor, after fuse (MOV1) (optional)	Joyin	10N471K	300Vac, 40/85/56	IEC 61051-2 2) UL 1449	VDE UL
Alternative	Centra	CNRV- 10D471K	300Vac, 40/85/56	IEC 61051-2 UL 1449 3)	VDE UL
Alternative	Thinking Electronic	TVR10471K	300Vac, 40/85/56	IEC 61051-2 2) UL 1449	VDE UL
Alternative	Success Electronics Co Ltd	SVR-10D471K	300Vac, 40/85/56	IEC 61051-2 UL 1449 3)	VDE UL
Line choke (LF1) No bobbin		NF00025	130°C	IEC 60950-1	Test in equipment
X cap (CX1)	Cheng Tung	CTX	Max 0.33μF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Ultra Tech	HQX	Max 0.33μF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Dain	MPX, NPX	Max 0.33μF, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL



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Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition)	Mark(s) of conformity ¹⁾
Alternative	Winday	MPX	Max 0.33 μ F, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Tenta	MEX	Max 0.33 μ F, Min 250Vac Min 100°C (Min X2)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Line choke (LF2) No bobbin		NF00031	130°C	IEC 60950-1	Test in equipment
Bulk Capacitor (C1)	Various	Various	Max 47 μ F Min 400V 105°C	IEC 60950-1	Test in equipment
Bleed resistor, after fuse (RS1, RS2)	Various	Various	1M Ω , 1/4W	IEC 60950-1	Test in equipment
Bridge diode (BD1)	Various	Various	Min 4A, 600V	IEC 60950-1	Test in equipment
Bridging cap (CY1)	Success	SE	Max 2200pF Min 250Vac Min 85°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	TDK	CD	Max 2200pF Min 250Vac 125°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Walsin	AH	Max 2200pF Min 250Vac 125°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Alternative	Pan overseas	AH	Max 2200pF Min 250Vac Min 85°C (Y1)	IEC 60384-14 2nd edition UL 1414	VDE, UL
Optocoupler (U1)	Sharp	PC817	See appendix opto elec. Min 100°C	IEC 60950-1	VDE
Alternative	Liteon	LTV-817	See appendix opto elec. Min 100°C	IEC 60950-1	VDE
Alternative	Everlight	EL817	See appendix opto elec. Min 100°C	IEC 60950-1	VDE



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Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition)	Mark(s) of conformity ¹⁾
Transformer (T1, for models with output voltage less than 19V) 4)		XF00530	Class B	IEC 60950-1	Test in equipment
TIW Bobbin	Great Leoflon Sumitomo	TRW (B) PM-9820	130°C Phenolic, 150°C, V-0	UL 2353 UL 94	UL UL
Insulation tape wrapped around transformer	3M Bondtec Pacific	1350F-1 1350T-1 370S	130°C 130°C 130°C	UL 510 UL 510 UL 510	UL UL UL
Transformer (T1, for models with output voltage between 19V and 24V, including 19V and 24V) 4)		XF00542	Class B	IEC 60950-1	Test in equipment
TIW Bobbin	Great Leoflon Sumitomo	TRW (B) PM-9820	130°C Phenolic, 150°C, V-0	UL 2353 UL 94	UL UL
Insulation tape wrapped around transformer	3M Bondtec Pacific	1350F-1 1350T-1 370S	130°C 130°C 130°C	UL 510 UL 510 UL 510	UL UL UL
Transformer (T1, for models with output voltage more than 24V) 4)		XF00543	Class B	IEC 60950-1	Test in equipment
TIW Bobbin	Great Leoflon Sumitomo	TRW (B) PM-9820	130°C Phenolic, 150°C, V-0	UL 2353 UL 94	UL UL
Insulation tape wrapped around transformer	3M Bondtec Pacific	1350F-1 1350T-1 370S	130°C 130°C 130°C	UL 510 UL 510 UL 510	UL UL UL
supplementary information:					
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance. 2) Varistor was tested additionally with IEC 60950-1:2005 (Annex Q) during the approval to IEC 61051-2. 3) Varistor is for SPD Type 3 SPD application. 4) All types of T1 have identical construction, differ only in secondary windings.					



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1.5.1	TABLE: Opto Electronic Devices	P
<p>Manufacturer : Sharp / Liteon / Everlight</p> <p>Type..... : PC817 / LTV-817 / EL817</p> <p>Separately tested : VDE</p> <p>Bridging insulation..... : Reinforced insulation</p> <p>External creepage distance..... : 8mm / 7.8mm / 8.3mm</p> <p>Internal creepage distance..... : 4.8mm / 5.2mm # / 4.0mm</p> <p>Distance through insulation..... : >0.4mm / 0.8mm / 0.6mm</p> <p>Tested under the following conditions..... : Reinforced insulation</p> <p>Input..... :</p> <p>Output..... :</p>		
Supplementary information:		
#) Enclosure of the component withstands electric strength test of 1500 V / 1 minute and it fulfils the requirement of basic insulation.		



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1.6.2		TABLE: electrical data (in normal conditions)					P
fuse #	Irated (A)	U (V) / F (Hz)	P (W)	I (A)	Ifuse (A)	condition/status	
GT-41132-6013-1.0-T2							
FS1	—	90V 50Hz	70.0	1.32	1.32	See General Product Information.	
FS1	—	90V 60Hz	69.8	1.26	1.26		
FS1	1.5	100V 50Hz	69.4	1.18	1.18		
FS1	1.5	100V 60Hz	69.3	1.13	1.13		
FS1	1.5	240V 50Hz	68.8	0.55	0.55		
FS1	1.5	240V 60Hz	68.4	0.54	0.54		
FS1	—	264V 50Hz	68.7	0.50	0.50		
FS1	—	264V 60Hz	68.7	0.49	0.49		
GT-41132-6526-7.0-T2							
FS1	—	90V 50Hz	74.4	1.38	1.38	See General Product Information.	
FS1	—	90V 60Hz	74.4	1.41	1.41		
FS1	1.5	100V 50Hz	73.9	1.27	1.27		
FS1	1.5	100V 60Hz	73.9	1.29	1.29		
FS1	1.5	240V 50Hz	72.6	0.67	0.67		
FS1	1.5	240V 60Hz	72.5	0.65	0.65		
FS1	—	264V 50Hz	73.1	0.62	0.62		
FS1	—	264V 60Hz	73.3	0.61	0.61		
GT-41132-6048-T2							
FS1	—	90V 50Hz	65.0	1.23	1.23	See General Product Information.	
FS1	—	90V 60Hz	66.5	1.22	1.22		
FS1	1.5	100V 50Hz	66.4	1.14	1.14		
FS1	1.5	100V 60Hz	66.5	1.10	1.10		
FS1	1.5	240V 50Hz	65.6	0.53	0.53		
FS1	1.5	240V 60Hz	65.8	0.52	0.52		
FS1	—	264V 50Hz	66.1	0.48	0.48		
FS1	—	264V 60Hz	66.0	0.47	0.47		
Supplementary information:							



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2.1.1.5 c1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
GT-41132-6013-1.0-T2					
12	5	12.2	8.7	92.0	
GT-41132-6526-7.0-T2					
19	3.42	19.1	4.7	86.6	
GT-41132-6048-T2					
48	1.25	48.6	1.8	82.8	
Supplementary information:					
The above measurements are the maximum values (max. V and max. A not obtained at the same time).					

2.1.1.5 c2)	TABLE: stored energy		N/A
Capacitance C (μF)	Voltage U (V)	Energy E (J)	
Supplementary information:			



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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.	
GT-41132-6013-1.0-T2				
T1 pin CT1-CT2		37.6		
GT-41132-6526-7.0-T2				
T1 pin CT1-CT2		66.0		
T1 pin CT1-CT2 after D4			19.1	D4
GT-41132-6048-T2				
T1 pin CT1-CT2		122.0		
T1 pin CT1-CT2 after D4			53.0	D4
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
GT-41132-6526-7.0-T2				
T1 pin CT1-CT2 after D4		0		
GT-41132-6048-T2				
T1 pin CT1-CT2 after D4		0		
Supplementary information:				
s-c: short circuit				

2.4	TABLE: Limited current circuits				P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	
CY1	24.6	12.3	63.3	44.3	
supplementary information:					



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2.5	TABLE: limited power sources				P
		I_{sc} (A)		VA	
		Meas.	Limit	Meas.	Limit
GT-41132-6526-7.0-T2					
Output (Uoc = 19.1V)		4.7	8.0	86.6	100
Output (U2 pin1-2, s-c) 1)		0	8.0	0	100
Output (U2 pin1-3, s-c)		0.1	8.0	1.0	100
Output (U2 pin2-3, s-c)		0.1	8.0	1.0	100
GT-41132-6048-T2					
Output (Uoc = 19.1V)		1.8	8.0	82.8	100
Output (U2 pin1-2, s-c) 1)		0	8.0	0	100
Output (U2 pin1-3, s-c)		0.1	8.0	1.0	100
Output (U2 pin2-3, s-c)		0.1	8.0	1.0	100
Supplementary information:					
1) Unit shut down					
Models with output voltage between 19V and 48V evaluted for compliance with Limit Power Source.					

