



Test Report issued under the responsibility of:



**TEST REPORT**  
**IEC 60950-1**  
**Information technology equipment – Safety –**  
**Part 1: General requirements**

**Report Number**..... : OFF-4787404724-A-1

**Date of issue** ..... : 2016-05-09

**Total number of pages** ..... : 54

**Applicant's name** ..... : ACCTON TECHNOLOGY CORP

**Address** ..... : 1 CREATION 3RD RD SCIENCE-BASED INDUSTRIAL PARK  
HSINCHU 300 TAIWAN

**Test specification:**

**Standard** ..... : IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

**Test procedure**..... : CB Scheme

**Non-standard test method** ..... : N/A

**Test Report Form No.** ..... : IEC60950\_1F

**Test Report Form(s) Originator**.... : SGS Fimko Ltd

**Master TRF** ..... : Dated 2014-02

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**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

**General disclaimer:**

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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

<b>Test item description</b> .....	Ethernet Switch
<b>Trade Mark</b> .....	Edge-corE 
<b>Manufacturer</b> .....	Accton Technology Corp. 1 CREATION 3RD RD, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU 300, TAIWAN
<b>Model/Type reference</b> .....	AS5512-54X
<b>Ratings</b> .....	100-240Vac, 50-60Hz, 6-3A Per PS.

<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	Underwriters Laboratories Taiwan Co., Ltd
<b>Testing location/ address.....:</b>		260 Da-Yeh Road, 112 Peitou Taipei City, Chinese Taipei
<input type="checkbox"/>	<b>Associated CB Testing Laboratory:</b>	
<b>Testing location/ address.....:</b>		
<b>Tested by (name + signature).....:</b>		Josh Liao 
<b>Approved by (name + signature).....:</b>		Charlie Chou 
<hr/>		
<input type="checkbox"/>	<b>Testing procedure: TMP/CTF Stage 1:</b>	
<b>Testing location/ address.....:</b>		
<b>Tested by (name + signature).....:</b>		
<b>Approved by (name + signature).....:</b>		
<hr/>		
<input type="checkbox"/>	<b>Testing procedure: WMT/CTF Stage 2:</b>	
<b>Testing location/ address.....:</b>		
<b>Tested by (name + signature).....:</b>		
<b>Witnessed by (name + signature).....:</b>		
<b>Approved by (name + signature).....:</b>		
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<input type="checkbox"/>	<b>Testing procedure: SMT/CTF Stage 3 or 4:</b>	
<b>Testing location/ address.....:</b>		
<b>Tested by (name + signature).....:</b>		
<b>Witnessed by (name + signature).....:</b>		
<b>Approved by (name + signature).....:</b>		
<b>Supervised by (name + signature).....:</b>		

<p><b>List of Attachments (including a total number of pages in each attachment):</b>  Attachment 1 - European Group Differences And National Differences (10 pages)  Attachment 2 - National differences. (48 pages)  Attachment 3 - Enclosures (13 pages)</p>	
<p><b>Summary of testing:</b>  The sample(s) tested complies with the requirements of IEC 60950-1: 2005 (Second Edition) + Am1: 2009 + Am2: 2013 and EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2: 2013.</p> <p>Unless otherwise indicated, all tests were conducted at Underwriters Laboratories Taiwan Co., Ltd. / 260 Da-Yeh Road, 112 Peitou Taipei City, Chinese Taipei</p>	
<p><b>Tests performed (name of test and test clause):</b>  1.6.2 - INPUT TEST: SINGLE-PHASE  2.5 LIMITED POWER SOURCE MEASUREMENTS  2.6.3.4, 2.6.1 - PROTECTIVE BONDING TEST I  2.6.3.4, 2.6.1 - PROTECTIVE BONDING TEST II  4.2.1 - 4.2.4 - STEADY FORCE TESTS  4.2.5, 4.2.1, PART 22 10.2 IMPACT TEST  4.5.1, 1.4.12, 1.4.13 HEATING TEST  5.1, ANNEX D TOUCH CURRENT TEST (SINGLE-PHASE; TN/TT SYSTEM)  5.2.2 ELECTRIC STRENGTH TEST  5.3.1 5.3.9 ABNORMAL OPERATION TESTS  5.3.7 OVERLOAD OF OPERATOR ACCESSIBLE CONNECTOR TEST</p>	<p><b>Testing location:</b>  Underwriters Laboratories Taiwan Co., Ltd.  260 Da-Yeh Road, 112 Peitou Taipei City, Chinese Taipei</p>

**Summary of compliance with National Differences:****List of countries addressed**

For IEC 60950-1: 2005 + A1: 2009 + A2: 2013 (2nd edition) and EN 60950-1: 2006 + A11: 2009 + A12: 2011 + A2: 2013.

Group differences, special national deviations of all CENELEC countries, AU, CA, CN, JP, KR and US.

Explanation of CENELEC countries: Austria (AT), Belgium (BE), Bulgaria (BG), Croatia (HR), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), Germany (DE), Greece (GR), Hungary (HU), Iceland (IS), Ireland (IE), Italy (IT), Latvia (LV), Lithuania (LT), Luxembourg (LU), Malta (MT), Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Romania (RO), Spain (ES), Slovakia (SK), Slovenia (SI), Sweden (SE), Switzerland (CH) and United Kingdom (GB).

Explanation of used codes for National Differences: Australia (AU), New Zealand (ZL), Canada (CA), China (CN), Japan (JP), Korea (KR) and United States of America (US).

Additionally evaluated the National Differences for IEC 60950-1:2001 (1<sup>st</sup> edition) by the customer's request: China (CN).

Additionally evaluated the National Differences for IEC 60950-1:2005 (2<sup>nd</sup> edition) including A1 by the customer's request: Australia / New Zealand

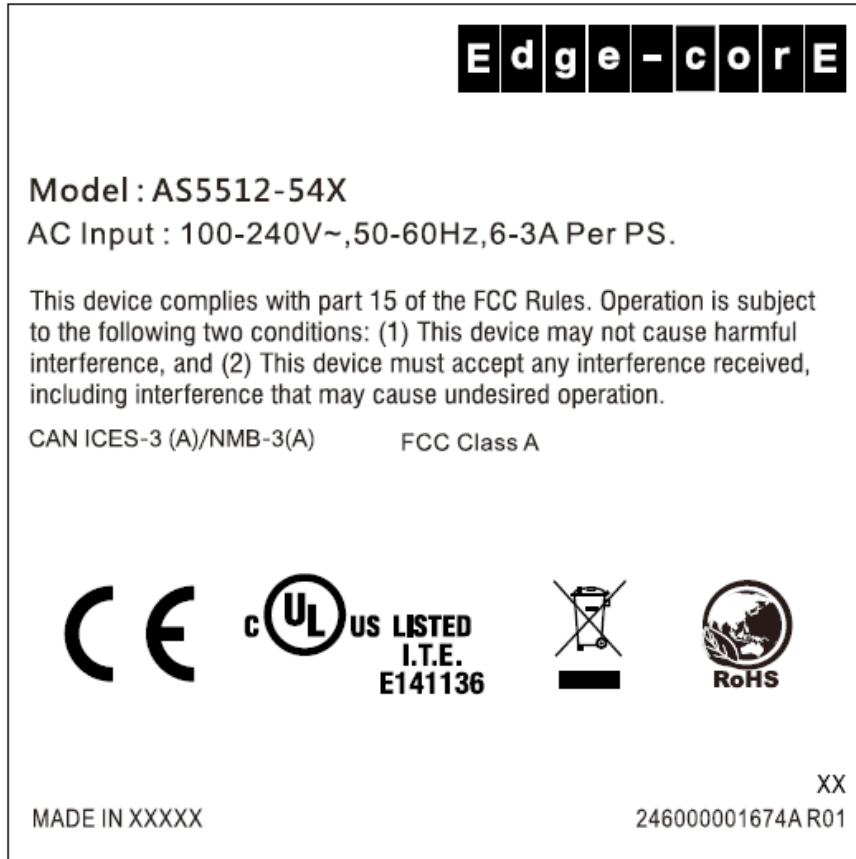
All country differences listed in the CB Bulletin are covered by the Common Modifications, Special National Conditions, National Deviations, and National Requirements noted above except for the following countries which are documented in Country Differences. Attachments attached to this report: refer to attachment 1, 2 for details.

Compliance with the National requirements of "(countries)" as given in CB Bulletin "(112A)" dated December 2006 and IECEE website dated August 2012 were also confirmed.

**The product fulfils the requirements of IEC 60950-1:2005+A1:2009+A2:2013 (2nd edition) and EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013**

**Copy of marking plate:**

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



<b>Test item particulars.....:</b>	
<b>Equipment mobility.....:</b>	<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
<b>Connection to the mains.....:</b>	For connect to AC mains: pluggable A
<b>Operating condition.....:</b>	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
<b>Access location .....</b>	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
<b>Over voltage category (OVC) .....</b>	<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: no direct connect to Mains
<b>Mains supply tolerance (%) or absolute mains supply values .....</b>	+10%, -10%;
<b>Tested for IT power systems .....</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>IT testing, phase-phase voltage (V) .....</b>	230 (For Norway)
<b>Class of equipment .....</b>	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
<b>Considered current rating of protective device as part of the building installation (A) .....</b>	16 (13A for United Kingdom and 20A for North America)
<b>Pollution degree (PD) .....</b>	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
<b>IP protection class .....</b>	IPX0
<b>Altitude during operation (m) .....</b>	Up to 3048
<b>Altitude of test laboratory (m) .....</b>	Up to 2000
<b>Mass of equipment (kg) .....</b>	Approx. 9.955 kg
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
<b>Testing.....:</b>	
<b>Date of receipt of test item .....</b>	2016-04-06
<b>Date (s) of performance of tests .....</b>	2016-04-18 to 2016-04-22
<b>General remarks:</b>	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:</b>	

<p>The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....</p>	<p><input checked="" type="checkbox"/> <b>Yes</b>  <input type="checkbox"/> <b>Not applicable</b></p>
<p><b>When differences exist; they shall be identified in the General product information section.</b></p>	
<p><b>Name and address of factory (ies) .....</b></p>	<p>1. JOY TECHNOLOGY (SHEN ZHEN) CO LTD  BUILDING A, B, C, D, HENGKENG IND.,  SHANGPAI SHANGWU, AIQUN ROAD,  SHIYAN TOWN, SHENZHEN, CHINA</p> <p>2. Accton Technology Corporation Factory I  No.1, Creation Rd. III Science-Based Industrial  Park, East Dist., Hsinchu 300 Taiwan</p>
<p><b>General product information:</b></p>	
<p><b>Product Description</b>  The unit is a Class I Ethernet Switch which is intended to use within Information Technology Equipment . It consists of two certificated power supply, five DC fans and other electronic components mounted on PWB than housed with metal enclosure and secured together by screws.  The designation of airflow associated with power supply source (air flow inward and outward) and fan tray (air flow inward and outward).</p>	
<p><b>Model Differences</b>  N/A</p>	
<p><b>Additional Information</b>  Designation airflow associated with power supply source and fan tray (air flow - inward and outward).  The end product with Fiberoptic Transceivers installed is required to comply with IEC/EN 60950-1, IEC/EN 60825-1 and IEC/EN 60825-2, including any declared national differences.  The decision on certification of the end product without the Fiberoptic Transceivers rests with the recognizing NCB  Maximum normal load is defined as following:  All ports link to adjacent port, all ports transmitting and operating continuously. One USB port provide a load of 5 Vdc, 0.5 A.</p>	
<p><b>Technical Considerations</b></p> <ul style="list-style-type: none"> <li>- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40°C</li> <li>- The means of connection to the mains supply is: pluggable A, Detachable power cord</li> <li>- The product is intended for use on the following power systems: TN</li> <li>- The equipment disconnect device is considered to be: Appliance inlet</li> <li>- The product was investigated to the following additional standards: (1)IEC 60664-1: 1992+ A1: 2000+ A2: 2002 for clearances were considered and the required clearance was multiplied with an altitude correction factors (1.15) specified in Table A.2. (2)U.S. Code of Federal Regulations, 21 CFR 1040.</li> <li>- The class of laser product is Fiber transceivers modules: considered to be a certified Laser class I sources.</li> <li>- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): All output ports</li> <li>- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual</li> <li>- LEDs provided in the product are considered low power devices.</li> <li>- The unit is considered as functional insulation and intended to be installed in isolated secondary circuit which is separated from primary circuit by Reinforce or Double insulation.</li> </ul>	