2.10.2	Table: working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
GT-41132-6013-1.0-T2				
T1 pin1-CT1	220	380		
T1 pin1-CT2	218	368		
T1 pin2-CT1	216	376		
T1 pin2-CT2	219	412		
T1 pin4-CT1	216	400		
T1 pin4-CT2	215	364		
T1 pin5-CT1	272	574		
T1 pin5-CT2	286	592		
U1 pin1-3	227	382		
U1 pin1-4	227	382		
U1 pin2-3	225	375		
U1 pin2-4	224	375		
CY1	286	592		
GT-41132-6526-7.0-T2				
T1 pin1-CT1	220	388		
T1 pin1-CT2	213	364		



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Location	RMS voltage (V)	Peak voltage (V)	Comments
T1 pin2-CT1	216	368	
T1 pin2-CT2	212	412	
T1 pin4-CT1	212	415	
T1 pin4-CT2	210	360	
T1 pin5-CT1	264	560	
T1 pin5-CT2	284	580	
U1 pin1-3	230	386	
U1 pin1-4	228	384	
U1 pin2-3	228	382	
U1 pin2-4	220	382	
CY1	284	580	
GT-41132-6048-T2			
T1 pin1-CT1	238	435	
T1 pin1-CT2	227	374	
T1 pin2-CT1	230	408	
T1 pin2-CT2	225	425	
T1 pin4-CT1	229	497	
T1 pin4-CT2	218	366	
T1 pin5-CT1	260	522	
T1 pin5-CT2	298	585	
U1 pin1-3	246	400	
U1 pin1-4	245	400	
U1 pin2-3	245	396	
U1 pin2-4	242	400	
CY1	298	585	
Supplementary information:			



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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: L – N before fuse	340	240	1.5	2.8	2.5	2.8
Functional: Fuse pin1-2	340	240	1.5	2.8	2.5	2.8
Reinforced: U1 pin1-4	400	246	4.0	7.3	5.0	7.3
Reinforced: CY1 pin1-2	592	298	4.6	7.3	6.0	7.3
Reinforced: T1 pin1 – CS8	592	298	4.6	11.0	6.0	11.0
Reinforced: T1 core – secondary	592	298	4.6	6.0	6.0	7.6
Reinforced: T1 core – HS2	592	298	4.6	4.6	6.0	7.6
Reinforced: HS1 – C4	592	298	4.6	4.6	6.0	7.6
Supplementary information:						
All models have the same PCB layout.						
One layer of insulation tape wrapped around the bottom part of T1 core.						
Glue added on secondary components C3 and C4.						

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	592	298	4242V DC	0.4	2.0
Supplementary information:					



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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 (1.7.12, 1.7.15)	
Location of replaceable battery	
Close to the battery	
In the servicing instructions	
In the operating instructions	



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



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4.5	TABLE: Thermal requirements						P	
	Supply voltage (V):	90V, 60Hz	264V, 50Hz	90V, 60Hz 1)	264V, 50Hz 1)	—		
	Ambient T _{amb1} (°C)	21.1	19.8	40.0	40.0	—		
	Ambient T _{amb2} (°C)	21.1	19.8	40.0	40.0	—		
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)		
GT-41132-6013-1.0-T2								
AC Inlet		48.7	37.8	67.6	58.0	70		
LF1		90.2	63.9	109.1	84.1	110		
CX1		76.2	60.9	95.1	81.1	100		
LF2		75.8	60.4	94.7	80.6	110		
C1		82.9	70.3	101.8	90.5	105		
T1 coil		82.0	79.1	100.9	99.3	110		
T1 core		78.7	76.5	97.6	96.7	110		
PCB under T1		78.7	77.7	97.6	97.9	105		
U1		72.8	69.7	91.7	89.9	100		
CY1		54.3	53.3	73.2	73.5	85		
Output wire		46.5	47.0	65.4	67.2	--		
Enclosure inside near T1		60.0	58.4	78.9	78.6	--		
Enclosure outside near T1		52.9	47.9	71.8	68.1	95		
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
No 'Rise of Resistance' measurements.								
Supplementary information:								
T _{ma} : 40°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) Maximum allowable temperature limits are based on an ambient of 40.0°C, temperature measurements adjusted to a 40.0°C ambient.								



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4.5	TABLE: Thermal requirements – Continued							P
	Supply voltage (V):		90V, 60Hz	264V, 50Hz			—	
	Ambient T _{amb1} (°C)		40.0	40.0			—	
	Ambient T _{amb2} (°C)		40.0	40.0			—	
Maximum measured temperature T of part/at::			T (°C)				Allowed T _{max} (°C)	
GT-41132-6526-7.0-T2								
AC Inlet			65.5	55.8			70	
LF1			92.6	76.6			110	
CX1			97.0	78.1			100	
LF2			102.9	79.9			110	
C1			102.3	82.9			105	
T1 coil			96.8	86.3			110	
T1 core			92.8	84.3			110	
PCB under T1			93.1	82.3			105	
U1			85.7	79.4			100	
CY1			75.0	68.5			85	
Output wire			65.5	61.9			--	
Enclosure inside near T1			90.1	78.5			--	
Enclosure outside near T1			81.1	71.8			95	
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
No ‘Rise of Resistance’ measurements.								
Supplementary information:								
T _{ma} : 40°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.								



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4.5	TABLE: Thermal requirements – Continued						P	
	Supply voltage (V):	90V, 60Hz	264V, 50Hz	90V, 60Hz 1)	264V, 50Hz 1)	—		
	Ambient T _{amb1} (°C)	20.8	20.2	40.0	40.0	—		
	Ambient T _{amb2} (°C)	20.8	20.2	40.0	40.0	—		
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)		
GT-41132-6048-T2								
AC Inlet		43.1	33.7	62.3	53.5	70		
LF1		73.5	54.3	92.7	74.1	110		
CX1		63.3	51.0	82.5	70.8	100		
LF2		61.4	48.2	80.6	68.0	110		
C1		71.6	58.9	90.8	78.7	105		
T1 coil		72.5	67.0	91.7	86.8	110		
T1 core		71.8	65.9	91.0	85.7	110		
PCB under T1		64.7	61.3	83.9	81.1	105		
U1		62.1	56.6	81.3	76.4	100		
CY1		48.6	44.1	67.8	63.9	85		
Output wire		38.9	35.8	58.1	55.6	--		
Enclosure inside near T1		48.8	44.2	68.0	64.0	--		
Enclosure outside near T1		48.4	44.1	67.6	63.9	95		
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
No 'Rise of Resistance' measurements.								
Supplementary information:								
T _{ma} : 40°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) Maximum allowable temperature limits are based on an ambient of 40.0°C, temperature measurements adjusted to a 40.0°C ambient.								



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4.5.5	TABLE: Ball pressure test of thermoplastic parts			N/A
	Allowed impression diameter (mm): ≤ 2 mm			—
Part			Test temperature (°C)	Impression diameter (mm)
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
Neutral to Output		0.17	0.25	Operation
Line to Output		0.17	0.25	Operation
Neutral to Enclosure (foil)		0.01	0.25	Operation
Line to Enclosure (foil)		0.01	0.25	Operation

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 to Enclosure (foil)			AC	3000	No
Primary to Secondary			AC	3000	No
Insulation tape wrapped around T1 (1 layer)			DC	4242	No
T1 primary to secondary			DC	4242	No
Supplementary information:					



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5.3	TABLE: fault condition tests					P
	ambient temperature (°C)	See table below:				—
	model/type of power supply					—
	manufacturer of power supply					—
	rated markings of power supply					—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
GT-41132-6013-1.0-T2						
BD1 ~ - +	s-c	264	<1s	FS1	1)	Fuse open, no hazard.
C1	s-c	264	<1s	FS1	1)	Fuse open, no hazard.
U1 pin1-2	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.
U1 pin3-4	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.
U2 pin1-2	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.
U2 pin1-3	s-c	264	10 min	FS1	0.04	Output decreased to 3.4V, no damage, no hazard.
U2 pin2-3	s-c	264	10 min	FS1	0.04	Output decreased to 1.5V, no damage, no hazard.
D4	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.
Q1 G-S	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.
Q1 G-D	s-c	264	< 1s	FS1	1)	Fuse open, R1 damaged, no hazard.
Q1 S-D	s-c	264	< 1s	FS1	1)	Fuse open, R1 damaged, no hazard.
T1 pin CT1-CT2	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.
+12V output	s-c	264	10 min	FS1	0.69~0.01	Unit shut down, no damage, no hazard.
+12V output	o-l	90	2h	FS1	0.12	Output loaded to 6.0A. Max temperature measured on T1 coil = 104.1°C T1 core = 98.9°C Amb = 20.2°C No damage, no hazard.
GT-41132-6526-7.0-T2						
T1 pin CT1-CT2	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.



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component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
+19V output	s-c	264	10 min	FS1	0.43~0.01	Unit shut down, no damage, no hazard.
+19V output	o-l	90	2h	FS1	0.01	Output loaded to 4.6A. Max temperature measured on T1 coil = 103.5°C T1 core = 90.2°C Amb = 20.4°C No damage, no hazard.
GT-41132-6048-T2						
T1 pin CT1-CT2	s-c	264	10 min	FS1	0.04	Unit shut down, no damage, no hazard.
+48V output	s-c	264	10 min	FS1	0.32~0.01	Unit shut down, no damage, no hazard.
+48V output	o-l	90	2h	FS1	0.01	Output loaded to 1.5A. Max temperature measured on T1 coil = 87.6°C T1 core = 86.7°C Amb = 20.4°C No damage, no hazard.
supplementary information:						
s-c=short circuit, o-l=overload 1) Fuse current > fuse rating x 2.1 and repeated three times with same result.						