**Abbreviations used in the report:**

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

**Indicate used abbreviations (if any)**

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

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Clause	Requirement + Test	Result - Remark	Verdict
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		Pass
1.6.1	AC power distribution systems	AC power distribution systems are classify as TN or IT (on for Norway).	Pass
1.6.2	Input current	- The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under NORMAL LOAD. (see appended table 1.6.2)	Pass
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor	Neutral is insulated from earth with basic insulation.	Pass

1.7	Marking and instructions		Pass
1.7.1	Power rating and identification markings	Rating marking readily visible to operator.	Pass
1.7.1.1	Power rating marking	See below	Pass
	Multiple mains supply connections.....:		Pass
	Rated voltage(s) or voltage range(s) (V) .....	100-240 Vac	Pass
	Symbol for nature of supply, for d.c. only Pass.....:		N/A
	Rated frequency or rated frequency range (Hz) ....:	50-60	Pass
	Rated current (mA or A) .....	6-3 A	Pass
1.7.1.2	Identification markings	See below	Pass
	Manufacturer's name or trade-mark or identification mark .....	Manufacturer: Accton Technology Corp Trademark: Edge-corE	Pass
	Model identification or type reference .....	AS5512-54X	Pass
	Symbol for Class II equipment only .....		N/A
	Other markings and symbols .....	Additional symbols may be provided when submitted for National Approval.	Pass
1.7.1.3	Use of graphical symbols	Additional markings are used and are defined in the installation instructions.	Pass
1.7.2	Safety instructions and marking	Operating/safety instructions made available to the USER.	Pass
1.7.2.1	General		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.2	Disconnect devices		N/A
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems	For Norway compliance has to be evaluated during the national approval	Pass
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment .....		N/A
	Methods and means of adjustment; reference to installation instructions .....		N/A
1.7.5	Power outlets on the equipment .....		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....	Evaluated as part of Power Supply unit.	N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals .....		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		Pass
1.7.8.1	Identification, location and marking .....	The functional controls affecting safety is obvious regardless of language, national standards, etc.	Pass
1.7.8.2	Colours .....	Only functional indicators use color.	Pass
1.7.8.3	Symbols according to IEC 60417.....	There are no switches in the equipment.	N/A
1.7.8.4	Markings using figures .....	No figures used as marking	N/A
1.7.9	Isolation of multiple power sources .....	Marking indicates which disconnect device fully isolates the equipment.	Pass
1.7.10	Thermostats and other regulating devices .....	No thermostats or similar regulating devices.	N/A
1.7.11	Durability	All markings provided on UL Approved Component labels suitable for surface they are applied upon and meet the durability test.	Pass
1.7.12	Removable parts	No removable part.	N/A
1.7.13	Replaceable batteries .....	There are no lithium batteries in the equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Language(s) .....		—
1.7.14	Equipment for restricted access locations .....		N/A
<b>2</b>	<b>PROTECTION FROM HAZARDS</b>		<b>Pass</b>
<b>2.1</b>	<b>Protection from electric shock and energy hazards</b>		Pass
2.1.1	Protection in operator access areas		Pass
2.1.1.1	Access to energized parts	The operator can access to bare parts of SELV CIRCUITS.	Pass
	Test by inspection .....	See below.	Pass
	Test with test finger (Figure 2A) .....	The test finger was unable to contact bare hazardous parts, basic insulation, or ELV circuits.	Pass
	Test with test pin (Figure 2B) .....	The test pin was unable to contact bare hazardous parts.	Pass
	Test with test probe (Figure 2C) .....	No TNV present.	Pass
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV.	N/A
	Working voltage ( $V_{peak}$ or $V_{rms}$ ); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No internal wiring accessible to the user.	N/A
2.1.1.5	Energy hazards .....	Evaluated as part of power supply,	N/A
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	Evaluated as part of power supply	N/A
	Measured voltage (V); time-constant (s) .....		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers .....		N/A
2.1.2	Protection in service access areas	Hazardous bare parts are guarded and unintentional contact with such parts is unlikely during servicing operations involving other parts of the equipment.	Pass
2.1.3	Protection in restricted access locations	Equipment not intended to be installed in restricted access location.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.2	SELV circuits		Pass
2.2.1	General requirements	Supplied by approved power adaptor.	Pass
2.2.2	Voltages under normal conditions (V) .....	All accessible voltage are less than 42.4Vp or 60Vdc and are classified as SELV	Pass
2.2.3	Voltages under fault conditions (V) .....	Critical fault condition in SELV reliability is investigation in separate power supply evaluation.	N/A
2.2.4	Connection of SELV circuits to other circuits .....	The SELV circuits are not connected to circuits other than protective earth and other SELV circuits.	Pass

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuit	N/A
	Type of TNV circuits .....		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....		N/A
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		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz).....		—
	Measured current (mA) .....		—
	Measured voltage (V) .....		—
	Measured circuit capacitance (nF or $\mu$ F) .....		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.4.3	Connection of limited current circuits to other circuits		N/A
<b>2.5</b>	<b>Limited power sources</b>		Pass
	a) Inherently limited output	RJ 45 ports, Console port, MGNT port	Pass
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	USB port	Pass
	Use of integrated circuit (IC) current limiters	Certified IC used.	Pass
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....	See Table 2.5 for detail	—
	Current rating of overcurrent protective device (A) ::		—
<b>2.6</b>	<b>Provisions for earthing and bonding</b>		<b>Pass</b>
2.6.1	Protective earthing	Protective earthing provided as one level of protection against electric shock.	Pass
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing .....		N/A
2.6.3	Protective earthing and protective bonding conductors	See below.	Pass
2.6.3.1	General	Protective bonding terminals were subject to the bonding impedance test.	Pass
2.6.3.2	Size of protective earthing conductors	No power supply cord provided	N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
2.6.3.3	Size of protective bonding conductors	Green/Yellow conductor from ground pin of appliance inlet to metal chassis with conductor size is specified by table 3B. Protective bonding terminal conductors evaluated based on 2.6.3.4.	Pass
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....	6.0A. 0.75mm <sup>2</sup> , 18 AWG (Per Table 3B)	—
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG .....	16 (13A for United Kingdom and 20A for North America)	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Resistance of earthing conductors and their terminations; resistance ( $\Omega$ ), voltage drop (V), test current (A), duration (min) .....	<p>Result</p> <p>Test with power model YM-2401J by 3Y power technology</p> <p>1) Appliance Inlet earthing terminal to far metal enclosure with 32A, 2 min.: 0.008 <math>\Omega</math> &lt; 0.1 <math>\Omega</math>.</p> <p>2) Rear side earthing terminal to far metal enclosure with 32A, 2 min.: 0.007 <math>\Omega</math> &lt; 0.1 <math>\Omega</math>.</p> <p>3) Appliance Inlet earthing terminal to far metal enclosure with 40A, 2 min.: U=0.329 V &lt;2.5V</p> <p>4) Rear side earthing terminal to far metal enclosure with 40A, 2 min.: U=0.230 V &lt;2.5V</p> <p>Employing power by CPR-4011-4M1 by Compuware</p> <p>1) Appliance Inlet earthing terminal to far metal enclosure with 32A, 2 min.: 0.007 <math>\Omega</math> &lt; 0.1 <math>\Omega</math>.</p> <p>2) Rear side earthing terminal to far metal enclosure with 32A, 2 min.: 0.007 <math>\Omega</math> &lt; 0.1 <math>\Omega</math>.</p> <p>3) Appliance Inlet earthing terminal to far metal enclosure with 40A, 2 min.: U=0.266 V &lt;2.5V</p> <p>4) Rear side earthing terminal to far metal enclosure with 40A, 2 min.: U=0.230 V &lt;2.5V</p>	Pass
2.6.3.5	Colour of insulation.....	Protective bonding conductor is green with yellow stripe.	Pass
2.6.4	Terminals	See below	Pass
2.6.4.1	General	Appliance inlet employed and the unit meet the test requirement of 2.6.3.4	Pass



<b>IEC 60950-1</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
2.6.4.2	Protective earthing and bonding terminals	The earthing terminal in the appliance inlet is regarded as the main protective earthing terminal. The protective bonding terminal was subject to the bonding impedance test. (See 2.6.3.4)	Pass
	Rated current (A), type, nominal thread diameter (mm) .....	Protective earthing: Certified appliance inlet used.(See table 1.5.1) Protective Bonding Terminal: Terminals comply with 2.6.3.4 test	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Single wiring terminal in equipment with an appliance inlet	Pass
2.6.5	Integrity of protective earthing		Pass
2.6.5.1	Interconnection of equipment	The unit has its own earthing connection. Any other units connected via the output wires to other unit shall provide SELV only.	Pass
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective earthing or bonding conductor.	Pass
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator	It is not possible to disconnect earth without disconnecting mains.	Pass
2.6.5.5	Parts removed during servicing	An appliance coupler used.	Pass
2.6.5.6	Corrosion resistance	Evaluated in separate certification of power supply.	N/A
2.6.5.7	Screws for protective bonding	Metal thickness at least twice the pitch of the screw.	Pass
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b>		<b>Pass</b>
2.7.1	Basic requirements	Protective devices are integrated in the equipment.	Pass
	Instructions when protection relies on building installation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.7.2	Faults not simulated in 5.3.7	Evaluated as part of power supply.	N/A
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection.	Pass
2.7.4	Number and location of protective devices .....	Evaluated as part of power supply.	N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel.....		N/A

<b>2.8</b>	<b>Safety interlocks</b>		<b>N/A</b>
2.8.1	General principles	No safety interlock or similar devices used	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

<b>2.9</b>	<b>Electrical insulation</b>		<b>Pass</b>
2.9.1	Properties of insulating materials	Natural rubber, materials containing asbestos and hygroscopic materials are not used as insulation. (See appended table 1.5.1)	Pass
2.9.2	Humidity conditioning	Evaluated as part of power supply.	N/A
	Relative humidity (%), temperature (°C) .....	93%, 40 degree C, 120hrs (Refer to power report)	—
2.9.3	Grade of insulation	Adequate levels of safety insulation were provided and maintained to comply with the requirements of this standard	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used .....	Method 1	—
<b>2.10</b>	<b>Clearances, creepage distances and distances through insulation</b>		<b>Pass</b>
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.1.1	Frequency .....	50-60 Hz	Pass
2.10.1.2	Pollution degrees .....	2	Pass
2.10.1.3	Reduced values for functional insulation	See 5.3.4	pass
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	Evaluated as part of power supply certification.	N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances	Evaluated as part of power supply. See 5.3.4 for functional insulation.	Pass
2.10.3.1	General		Pass
2.10.3.2	Mains transient voltages	Overvoltage Category II	Pass
	a) AC mains supply .....	Considered transient voltage as Overvoltage Category II, 2500 Vpk	Pass
	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		N/A
2.10.3.4	Clearances in secondary circuits	Evaluated as part of power supply. See 5.3.4 for functional insulation.	Pass
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply .....	Assume 1500 Vpk (One step lower)	Pass
2.10.3.7	Transients from d.c. mains supply .....		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply .....		N/A
	For a d.c. mains supply .....		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	Evaluated as part of power supply. See 5.3.4 for functional insulation.	Pass
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		Pass
	CTI tests .....	Material group IIIb: 100 ≤ CTI < 175.	—
2.10.4.3	Minimum creepage distances	Evaluated as part of power supply. See 5.3.4 for functional insulation.	N/A
2.10.5	Solid insulation	Evaluated as part of power supply.	N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs) .....		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage .....		N/A
	a) Basic insulation not under stress .....		N/A
	b) Basic, supplementary, reinforced insulation .....		N/A
	c) Compliance with Annex U .....		N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage .....		N/A
	- Basic insulation not under stress .....		N/A
	- Supplementary, reinforced insulation .....		N/A
2.10.6	Construction of printed boards		Pass
2.10.6.1	Uncoated printed boards		Pass
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs).....		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