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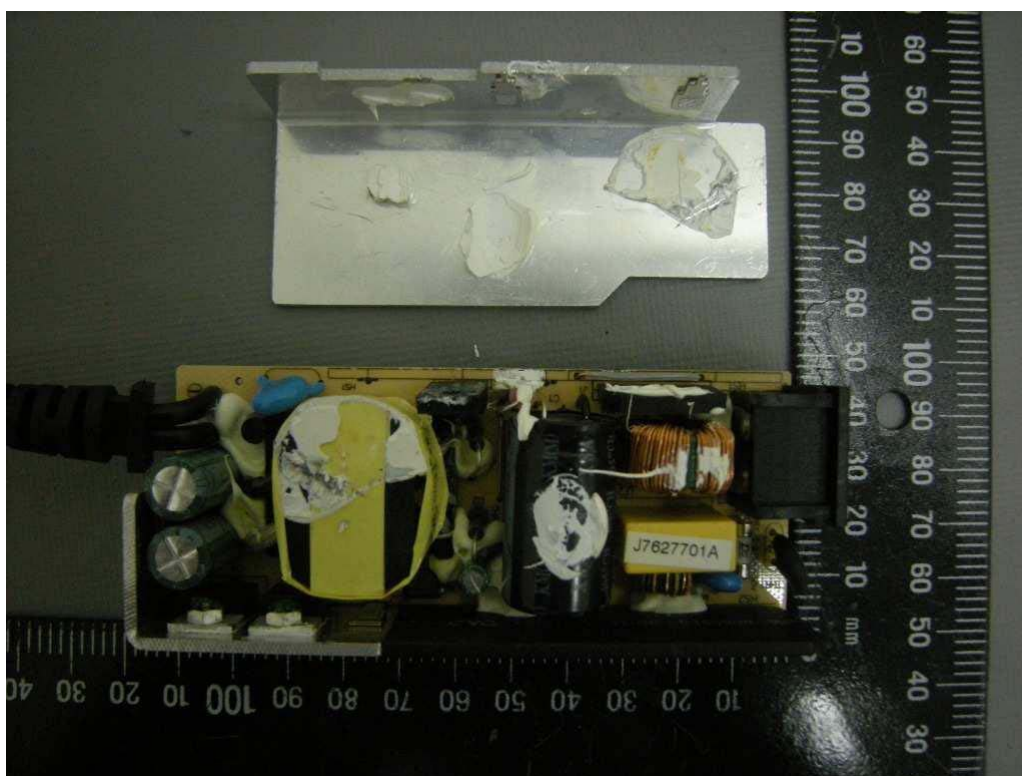
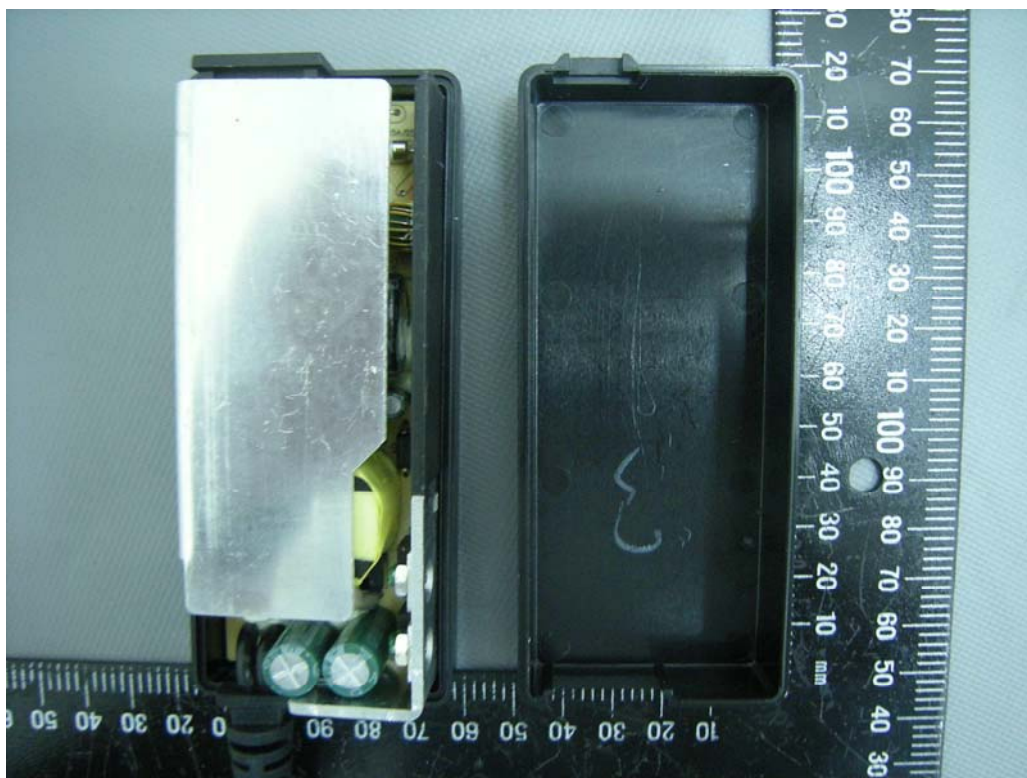
C.2		TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
T1	Primary windings - Secondary windings	592	298	3000Vac	4.6	6.0	1)	
T1	Primary windings – core - Secondary windings	592	298	3000Vac	4.6	6.0	1)	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T1	Primary windings - Secondary windings			3000Vac	6.0	7.6	Annex U	
T1	Primary windings / core - Secondary windings 2)			3000Vac	6.0	7.6		
Supplementary information:								
1) 2 or 3 layers / 0.4 mm / Annex U 2) Core considered as primary. One layer of insulation tape wrapped around the bottom part of T1 core.								

Representative of all models



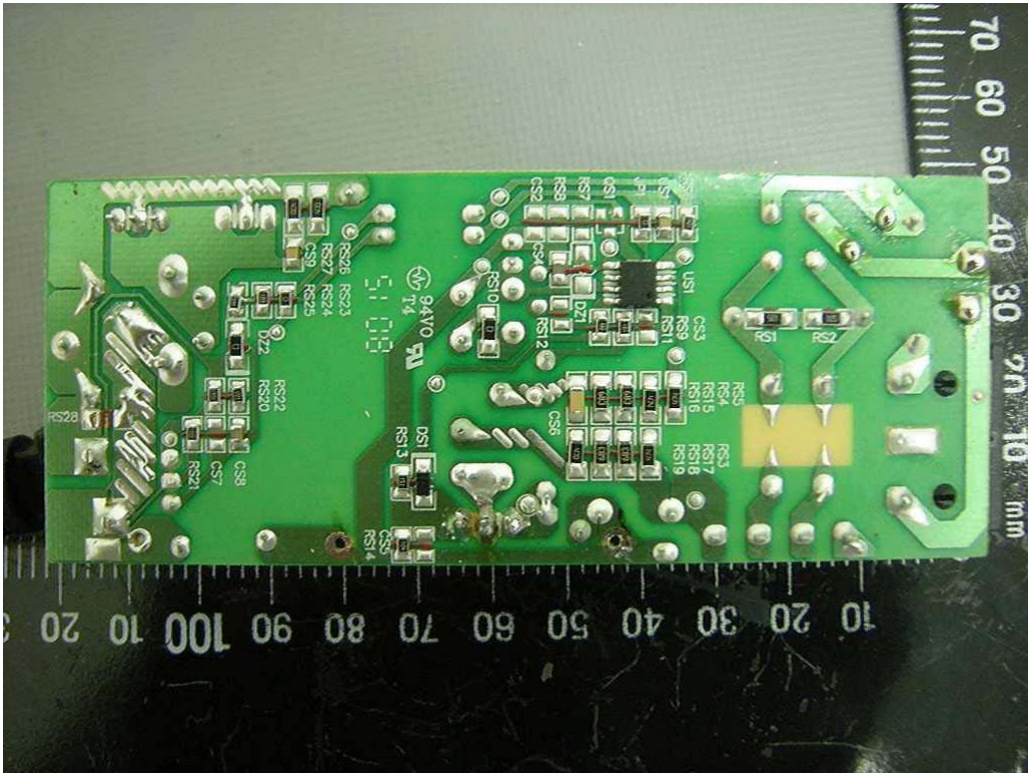
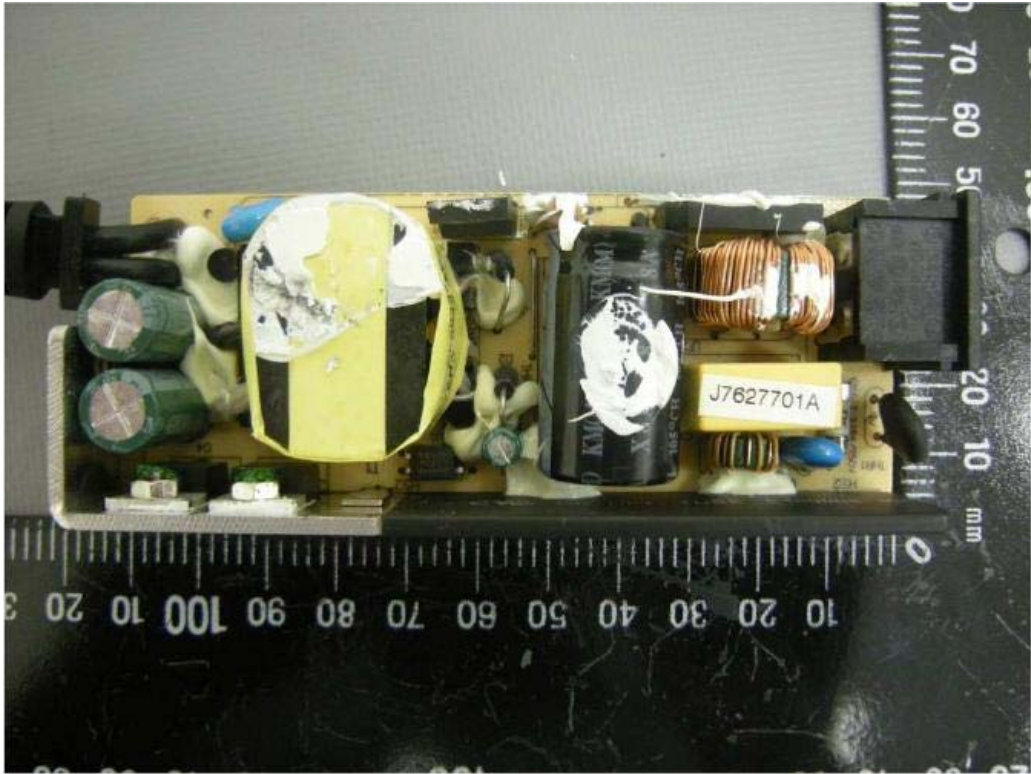
Photos