<b>3</b>	<b>WIRING, CONNECTIONS AND SUPPLY</b>		<b>Pass</b>
<b>3.1</b>	<b>General</b>		Pass
3.1.1	Current rating and overcurrent protection	All internal wiring used in the distribution of primary power protected against overcurrent and short circuit by suitably rated protective devices.	Pass
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.3	Securing of internal wiring	The wires are secured by solder so that a loosening of the terminal connection is unlikely	Pass
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage.	Pass
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure	All electrical screw connections are by metal screw with more than 2 threads into a metal plate.	Pass
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	Pass
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections. Machine screws only.	Pass
3.1.9	Termination of conductors	All conductors are reliably secured.	Pass
	10 N pull test	Test waived, assessed by inspection	N/A
3.1.10	Sleeving on wiring	No sleeving used as supplementary insulation	N/A

<b>3.2</b>	<b>Connection to a mains supply</b>		<b>Pass</b>
3.2.1	Means of connection	Appliance Inlet.	Pass
3.2.1.1	Connection to an a.c. mains supply	An appliance inlet for connection of a detachable power supply cord	Pass
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Separate means of connection are provided for different circuits. Supply plug connections are not interchangeable to prevent a hazard which could result from incorrect plugging.	Pass
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320. The power cord can be inserted without difficulties and does not support the unit. (see appended table 1.5.1)	Pass
3.2.5	Power supply cords	See below	N/A
3.2.5.1	AC power supply cords	A power supply cord set, complying with national requirements, shall be provided when marketing in the specified countries.	N/A
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) .....		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space		N/A
<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b>		<b>N/A</b>
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ).....		—
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
<b>3.4</b>	<b>Disconnection from the mains supply</b>		<b>Pass</b>

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.1	General requirement		Pass
3.4.2	Disconnect devices	Appliance coupler. .	Pass
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	It is a single-phase unit and disconnect device disconnects both poles simultaneously.	Pass
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices	The plug on the power cord is not considered the disconnect device.	N/A
3.4.10	Interconnected equipment	.	N/A
3.4.11	Multiple power sources	Each disconnect device is marked to indicate the proper method for total power disconnection and all disconnects are grouped together. Supply plug connections are not interchangeable to prevent a hazard which could result from incorrect plugging.	Pass

<b>3.5</b>	<b>Interconnection of equipment</b>		<b>Pass</b>
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits .....	Interconnection circuits are SELV CIRCUITS.	Pass
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		Pass

<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		<b>Pass</b>
<b>4.1</b>	<b>Stability</b>		N/A
	Angle of 10°	Based on construction, the test was deemed not necessary. ( the unit will be secured in the rack mount kit)	Pass
	Test force (N) .....		N/A

<b>4.2</b>	<b>Mechanical strength</b>		<b>Pass</b>
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Clause	Requirement + Test	Result - Remark	Verdict
4.2.1	General	After the tests, the equipment is still complying with relevant requirements of this standard.	Pass
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N		Pass
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	250N were applied to the outer enclosure. No hazards as a result of the 250 N test..	Pass
4.2.5	Impact test	500g steel sphere ball fall or swing from 1.3m height onto outer enclosure. No safety relevant damages.	Pass
	Fall test		Pass
	Swing test		N/A
4.2.6	Drop test; height (mm) .....		N/A
4.2.7	Stress relief test	Metallic enclosure used.	N/A
4.2.8	Cathode ray tubes	No cathode ray tube.	N/A
	Picture tube separately certified .....		N/A
4.2.9	High pressure lamps	No high pressure lamp provided	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....	Not wall or ceiling mounted equipment.	N/A

<b>4.3</b>	<b>Design and construction</b>		<b>Pass</b>
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N) .....		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	No connections likely to be exposed to mechanical stress are provided in unit.	Pass
4.3.5	Connection by plugs and sockets	IEC 60083 or IEC 60320 type connectors not used for SELV. No mismatch of connectors, plugs or sockets possible	Pass
4.3.6	Direct plug-in equipment	The equipment is not a direct plug-in unit	N/A
	Torque .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Compliance with the relevant mains plug standard .....		N/A
4.3.7	Heating elements in earthed equipment	No such device within the EUT	N/A
4.3.8	Batteries	No battery use	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 not in contact with oil or grease.	N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases	The equipment does not contain liquid.	N/A
4.3.12	Flammable liquids .....		N/A
	Quantity of liquid (l) .....		N/A
	Flash point (°C) .....		N/A
4.3.13	Radiation	Approved fiberoptic transceivers may be provided with the product.	Pass
4.3.13.1	General		Pass
4.3.13.2	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		N/A
	Part, property, retention after test, flammability classification .....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	See below	Pass
4.3.13.5.1	Lasers (including laser diodes)	Laser Fiber module is an approved component and evaluated according to IEC/EN 60825-1 standard for laser product.	Pass
	Laser class .....	Approved laser class I Fiber Module optional used, see critical component list for detail.	—

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5.2	Light emitting diodes (LEDs)	- For visible indicator LEDs, the luminance is far less than 10000 cd/m <sup>2</sup> . With reference to sub clause 4.1 of IEC 62471:2006 no further test is necessary.	—
4.3.13.6	Other types .....		N/A