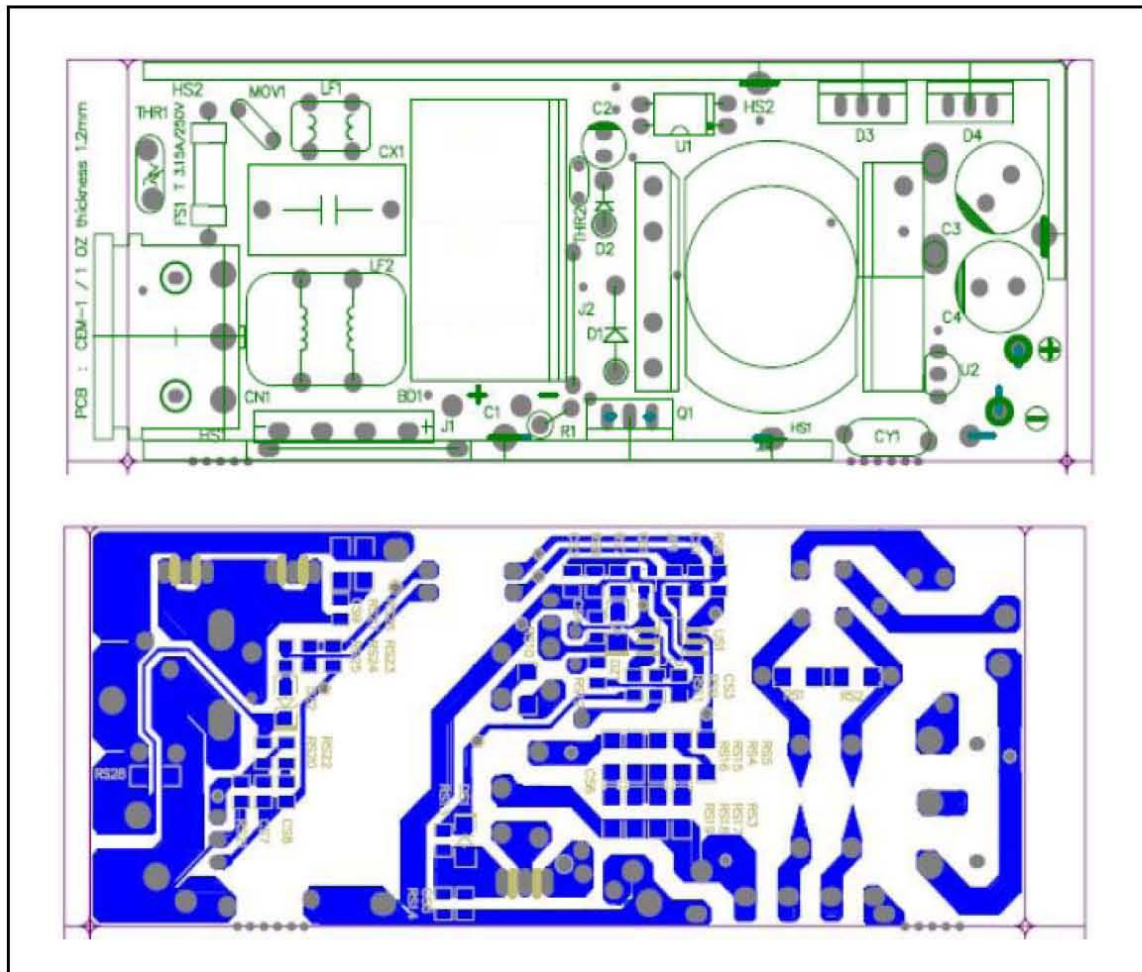
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Photos

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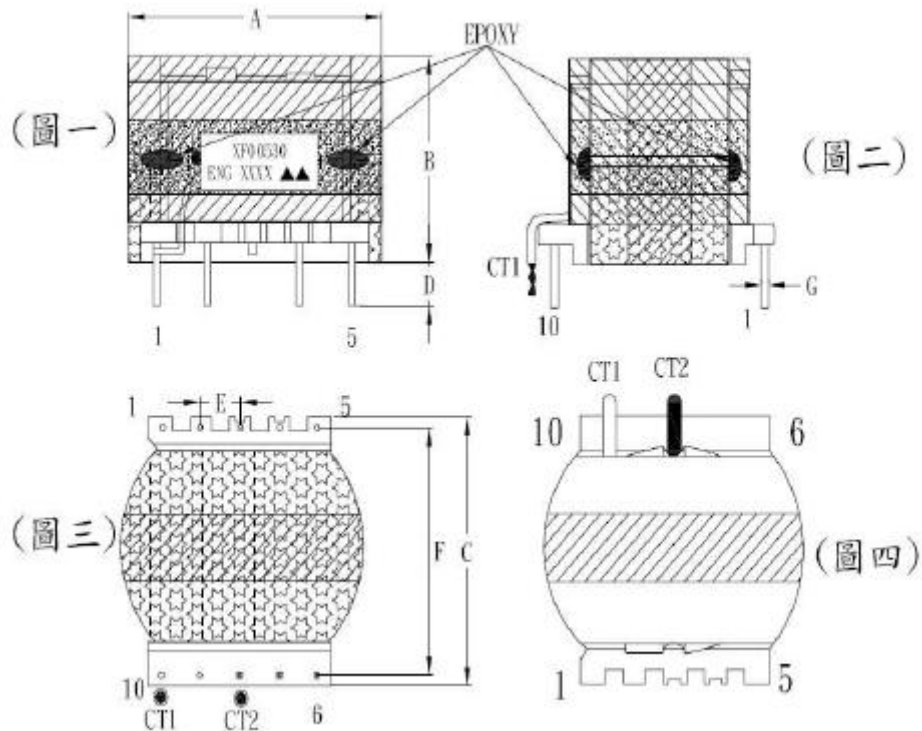


Transformer specification

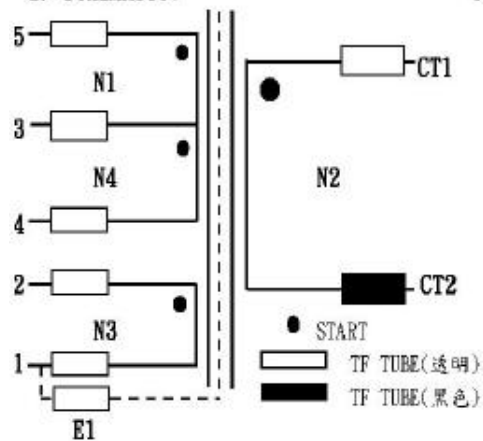
Report No. 187376

Construction / Winding diagram / Component part no: T1

All types of T1 have identical construction, differ only in secondary windings.