<b>4.4</b>	<b>Protection against hazardous moving parts</b>		<b>Pass</b>
4.4.1	General	Adequate protection against risk of personal injury for users. Also evaluated clause 4.4.5 and complied with this requirements for service persons.	Pass
4.4.2	Protection in operator access areas .....	No hazardous moving part in operator access area. The DC fan was not accessible.	Pass
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations .....	The equipment is not intended to be used in RAL.	N/A
4.4.4	Protection in service access areas	Unintentional contact with hazardous moving parts by service personnel is unlikely.	N/A
4.4.5	Protection against moving fan blades		Pass
4.4.5.1	General	Adequate protection against risk of personal injury.	Pass
	Not considered to cause pain or injury. a).....:		N/A
	Is considered to cause pain, not injury. b) .....		N/A
	Considered to cause injury. c) .....		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning .....		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning .....		N/A

<b>4.5</b>	<b>Thermal requirements</b>		<b>Pass</b>
4.5.1	General		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
4.5.2	Temperature tests	The equipment and its components did not attain excessive temperatures during normal operation. (see appended table 4.5)	Pass
	Normal load condition per Annex L .....	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established.	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	Pass
4.5.4	Touch temperature limits	(see appended table 4.5)	Pass
4.5.5	Resistance to abnormal heat .....		N/A

4.6	Openings in enclosures		Pass
4.6.1	Top and side openings	There are no openings in the top of the enclosure. For side enclosure: Openings do not exceed 1 mm in width or do not exceed 5 mm in any dimension.	Pass
	Dimensions (mm) .....	See Enclosure 4-01 for details.	—
4.6.2	Bottoms of fire enclosures	No opening	Pass
	Construction of the bottom, dimensions (mm) ...	No opening	—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment	Unit is not transportable	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks).....		—

4.7	Resistance to fire		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials which minimize the possibility of ignition and spread of flame.	Pass
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	Pass
	Method 2, application of all of simulated fault condition tests		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.2	Conditions for a fire enclosure	Fire enclosure is required	Pass
4.7.2.1	Parts requiring a fire enclosure	A fire enclosure covers all parts.	Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		Pass
4.7.3.1	General	The propagation of fire is minimized through the fire enclosure construction.	Pass
4.7.3.2	Materials for fire enclosures	Metal enclosure used	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	Connectors are made of materials of Class V-2 minimum.	Pass
4.7.3.4	Materials for components and other parts inside fire enclosures	PWBs are rated min. V-1. All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better See Table 1.5.1 for material information.	Pass
4.7.3.5	Materials for air filter assemblies	No air filters assemblies	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage component used.	N/A

<b>5</b>	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		<b>Pass</b>
<b>5.1</b>	<b>Touch current and protective conductor current</b>		Pass
5.1.1	General	See below	Pass
5.1.2	Configuration of equipment under test (EUT)	Equipment designed for connection to one or two power source.	Pass
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	Redundant two connections to a.c. mains supply	Pass
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		Pass
5.1.3	Test circuit	Test circuit as in figure 5A is used	Pass
5.1.4	Application of measuring instrument	Test made to 10 x 20 cm metal foil in contact with accessible non-conductive part. Tested using D.1 measuring instrument.	Pass
5.1.5	Test procedure	Touch current was measured from primary to enclosure and primary to output.	Pass
5.1.6	Test measurements	See below	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	Supply voltage (V) .....	264Vac/ 60Hz	—
	Measured touch current (mA) .....	(see appended table 5.1)	—
	Max. allowed touch current (mA) .....	(see appended table 5.1)	—
	Measured protective conductor current (mA) .....	--	—
	Max. allowed protective conductor current (mA)....	--	—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....		N/A
	Measured touch current (mA) .....		N/A
	Max. allowed touch current (mA) .....		N/A
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

<b>5.2</b>	<b>Electric strength</b>		<b>Pass</b>
5.2.1	General	Based on the electric strength test the use of the insulating materials within the equipment is satisfactory.	Pass
5.2.2	Test procedure	(see appended table 5.2) No insulation breakdown detected during the test.	Pass

<b>5.3</b>	<b>Abnormal operating and fault conditions</b>		<b>Pass</b>
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	Pass
5.3.2	Motors	The motors in cooling fan used for this equipment are separately approved and checked with the appliance	Pass
5.3.3	Transformers	Evaluated as port of power supply.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.4	Functional insulation .....	Functional insulation complies with the requirements (a), (b), or (c).	Pass
5.3.5	Electromechanical components	No electromechanical components	N/A
5.3.6	Audio amplifiers in ITE .....		N/A
5.3.7	Simulation of faults	(see appended table 5.3)	Pass
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation during the Abnormal Operating tests.	Pass
5.3.9.1	During the tests	No fire, emission of molten metal or deformation during the Abnormal Operating tests.	Pass
5.3.9.2	After the tests	No fire, emission of molten metal or deformation during the Abnormal Operating tests.	{Pass

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

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

<b>6.3</b>	<b>Protection of the telecommunication wiring system from overheating</b>		<b>N/A</b>
	Max. output current (A) .....		—
	Current limiting method .....		—

<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		<b>N/A</b>
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>7.1</b>	<b>General</b>		<b>N/A</b>
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

<b>A</b>	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		<b>N/A</b>
<b>A.1</b>	<b>Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)</b>		<b>N/A</b>
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) .....		—
<b>A.2</b>	<b>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)</b>		<b>N/A</b>
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) .....		—



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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) .....		—
<b>A.3</b>	<b>Hot flaming oil test (see 4.6.2)</b>		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>B</b>	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		<b>N/A</b>
<b>B.1</b>	<b>General requirements</b>	Approved Cooling Fan use	N/A
	Position .....		—
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
<b>B.2</b>	<b>Test conditions</b>		N/A
<b>B.3</b>	<b>Maximum temperatures</b>		N/A
<b>B.4</b>	<b>Running overload test</b>		N/A
<b>B.5</b>	<b>Locked-rotor overload test</b>		N/A
	Test duration (days) .....		—
	Electric strength test: test voltage (V) .....		—
<b>B.6</b>	<b>Running overload test for d.c. motors in secondary circuits</b>		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>B.7</b>	<b>Locked-rotor overload test for d.c. motors in secondary circuits</b>		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>B.8</b>	<b>Test for motors with capacitors</b>		N/A
<b>B.9</b>	<b>Test for three-phase motors</b>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>B.10</b>	<b>Test for series motors</b>		N/A
	Operating voltage (V) .....		—
<b>C</b>	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		<b>N/A</b>
	Position .....		—
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
	Method of protection .....		—
<b>C.1</b>	<b>Overload test</b>		N/A
<b>C.2</b>	<b>Insulation</b>		N/A
	Protection from displacement of windings .....		N/A
<b>D</b>	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		<b>Pass</b>
<b>D.1</b>	Measuring instrument	Figure D.1 used	Pass
<b>D.2</b>	Alternative measuring instrument		N/A
<b>E</b>	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		<b>N/A</b>
<b>F</b>	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		<b>N/A</b>
<b>G</b>	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		<b>N/A</b>
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply .....		N/A
G.2.2	Earthed d.c. mains supplies .....		N/A
G.2.3	Unearthed d.c. mains supplies .....		N/A
G.2.4	Battery operation .....		N/A
G.3	Determination of telecommunication network transient voltage (V) .....		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks .....		N/A
G.4.2	Transients from telecommunication networks .....		N/A

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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
<b>H</b>	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>		<b>N/A</b>
<b>J</b>	<b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b>		<b>Pass</b>
	Metal(s) used .....		—
<b>K</b>	<b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>		<b>N/A</b>
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....		N/A
K.3	Thermostat endurance test; operating voltage (V) .....		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
<b>L</b>	<b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>		<b>Pass</b>
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		Pass
<b>M</b>	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		<b>N/A</b>
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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
<b>N</b>	<b>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)</b>		<b>N/A</b>
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
<b>P</b>	<b>ANNEX P, NORMATIVE REFERENCES</b>		<b>Pass</b>
<b>Q</b>	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>		<b>N/A</b>
	- Preferred climatic categories .....		N/A
	- Maximum continuous voltage .....		N/A
	- Combination pulse current .....		N/A
	Body of the VDR Test according to IEC60695-11-5.....		N/A
	Body of the VDR. Flammability class of material ( min V-1).....		N/A
<b>R</b>	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		<b>N/A</b>
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
<b>S</b>	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		<b>N/A</b>
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

<b>IEC 60950-1</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
<b>T</b>	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		<b>N/A</b>
			—
<b>U</b>	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		<b>N/A</b>
			—
<b>V</b>	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		<b>Pass</b>
V.1	Introduction		Pass
V.2	TN power distribution systems		Pass
<b>W</b>	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		<b>N/A</b>
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
<b>X</b>	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		<b>N/A</b>
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
<b>Y</b>	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		<b>N/A</b>
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
<b>Z</b>	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		<b>Pass</b>
<b>AA</b>	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		<b>N/A</b>
<b>BB</b>	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		—

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict

<b>CC</b>	<b>ANNEX CC, Evaluation of integrated circuit (IC) current limiters</b>		<b>Pass</b>
CC.1	General	UL2367 and Certified IC used (IEC 60950-1 Am1 or Am2)	Pass
CC.2	Test program 1.....:		N/A
CC.3	Test program 2.....:	Complied (For IEC 60950-1 Am1)	Pass
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A

<b>DD</b>	<b>ANNEX DD, Requirements for the mounting means of rack-mounted equipment</b>		<b>N/A</b>
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....:		N/A
DD.3	Mechanical strength test, 250N, including end stops.....:		N/A
DD.4	Compliance.....:		N/A

<b>EE</b>	<b>ANNEX EE, Household and home/office document/media shredders</b>		<b>N/A</b>
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....:		N/A
	Information of user instructions, maintenance and/or servicing instructions.....:		N/A
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) .....		N/A
	Test with wedge probe (Figure EE1 and EE2) .....		N/A

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

1.5.1	TABLE: List of critical components					Pass
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>	
Label	Interchangeable	Interchangeable	50 degree C Min,	UL 969	UL	
Enclosure	Interchangeable	Interchangeable	Metallic (SECC), 1.0 mm thickness, See Enclosure/diagr am 4-01 for dimension details.	--	--	
AC Power Supply (Maximum two provide) (can be optional while factory inspection)	3Y POWER TECHNOLOGY (TAIWAN) INC	YM-2401J	I/P: 100- 240Vac, 50- 60Hz, 6-3A; O/P: +12V/33.3 A, +5Vsb/3A; Tma =50 degreeC, operate altitude: 5,000m.	UL 60950-1, IEC 60950- 1:2005 2nd edition;Am1:200 9;Am2:2013	UL, TUV	
AC Power Supply (Maximum two provide) (can be optional while factory inspection) (Alternate)	COMPUWARE TECHNOLOGY INC	CPR-4011-4M1, CPR-4011-4M2	I/P: 100- 240Vac, 50- 60Hz, 6-3A; O/P: +12V/33A, +5Vsb/3A. Class I, 50 degree C. operate altitude: 3,048m.	UL 60950-1, IEC 60950- 1:2005 2nd edition;Am1:200 9;Am2:2013	UL, TUV	
PCB	Interchangeable	Interchangeable	V-1 or better, 105 degree C minimum.	UL 796	UL	
Power Distribution Switch (U31) (Provided for USB port)	Texas Instruments, Inc.	TPS2552.....,TP S2553..... (The dots "....." noted in the model number represents any alphanumeric character identifying minor differences in non-safety affecting operation and configuration differences.)	2.5-6.5 Vdc, Rating: 1.5 A, Output Current Limit: 1.7 A	UL 2367, IEC 60950-1:2005 (2nd Edition); Am 1:2009	UL, Nemko	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
System Fan (Five provided) (can be optional while factory inspection)	Sunonwealth Electric Machine Industry Co., Ltd.	PF40561BX- Q01(Y) (Y) stands for 30 variables, each variable may be A through Z, 0 through 9, "-", "(", ")", ".", "/" or blank.	DC12V, 1.55 A, 31.7CFM Min.	EN 60950-1, IEC 60950-1, UL 507	UL, TUV
System Fan (Five provided) (can be optional while factory inspection) (Alternate)	Sunonwealth Electric Machine Industry Co., Ltd.	PF40561BX- Q02(Y) (Y) stands for 30 variables, each variable may be A through Z, 0 through 9, "-", "(", ")", ".", "/" or blank.	DC12V, 1.55 A, 31.7CFM Min.	EN 60950-1, IEC 60950-1, UL 507	UL, TUV
Optical Fiber Transceivers modules (Optional)	Finisar Corp.	FTLC9141R	3.3 Vdc , Laser Class 1 (I)	UL 60950-1, IEC/EN 60950- 1, IEC/EN 60825- 1, IEC/EN 60825-2	UL, TUV
Optical Fiber Transceivers modules (Optional) (Alternate)	Interchangeable	Interchangeable	3.3 Vdc , Laser Class 1 (I)	UL 60950-1, IEC/EN 60950- 1, IEC/EN 60825- 1, IEC/EN 60825-2	UL, TUV
<b>Supplementary information:</b>					
<sup>1)</sup> <b>Provided evidence ensures the agreed level of compliance. See OD-CB2039.</b>					