2. SCHEMATIC:



3. WINDING SEQUENCE:



Winding of T1, type XF00530

Winding No (組別)	Margin Tape (檔牆膠帶)	PIN (腳位)	Wire&Wire Copper (線徑 X 股數)	Truns (圈數)	Winding Tape (繞線方式)	Tape Layer (膠帶層次)	Tube (套管)
N 1	0	5 ~ 3	(0.10 ϕ x 25P) x 1P (絞線)	25 TS	密繞	2 L	19*20/19*15
E 1	0	~ ~ 1	0.025x7mm	0.9 TS	背膠	2 L	0/28*15
N 2	0	CT1 ~ CT2	0.6 ϕ x 5P (三層絕緣線)	4TS	密繞	2 L	10*19 透明/ 10*23(黑色)
N 3	0	2 ~ 1	0.25 ϕ x 2P	5 TS	疏繞	2 L	23*13/23*13
N 4	0	3 ~ 4	(0.10 ϕ x 25P) x 1P (絞線)	11 TS	密繞	3 L	19*13/19*13

Winding of T1, type XF00542

Winding No (組別)	Margin Tape (檔牆膠帶)	PIN (腳位)	Wire&Wire Copper (線徑 X 股數)	Truns (圈數)	Winding Tape (繞線方式)	Tape Layer (膠帶層次)	Tube (套管)
N 1	0	5 ~ 3	(0.10 ϕ x 25P) x 1P (絞線)	25 TS	密繞	2 L	19*20/19*15
E 1	0	~ ~ 1	0.025x7mm	0.9 TS	背膠	2 L	0/28*15
N 2	0	CT1 ~ CT2	0.7 ϕ x 3P (三層絕緣線)	6 TS	密繞	2 L	10*19 透明/ 10*23(黑色)
N 3	0	2 ~ 1	0.25 ϕ x 2P	5 TS	疏繞	2 L	23*13/23*13
N 4	0	3 ~ 4	(0.10 ϕ x 25P) x 1P (絞線)	11 TS	密繞	3 L	19*13/19*13

Winding of T1, type XF00543

Winding No (組別)	Margin Tape (檔牆膠帶)	PIN (腳位)	Wire&Wire Copper (線徑 X 股數)	Turns (圈數)	Winding Tape (繞線方式)	Tape Layer (膠帶層次)	Tube (套管)
N1	0	5~3	(0.1 Φ x25P) X1P 絞線	25Ts	密繞	2L	19*20/19*15
E1	0	~~1	0.025*7mm (三層絕緣線)	0.9Ts	背膠	2L	0/28*15
N2	0	CT1-CT2	0.7 ϕ x 3P (三層絕緣線)	13Ts	密繞	2L	16*19(透明) /16*23(黑色)
N3	0	2-1	0.25 Φ X2P	5Ts	疏繞	2L	23*13/23*13
N4	0	3~4	(0.1 Φ x25P) X1P 絞線	11Ts	密繞	3L	19*13/19*13

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

Last Modified Date (2009-06-03)

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: EN 60950-1:2006 + A11:2009

Attachment Form No......: EU_GD_IEC60950_1A

Attachment Originator: SGS Fimko Ltd

Master Attachment: Date (2009-09)

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EN 60950-1:2006/A11:2009 – 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 Annex ZC (informative) A-deviations				P
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6. 2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2				P

IEC60950_1A - ATTACHMENT			
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>		N/A
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	<p>Add the following NOTE:</p> <p>NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss</p>		N/A
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>	The equipment is provided with a fuse and complies with a).	P

IEC60950_1A - ATTACHMENT									
Clause	Requirement + Test	Result - Remark	Verdict						
	<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>								
2.7.2	This subclause has been declared 'void'.	Considered.	N/A						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	The equipment is not intended for permanent connection to the mains.	N/A						
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 </td><td>(0,75) ^{b)} 1,0 </td></tr><tr><td>Over 10 up to and including 16 </td><td>(1,0) ^{c)} 1,5 </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10	(0,75) ^{b)} 1,0	Over 10 up to and including 16	(1,0) ^{c)} 1,5	The power cord is not provided with equipment.	N/A
Up to and including 6	0,75 ^{a)}								
Over 6 up to and including 10	(0,75) ^{b)} 1,0								
Over 10 up to and including 16	(1,0) ^{c)} 1,5								
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <table><tr><td>Over 10 up to and including 16 </td><td>1,5 to 2,5 </td><td>1,5 to 4 </td></tr></table> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4	No terminals provided.	N/A			
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4							
4.3.13.6	<p>Add the following NOTE:</p> <p>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. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.</p>	Considered.	N/A						

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex H	<p>Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 $\mu\text{Sv/h}$ (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.</p>	The unit does not emit X-ray radiation.	N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
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 equipment.	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
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.	Class II equipment.	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).		P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	Considered.	N/A
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: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p>	Class II equipment.	N/A

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<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> <p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>"Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet."</p> <p>Translation to Swedish:</p> <p>"Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."</p>		

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.	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.	No TNV circuits.	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.	No TNV circuits.	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.	No TNV circuits.	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.	Class II equipment.	N/A
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 TNV circuits.	N/A
3.2.1.1	In Switzerland , supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A	The equipment is provided with an appliance inlet.	N/A



IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>	The equipment is provided with an appliance inlet.	N/A
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>	The equipment is provided with an appliance inlet.	N/A
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>	The equipment is provided with an appliance inlet.	N/A

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	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. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	The equipment is provided with an appliance inlet.	N/A
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.	The equipment is provided with an appliance inlet.	N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	The equipment is provided with an appliance inlet.	N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.	The power cord is not provided with equipment.	N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.	The power cord is not provided with equipment.	N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	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.	Not direct plug-in equipment.	N/A

IEC60950_1A - ATTACHMENT			
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	<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>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in 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. 	No TNV circuits.	N/A

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400. 		
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.	No TNV circuits.	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

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN). A-DEVIATIONS (informative)		P
1.5.1	<p>Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.</p>	There are no components containing mercury in the equipment.	P

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	<p>Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.)</p> <p>Add the following:</p> <p>NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.</p>	There are no components containing mercury in the equipment.	P
1.7.2.1	<p>Denmark (Heavy Current Regulations)</p> <p>Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text:</p> <p>Vigtigt!</p> <p>Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket</p> <p> eller </p> <p>If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text:</p> <p>“For tilslutning af de øvrige ledere, se medfølgende installationsvejledning.”</p>	Class II equipment.	N/A
1.7.2.1	<p>Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2).</p> <p>If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market.</p> <p>Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.</p>		N/A
1.7.5	<p>Denmark (Heavy Current Regulations)</p> <p>With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.</p>	No such sockets.	N/A
1.7.13	<p>Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries)</p> <p>Annex 2.15 of SR 814.81 applies for batteries.</p>	No batteries in the equipment.	N/A

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.	Touch current does not exceed 3.5mA r.m.s.	N/A

ATTACHMENT TO TEST REPORT IEC 60950-1 AUSTRALIAN / NEW ZEALAND DIFFERENCES			
Differences according to: AS/NZS 60950.1:2003			
IEC Standard: 60950-1(ed.1)			
Last Modification: Date (2010-06-17)			
Clause	Requirement + Test	Result - Remark	Verdict
ZZ.1 Introduction			
This Annex sets out variations between this Standard and IEC 60950-1:2001. These variations indicate national variations for purposes of the IECEE CB Scheme and will be published in the IECEE CB Bulletin. These variations are indicated within the body of the Standard.			
ZZ.2 Variations			
The variations are as follows:			
1.2	Between the definitions for 'Person, service' and 'Range, rated frequency' <i>insert</i> the following: POTENTIAL IGNITION SOURCE 1.2.12.201	Considered. P	
1.2.12.15	After the definition 1.2.12.15, <i>add</i> the following: 1.2.12.201 POTENTIAL IGNITION SOURCE: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201: An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202: This definition is from AS/NZS 60065:2003.	Considered. P	
1.5.1	<i>Add</i> the following to the end of first paragraph: 'or the relevant Australian/New Zealand Standard'.	All critical components are IEC or UL certified.	P
1.5.2	<i>Add</i> the following to the end of first and third dash items: 'or the relevant Australian/New Zealand Standard'.	All critical components are IEC or UL certified.	P
2.1	<i>Delete</i> the Note	Considered.	—
3.2.3	<i>Delete</i> Note 2	The equipment is not intended for permanent connection to the mains.	N/A

3.2.5.1	<p>Modify Table 3B as follows:</p> <p>Delete the first four rows and replace with</p> <table><tr><th rowspan="2">RATED CURRENT OF EQUIPMENT A</th><th colspan="3">Minimum conductor sizes</th></tr><tr><th colspan="2">Nominal cross-sectional area mm²</th><th>AWG or kcmil [cross-sectional area in mm²] see note 2</th></tr><tr><td>Over 0.2 up to and including 3</td><td></td><td>0,5 ¹⁾</td><td>18 [0,8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td></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)²⁾</td><td>1,00</td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0)³⁾</td><td>1,5</td><td>14 [2]</td></tr></table> <p>Replace footnote 1) with the following:</p> <p>¹⁾ 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> <p>Delete Note 1.</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 ¹⁾	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) ²⁾	1,00	16 [1,3]	Over 10 up to and including 16	(1,0) ³⁾	1,5	14 [2]	The power cord has not been checked, refer to Summary of Testing.	N/A
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 ¹⁾	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) ²⁾	1,00	16 [1,3]																							
Over 10 up to and including 16	(1,0) ³⁾	1,5	14 [2]																							
4.1.201	<p>Add the following after the last Paragraph of Clause 4.1:</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</p> <p>7 kg or more, shall comply with the requirements for stability and mechanical</p> <p>hazards, including the additional stability requirements for television</p> <p>receivers, specified in AS/NZS 60065.</p>	N/A																								
4.3.6	<p>Replace paragraph three with:</p> <p>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.</p>	Not intended to plug directly into a wall socket-outlet.	N/A																							
4.3.13.5	<p>Add the following to the end of first paragraph:</p> <p>‘or AS/NZS 2211.1’.</p>	No Laser product used.	N/A																							
4.7	<p>Add the following paragraph:</p> <p>For alternative tests refer to Clause 4.7.201.</p>	Alternative tests not performed.	N/A																							

4.7.201	<p>Add the following after Clause 4.7.3.6:</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 originating from inside the apparatus, or the following:</p> <p>a) Components that are contained in an enclosure having a flammability category of FV-0 according to AS/NZS 4695.707 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm 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 4695.707. <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>	All materials have suitable flame class, no testing required.	N/A
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4.7.201	<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 not be 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. The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications:</p> <table><tr><th>Clause of AS/NZS 4695.2.2</th><th>Change</th></tr><tr><td>5. Severities</td><td>Replace with: The duration of application of the test flame shall be 30 s ± 1 s.</td></tr><tr><td>8. Test procedure</td><td></td></tr><tr><td>8.2</td><td>Replace the first sentence with: 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.</td></tr><tr><td>8.4</td><td>The first paragraph does not apply. Add/ice: If possible, the flame shall be applied at least 10 mm from a corner.</td></tr><tr><td>8.5</td><td>Replace with: 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 then withstand the test.</td></tr><tr><td>10. Evaluation of test results</td><td>Replace with: The duration of burning (s) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</td></tr></table>	Clause of AS/NZS 4695.2.2	Change	5. Severities	Replace with: The duration of application of the test flame shall be 30 s ± 1 s.	8. Test procedure		8.2	Replace the first sentence with: 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.	8.4	The first paragraph does not apply. Add/ice: If possible, the flame shall be applied at least 10 mm from a corner.	8.5	Replace with: 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 then withstand the test.	10. Evaluation of test results	Replace with: The duration of burning (s) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.	All materials have suitable flame class, no testing required.	N/A
Clause of AS/NZS 4695.2.2	Change																
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8.5	Replace with: 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 then withstand the test.																
10. Evaluation of test results	Replace with: The duration of burning (s) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.																

4.7.201	<p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.</p> <p>4.7.201.4 Testing in the event of non-extinguishing material</p> <p>If the 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 glow-wire 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 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>	All materials have suitable flame class, no testing required.	N/A
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4.7.201	<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 FV-1 or better according to AS/NZS 4695.707, or the printed boards are protected by an enclosure meeting the flammability category FV-0 according to AS/NZS 4695.707, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparent 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 FV-0 according to AS/NZS 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <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>	All materials have suitable flame class, no testing required.	N/A
6.2.2	<p><i>Add the symbol [NZ] in the right hand margin beside the first paragraph.</i></p> <p><i>Add the following after the first paragraph:</i></p> <p><i>In Australia (this variation does not apply in New Zealand), compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.</i></p> <p><i>Delete the Note.</i></p>	No TNV circuitry.	N/A

6.2.2.1	<p>Add the symbol [NZ] in the right hand margin beside the first paragraph including Note 1.</p> <p>Delete the Note 2.</p> <p>Add the following after the first paragraph:</p> <p>In Australia (this variation does not apply in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, U_c, is:</p> <ul style="list-style-type: none"> - for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and - for 6.2.1 b) and 6.2.1 c): 1.5 kV. <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>Add the symbol [NZ] in the right hand margin beside the second paragraph.</p> <p>Delete the Note.</p> <p>Add the following after the second paragraph:</p> <p>In Australia (this variation does not apply in New Zealand), the a.c. test voltage is:</p> <ul style="list-style-type: none"> - for 6.2.1 a): 3 kV; and - for 6.2.1 b) and 6.2.1 c): 1.5 kV. <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
7.2	<p>Add the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of</p> <p>AS/NZS 60065 and that incorporate a PSTN interface, are not required to</p> <p>comply with this Clause where the only ports provided on the equipment, in</p> <p>addition to a coaxial cable connection and a PSTN interface, are audio or</p> <p>video ports and analogue or data ports not intended to be used for</p> <p>telecommunications purposes.</p>	No CDS.	N/A

Annex P	<p>Add the following Normative References to Annex P:</p> <p>IEC 60065, <i>Audio, Video and similar electronic apparatus – Safety requirements</i></p> <p>AS/NZS 3191, <i>Approval and test specification – Electric flexible cords</i></p> <p>AS/NZS 3112, <i>Approval and test specification – Plugs and socket-outlets</i></p> <p>AS/NZS 4695.707, <i>Fire hazard testing of electrotechnical products – Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source</i></p>	Considered. P	
Index	<p>Between the entries 'polyimide insulating material' and 'powder' <i>insert</i> the following:</p> <p>POTENTIAL IGNITION SOURCE 1.12.201, 4.7.201.3, 4.7.201.5</p>	Considered.	—

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
National Differences for Canada			
Canada and the United States of America have adopted a single, bi-national standard, CAN/CSA C22.2 No. 60950-1/UL60950-1, Second Edition, which is based on IEC 60950-1, Second Edition. This bi-national standard should be consulted for further details on the national conditions and differences summarized below.			
SPECIAL NATIONAL CONDITIONS			
The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part I and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations.			
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Appliance inlet provided.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A..... :	Equipment acceptable for connection to 20A	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC. :	The power supply cord is not provided with equipment.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC/NEC are required to have special construction features and identification markings.	N/A	
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Only one phase conductor.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	N/A	
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.	Appliance inlet provided.	N/A


IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	Fuse is not used to provide Class 2, Limited Power Source (or TNV) current limiting.	N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No standard supply outlets, receptacles, lampholders or such transformers.	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	The power supply cord is not provided with equipment.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	N/A	
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	N/A	
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Not permanently connected equipment.	N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.	The power supply cord is not provided with equipment.	N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	Not permanently connected equipment.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	The power supply cord is not provided with equipment.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	Not used.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).	No permanent wiring. The equipment is provided with an appliance inlet.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	No motor.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No switch.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
	Battery system: When power-off is activated:		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquids within the equipment.	N/A
	Flammable liquid material:..... Flash point: Boiling point: Container material: Storage container size:.....		N/A
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	The equipment has no combustible area greater than 27 cubic feet.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	The equipment has no combustible material greater than 0.9m ² or single dimension greater than 1.8m.	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	The equipment does not produce ionizing radiation.	N/A
OTHER DIFFERENCES			
The following key national differences are based on requirements other than national regulatory requirements.			

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	See safety component list	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	Not for connection to DC mains supply.	—
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuitry.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, SELV Circuits and accessible conductive parts comply with the North American limits of 2.2.3.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) subjected to the additional limited short circuit test conditions specified, if required.	No such part.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are provided with suitable enclosure to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
	Projected area of opening : Minor dimension of projected area :		—
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.	Not such equipment.	N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	No handle.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV circuitry.	N/A
	Ringing ports provided: Simulation provided to: Measured total touch current :		—
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.	Considered.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuitry.	N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuitry.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	Not such equipment.	N/A
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).	Not such equipment.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict

Annex NAF			
Household/home office Document shredders			
NAF1.7	Markings and Instructions	N/A	
NAF 1.7.15	Symbols alerting the user to the following considerations are provided adjacent to the document feed opening. These symbols are explained in the instructions:	N/A	
	Product is not intended for use by children (product is not a toy)	N/A	
	Avoid touching the document feed opening with hands	N/A	
	Avoid clothing touching the document feed opening	N/A	
	Keep aerosol products away (applicable for product with brush motor only)	N/A	
	The  (ISO 7000-0434) symbol to alert user to important operating, maintenance and/or servicing instructions and the explanation of above symbols	N/A	
	Marking is permanent, comprehensible and easily discernible on the equipment.	N/A	
NAF 2.8.3	Safety interlock can not be activated by articulated accessibility probe (NAF.1)	N/A	
			N/A
NAF 3.4	Isolation switch complying with 3.4.2 is provided to disconnect power to hazardous moving parts	N/A	
	On/off marking is provided for two position switch . :		N/A
	Off marking for multi-position switch		N/A
			N/A
NAF 4.4	Protection against hazardous moving parts		N/A
	Accessibility probe (Fig NAF.1) is inserted without force into each opening and did not contact hazardous moving parts		N/A
	Operator accessible guards are removed and Accessibility wedge is inserted into each opening according without contacting mechanical hazards:		—
	Strip-cut (45N):		N/A
	Cross-cut (90N)		N/A

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 ±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.	—

ATTACHMENT TO TEST REPORT IEC 60950-1 Israel DIFFERENCES

Differences according to: SI60950: 2000

IEC Standard: 60950-1(ed.1)

Clause	Requirement + Test	Result - Remark	Verdict
1.7.0	<p>Marking and Instructions</p> <p>The package of the equipment shall be marked in Hebrew, and shall include:</p> <ul style="list-style-type: none"> - The name of the product, - The name of the manufacturer, - The country of production, - The name and the address of the importer. <p>The marking shall be on a rectangular label (of at least 52mm x 24mm). The letters height should be at least 2mm. The color of the label shall be in contrast to the color of the package.</p>	Must be considered before marketed in Israel.	—
1.7.12 Language	<p>All instructions and warnings concerning safety should be in the Hebrew language as well.</p>	Must be considered before marketed in Israel.	—
2.101 EMC	<p>The equipment shall comply with SI 961 part 6 (CISPR 22 + 24).</p>	Compliance with EMC must be considered before marketed in Israel.	—
3.2.1.1	<p>Connection to an a.c. mains supply</p> <p>Additional note: In Israel the mains supply plug shall comply with Israeli standard SI 32.</p>	The equipment is provided with an appliance inlet. The power cord has not been checked, refer to Summary of Testing.	—

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

ATTACHMENT TO TEST REPORT IEC 60950-1 JAPAN NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to..... : J60950-1(H22)			
Attachment Form No.: JP_ND_IEC60950_1A			
Attachment Originator :			
Master Attachment : 2010-11			
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National Differences - Japan			
1.2.4.1	Add the following new NOTE. NOTE Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when a 2-pin adaptor with an earthing lead wire or a cord set having a 2-pin plug with an earthing lead wire is provided or recommended.	Class II equipment.	N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: <ul style="list-style-type: none"> - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation. circuit.	Class II equipment.	N/A

IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.2	<p>Add the following notes after the first paragraph:</p> <p>NOTE 1 Transportable or similar equipment that is relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.</p> <p>NOTE 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.</p>	Class II equipment.	N/A
1.5.1	<p>Replace the first paragraph with the following:</p> <p>Where safety is involved, components shall comply either with the requirements of this standard or with the safety aspects of the relevant JIS component standard or IEC component standards in case there is no applicable JIS component standard is available. However, in case a component that falls within the scope of the METI Ministerial ordinance (No. 85:1962) is properly used in accordance with its marked ratings, the requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set matching with an appliance inlet specified in the standard sheets of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1.</p> <p>Replace NOTE 1 with the following:</p> <p>NOTE 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p>	All critical components are IEC or UL certified.	P


IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.2	<p>Replace the first sentence in the first dashed paragraph with the following:</p> <ul style="list-style-type: none"> - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. <p>Add a NOTE after the first dashed paragraph as follows:</p> <p>NOTE 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A.</p> <p>Replace the first sentence in the third dashed paragraph as follows:</p> <ul style="list-style-type: none"> - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment. 	All critical components are IEC or UL certified.	P
1.5.6	In this sub-clause, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.	Considered.	N/A
1.5.7.2	In this sub-clause, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.	Considered.	N/A
1.5.8	In the first paragraph, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.	Considered.	N/A
1.7.1	<p>Replace the fifth dashed paragraph with the following:</p> <ul style="list-style-type: none"> - manufacturer's or responsible company's name or trade-mark or identification mark; 	Considered.	P

IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5	In the second paragraph, add “or JIS C 8303:2007” after the reference number, IEC/TR 60083:1997”.	Considered.	N/A
1.7.5A	Add the following new clause after 1.7.5 1.7.5A Appliance Couplers If an appliance coupler according to IEC 60320-1, C.14(rated current: 10 A) is used in equipment whose rated voltage is less than 125 V and the rated current is over 10 A, the following instruction or equivalent shall be described in the user instruction. “ Use only designated cord set attached in this equipment”	Considered.	N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.	Shall be provided.	N/A
1.7.17A	Add the following new clause after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: 必ず接地接続を行って下さい “Provide an earthing connection” Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: 接地接続は必ず、電源プラグを電源につなぐ前に行って下さい。又、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行って下さい。 “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”	Class II equipment.	N/A
2.1.1.1	In item b) of this sub-clause, replace “IEC 60083” with “JIS C 8303:2007 or Article 1 of the Ministerial Ordinance (No. 85:1962)”	Considered. N/A	

IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.2	<p>Add the following after the first paragraph.</p> <p>This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.</p>	Power supply cord is not provided with the equipment.	N/A
2.6.4.2	<p>Replace the first paragraph with the following.</p> <p>Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.</p>	The equipment is provided with appliance inlet.	P
2.6.5.4	<p>Replace the first sentence with the following.</p> <p>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:</p>	Class II equipment.	N/A
2.6.5.8A	<p>Add the following new clause after 2.6.5.8</p> <p>2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150 V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or a lead wire for earthing in the external location where easily visible.</p>	Class II equipment.	N/A
2.10.3.1	In this sub-clause, replace IEC 60664-1 with JIS C 0664:2003.	Not such equipment.	N/A
2.10.3.2	In the second paragraph, replace IEC 60664-1 with JIS C 0664:2003.	Not such equipment.	N/A
3.2.3	<p>Add the following after Table 3A:</p> <p>Table 3A applies when cables complying with JIS C 3662 or JIS C 3663 are used. In case of other cables, the cable entries shall be so designed that a conduit suitable for the cable used can be fitted.</p>	Not permanently connected equipment.	N/A

IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	<p>Add the following to the last of first dashed paragraph.</p> <p>Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance (No. 85:1962) on stipulating technical requirements for the Electrical Appliance.</p> <p>Add the following to the last of second dashed paragraph.</p> <p>Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance (No. 85:1962) on stipulating technical requirements for the Electrical Appliance.</p> <p>Delete 1) in Table 3B.</p>	The power cord is not provided with equipment.	N/A
3.3.4	<p>Add the following note to Table 3D:</p> <p>NOTE For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.</p>	Equipment provided with an appliance inlet.	N/A
3.3.7	<p>Add the following after the first sentence:</p> <p>This requirement is not applicable to the external earthing terminal of Class 0I equipment.</p>	N/A	
4.3.4	<p>Add the following after the first sentence:</p> <p>This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.</p>	Class II equipment.	N/A
4.3.13.5	<p>Replace the first paragraph with the following:</p> <p>Except as permitted below, equipment shall be classified and labelled according to JIS C 6802:2005, and JIS C 6803:2006 or IEC 60825-2:2000, as applicable.</p> <p>Replace IEC 60825-1 in the second and the last paragraph with JIS C 6802:2005.</p>		N/A

IEC 60950-1 ATTACHMENT																															
Clause	Requirement + Test	Result - Remark	Verdict																												
4.5	<p>Add the following NOTE to Table 4B, 3):</p> <p>NOTE: In case no data for the material is available, Appendix 4, 4. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances (Commerce and Distribution Policy Group No. 3:2008/06/19) may apply.</p>	Considered.	N/A																												
5.1.3	<p>Add a note after the first paragraph as follows:</p> <p>NOTE Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, the test is conducted using the test circuit from IEC 60990, figure 13.</p>	Single-phase. N/A																													
5.1.6	<p>Replace Table 5A as follows:</p> <table border="1"> <thead> <tr> <th>Type of equipment</th><th>Terminal A of measuring instrument connected to:</th><th>Maximum TOUCH CURRENT mA r.m.s. ¹⁾</th><th>Maximum PROTECTIVE CONDUCTOR CURRENT</th></tr> </thead> <tbody> <tr> <td>All equipment</td><td>Accessible parts and circuits not connected to protective earth</td><td>0,25 -</td><td></td></tr> <tr> <td>HAND-HELD</td><td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td><td>0,75 -</td><td></td></tr> <tr> <td>MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT</td><td>3,5 -</td><td></td></tr> <tr> <td>STATIONARY, PLUGGABLE TYPE A</td><td>3,5 -</td><td></td></tr> <tr> <td>All other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td><td>3,5 -</td><td>- 5 % of input current</td></tr> <tr> <td>HAND-HELD</td><td rowspan="2">Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td><td>0,5 -</td><td></td></tr> <tr> <td>Others 1,0</td><td></td><td>-</td></tr> </tbody> </table> <p>¹⁾ If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.</p>	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾	Maximum PROTECTIVE CONDUCTOR CURRENT	All equipment	Accessible parts and circuits not connected to protective earth	0,25 -		HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75 -		MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT	3,5 -		STATIONARY, PLUGGABLE TYPE A	3,5 -		All other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	3,5 -	- 5 % of input current	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5 -		Others 1,0		-		P
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾	Maximum PROTECTIVE CONDUCTOR CURRENT																												
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HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5 -																													
Others 1,0			-																												
6	Replace IEC 60664-1 in NOTE 4 with JIS C 0664.	N/A																													
7	Replace IEC 60664-1 in NOTE 3 with JIS C 0664:2003.	N/A																													

IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	<p>Add the following after the paragraph:</p> <p>However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply:</p> <ul style="list-style-type: none"> - the circuit under consideration is a TNV-1 CIRCUIT; and - the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and - the screen of the coaxial cable is intended to be connected to earth in the building installation. 	N/A	
W.1	<p>Replace the second and the third sentence in the first paragraph with the following:</p> <p>This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.</p>		N/A
Annex JA	<p>Add a new annex JA with the following contents.</p> <p style="text-align: center;">Annex JA (normative) Document shredding machines</p> <p>Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.</p> <p>JA.1 Markings and instructions The symbol</p> <p> (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible;</p> <ul style="list-style-type: none"> - that use by an infants/children may cause a hazard of injury etc.; 	N/A	

IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<ul style="list-style-type: none"> - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. <p>JA.2 Inadvertent reactivation Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1</p> <p>JA.3 Disconnection from the mains supply Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.</p>		

IEC 60950-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	<p>If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols.</p> <p>Compliance is checked by inspection</p> <p>JA.4 Protection against hazardous moving parts Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements.</p> <p>Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool.</p> <p>Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.</p>		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex JA			N/A

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

Annex JA

N/A

The figure shows a technical drawing of a wedge-probe. It includes a perspective view at the top with dimensions: 300 (total length), 180 (distance to first step), 12 (first step height), 8 (second step height), 6 (third step height), 30 (distance to second step), 60 (distance to third step), 100 (distance to end), 50 (width at base), and 2 (tip diameter). A circular inset shows a cross-section of the tip with a 2 mm diameter. Below the perspective view is a side elevation with dimensions: 33 (total width), 30 (width to first step), 27 (width to second step), 12 (width to third step), 50 (total height), 20 (height of first section), and 15 (height of second section). To the right is an isometric view of the probe. Below the side elevation is a cross-section of the probe's body with a 2 mm thickness and a note: "See Note for thickness dimensions". To the right of this cross-section is a note: "Rounded to allow rotation about hinge pin (screw) in one direction". The text "Diameters in millimeters" appears twice.

Details of the tip of wedge

Distance from the tip (mm)	Thickness of probe (mm)
0 2	
12 4	
180 24	

NOTE 1 The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.

NOTE2 The allowable dimensional tolerance of the probe is +/- 0.127 mm.

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Figure JA.2 Wedge-probe

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 (2010-12-16)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.101 Addition	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Provided with an appliance inlet. The power cord has not been checked, refer to Summary of Testing.	—
8 Addition	EMC The apparatus shall comply with the relevant CISPR standards.	Compliance with EMC must be considered when marketed in Korea.	—

ATTACHMENT TO TEST REPORT IEC 60950-1 Singapore DIFFERENCES

Differences according to: Singapore: Consumer Protection Information Booklet, 2010 Edition, (Ver. 4).

IEC Standard: 60950-1(ed.1)

Last Modification: Date (2010-09-07)

No	Item	Requirement + Test	Result - Remark	Verdict
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The following is the national differences in accordance with safety authority website www.safety.org.sg/ , ref. Singapore Consumer Protection (Safety Requirements) - Information booklet - chapter 7 (page 21 - 24). Based on information by Singapore NCB – PSB Corp.

7 SAFETY AUTHORITY'S REQUIREMENTS

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.

Applicable to all electrical products

3	All appliances	All appliances must be tested to 230 VAC.	AC Input: Tested within the range 100-240Vac	P
4	Voltage selector (voltage mis- match 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)	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. 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.	The power cord has not been checked, refer to Summary of Testing.	—
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.	The power cord has not been checked, refer to Summary of Testing.	—
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.	Provided. P	
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 AC adaptor				
13	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.	Class II equipment.	N/A
14	2-pin AC adaptor (Appendix V)	The 2-pin (Appendix T) shall comply with EN 50075	The power cord has not been checked, refer to Summary of Testing.	—
15	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.	The power cord has not been checked, refer to Summary of Testing.	—
Applicable to computer products				
16	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
17	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 plasma/LCD display monitor				
37	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 TV tuner provided.	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.	The equipment voltage range includes 220V.	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.		N/A
2.3.3	In Ukraine the method b) is not used.	No TNV.	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

USA - Differences to IEC 60950-1:2005, Second Edition			
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70	Appliance inlet provided.	N/A
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.	Appliance inlet provided.	N/A
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.	Not such equipment.	N/A
1.1.2	Equipment intended for outdoor use	Not such equipment.	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.	Considered.	P
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of UL component standards in Annex P.1.	Considered.	P
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of UL component standards	Considered.	P
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.	No interconnecting cables.	N/A
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.	No TNV circuitry.	N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC	No interconnecting cables.	N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable	No interconnecting cables.	N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.	No such part.	N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863	No such part.	N/A
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system subjected to special circuit classification requirements (e.g., TNV-2)	Not connect to a d.c. power system.	N/A
1.6.1.2	Earthing of d.c. powered equipment provided		N/A
1.7	Lamp replacement information indicated on lampholder in operator access area	No lamp provided.	N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor	Single phase only.	N/A
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions	Considered.	N/A
1.7.6	Fuse replacement marking for operator accessible	No operator accessible fuses.	N/A

	fuses		
1.7.7	Identification of terminal connection of the equipment earthing conductor	Appliance inlet provided.	N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.		N/A
1.7.7	Marking located adjacent to terminals and visible during wiring	No such circuits provided.	N/A
2.1.1.1	Bare TNV conductive parts protected by a cover are exempt if instructions include directions for disconnection of TNV prior to removal of the cover	No TNV circuitry.	N/A
2.3.1.b	Other telecommunication signaling systems than described in 2.3.1(b) are subject to M.4.	No TNV circuitry.	N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the max. current limit through a resistor ≥ 2000 Ohm with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions	No TNV circuitry.	N/A
2.3.1.b	Limits for measurements across 5000 Ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.	No TNV circuitry.	N/A
2.3.2.1	For a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.	No TNV circuitry.	N/A
2.3.2.4	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications if subject to special construction requirements and testing	No TNV circuitry.	N/A
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting according to the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable	No such fuse.	N/A
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.	No such a.c output receptacles provided.	N/A
2.6.3.3	For Pluggable Equipment Type A, if a) b) or c) are not applicable, the current rating of the circuit is taken as 20 A	Class II equipment.	N/A
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.	Class II equipment.	N/A
2.6.4.1	Field wiring terminals for earthing conductors suitable for wire sizes (gauge) used in US	No such terminal provided.	N/A
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the equipment	No special external branch circuit overcurrent devices provided.	N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC	No standard supply outlets.	N/A
2.7.1	Overcurrent protection for individual transformers	No such transformers	N/A

	that distribute power to other units over branch circuit wiring	provided.	
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards	No such panel boards.	N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.	Not non-motor-operated equipment.	N/A
2.10.5.12	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.12 and Annex U.	Considered.	P
3.1.1	Permissible combinations of internal wiring/external cable sizes for overcurrent & short circuit protection	Not used.	N/A
3.1.1	All interconnecting cables protected against overcurrent and short circuit.	Not used.	N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC	The equipment is provided with an appliance inlet.	N/A
3.2.1	Permitted use for flexible cords and plugs.	The power cord has not been checked, refer to Summary of Testing.	N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.		N/A
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.	No such outlet.	N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements	No connection to DC mains supply.	N/A
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing		N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.		N/A
3.2.1.2	Markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to the equipment earthing conductor		N/A
3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the equipment earthing conductor		N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.		N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system	The equipment is not permanently connected to the	N/A

	(i.e. conduit, or leads etc.) per the NEC	mains.	
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm ²) and not less than 150 mm in length for connection of field installed wiring.		N/A
3.2.3	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate.		N/A
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables.		N/A
3.2.5	Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.	The power cord has not been checked, refer to Summary of Testing.	N/A
3.2.5	Conductors in power supply cords sized per NEC		N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.	No such cable.	N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.	The equipment is not permanently connected to the mains.	N/A
3.2.9	Equipment solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system when wiring is protected from abuse.		N/A
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3.	The equipment is provided with appliance inlet.	N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than specified in 3.3 if wiring is reliably separated		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means		N/A
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm ²) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention.		N/A
3.3.4	Terminals accept US wire sizes (gauge)		N/A
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.		N/A
3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor for the terminals used	The equipment is provided with appliance inlet.	N/A
3.3.6	Aluminum conductors not permitted for connection to terminal for equipment earthing conductor	Not used.	N/A
3.3.6	Field wiring connections made through the use of	The equipment is provided	N/A

	suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.	with appliance inlet.	
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.		N/A
3.4.8	Vertically mounted disconnect devices oriented so up position of handle is "on".	No switch.	N/A
3.4.11	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 minutes provided with battery disconnect means		N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.	No CRT.	N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.	No such part.	N/A
4.2.11	For equipment mounted on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails	Not intended to be mounted on a wall or ceiling.	N/A
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg	No handle used.	N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310	Not direct plug-in equipment.	N/A
4.3.12	The max. quantity of flammable liquid stored in equipment per ANSI/NFPA 30 (Table NAE.6)	No flammable liquids within the equipment.	N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.		N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation		N/A
4.3.13.5	Requirements contained in the applicable national codes apply to lasers (21 CFR 1040).		N/A
4.7	Automated information storage equipment intended to contain more than 0.76 m ³ of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.	The equipment has no combustible area greater than 0.76 m ³	N/A
4.7.3.1	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics (according to UL 2043). Equipment for installation in space used for environmental air, described in Sec. 300-22(c) of the NEC, provided with instructions indicating suitability for installation	Equipment not used in environmental air space.	N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m ² or a single dimension greater than 1.8 m; 50 or less for computer room applications or	The equipment has no combustible material greater than 0.93m ² or single dimension greater than 1.8m.	N/A

	200 or less for other applications.		
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.	Considered.	P
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.	No TNV circuitry.	N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.	No TNV circuitry.	N/A
5.3.7	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.	Considered.	P
5.3.7	Tests interrupted by opening of a component repeated two additional times.	See table 5.3 in main test report.	P
5.3.9.1	Test interrupted by opening of wire or trace subject to certain conditions.	Considered.	N/A
6	Specialized instructions for telephones that may be connected to a telecommunications network	No TNV circuitry.	N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.		N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.		N/A
6.3	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.		N/A
6.4	Additional requirements for equipment connected to a telecommunication network using cable subject to overvoltage from power line failures		N/A
6.4	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.		N/A
7	Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.	Not cable distribution systems.	N/A
H	Ionizing radiation measurements made under single fault conditions according to 21 CFR 1020		N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.	No TNV circuitry.	N/A
M.4	Special requirements for message waiting and similar telecommunications signals.		N/A
NAC	Equipment for use with a generic secondary protector marked with suitable instructions.	No TNV circuitry.	N/A
NAC	Equipment marked with suitable instructions if for use with a specific primary or secondary protector		N/A
NAD	Acoustic pressure from an ear piece for short and long duration disturbances	No TNV circuitry.	N/A

NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements		N/A
NAF	Household/Home Office Document Shredders		N/A
NAF.1.7	Markings and instructions alert the user to key safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products.	Not such equipment.	N/A
NAF.2.8.3	Safety interlock cannot be inadvertently activated by the articulated accessibility probe		N/A
NAF.3.4	Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.		N/A
NAF.4.4	Hazardous moving parts are not accessible, as determined using the articulated accessibility probe and the accessibility probe/wedge		N/A