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	<b>TABLE: Opto Electronic Devices</b>		N/A
Manufacturer .....			
Type .....			
Separately tested .....			
Bridging insulation .....			
External creepage distance.....			
Internal creepage distance.....			
Distance through insulation.....			
Tested under the following conditions.....			
Input .....			
Output.....			
supplementary information			

1.6.2	TABLE: Electrical data (in normal conditions)						Pass
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
--	--	--	--	--	--	<b>Supplied by left AC power supply Model YM-2401J</b>	
90Vac/50Hz	2.389	--	214.78	F100	--	Maximum Normal Load	
90Vac/60Hz	2.393	--	215.02	F100	--	Maximum Normal Load	
100Vac/50Hz	2.140	6	213.52	F100	--	Maximum Normal Load	
100Vac/60Hz	2.140	6	213.52	F100	--	Maximum Normal Load	
240Vac/50Hz	0.886	3	207.79	F100	--	Maximum Normal Load	
240Vac/60Hz	0.892	3	207.73	F100	--	Maximum Normal Load	
254Vac/50Hz	0.841	--	207.55	F100	--	Maximum Normal Load	
254Vac/60Hz	0.848	--	207.53	F100	--	Maximum Normal Load	
264Vac/50Hz	0.813	--	207.50	F100	--	Maximum Normal Load	
264Vac/60Hz	0.822	--	207.52	F100	--	Maximum Normal Load	
--	--	--	--	--	--	Supplied by right AC power supply Model YM-2401J	
90Vac/50Hz	2.393	--	215.15	F100	--	Maximum Normal Load	
90Vac/60Hz	2.394	--	215.19	F100	--	Maximum Normal Load	
100Vac/50Hz	2.141	6	213.84	F100	--	Maximum Normal Load	

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
100Vac/60 Hz	2.144	6	214.03	F100	--	Maximum Normal Load
240Vac/50 Hz	0.885	3	207.86	F100	--	Maximum Normal Load
240Vac/60 Hz	0.894	3	208.16	F100	--	Maximum Normal Load
254Vac/50 Hz	0.840	--	207.73	F100	--	Maximum Normal Load
254Vac/60 Hz	0.852	--	208.17	F100	--	Maximum Normal Load
264Vac/50 Hz	0.812	--	207.67	F100	--	Maximum Normal Load
264Vac/60 Hz	0.825	--	208.20	F100	--	Maximum Normal Load
--	--	--	--	--	--	Supplied by both AC power supply Model YM-2401J
90Vac/50Hz	1.294/1.168	--	116.15/104.64	F100	--	Maximum Normal Load
90Vac/60Hz	1.296/1.171	--	116.36/104.94	F100	--	Maximum Normal Load
100Vac/50 Hz	1.162/1.048	6	115.77/104.27	F100	--	Maximum Normal Load
100Vac/60 Hz	1.163/1.051	6	115.85/104.54	F100	--	Maximum Normal Load
240Vac/50 Hz	0.5043/0.4565	3	113.00/102.11	F100	--	Maximum Normal Load
240Vac/60 Hz	0.5157/0.4711	3	113.02/102.12	F100	--	Maximum Normal Load
254Vac/50 Hz	0.4833/0.4373	--	113.14/102.15	F100	--	Maximum Normal Load
254Vac/60 Hz	0.4998/0.4552	--	112.93/102.04	F100	--	Maximum Normal Load
264Vac/50 Hz	0.4804/0.4287	--	113.24/102.01	F100	--	Maximum Normal Load
264Vac/60 Hz	0.4946/0.4485	--	113.12/101.96	F100	--	Maximum Normal Load
--	--	--	--	--	--	Supplied by left AC power supply Model CPR-4011-4M1
90Vac/50Hz	2.502	--	224.94	F2	--	Maximum Normal Load
90Vac/60Hz	2.498	--	224.47	F2	--	Maximum Normal Load
100Vac/50 Hz	2.245	6	223.93	F2	--	Maximum Normal Load
100Vac/60 Hz	2.244	6	223.92	F2	--	Maximum Normal Load
240Vac/50 Hz	0.932	3	219.26	F2	--	Maximum Normal Load
240Vac/60 Hz	0.936	3	219.12	F2	--	Maximum Normal Load
254Vac/50 Hz	0.879	--	218.34	F2	--	Maximum Normal Load

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
254Vac/60 Hz	0.886	--	218.73	F2	--	Maximum Normal Load
264Vac/50 Hz	0.845	--	217.62	F2	--	Maximum Normal Load
264Vac/60 Hz	0.855	--	218.65	F2	--	Maximum Normal Load
--	--	--	--	--	--	Supplied by right AC power supply Model CPR-4011-4M1
90Vac/50Hz	2.444	--	219.20	F2	--	Maximum Normal Load
90Vac/60Hz	2.441	--	218.79	F2	--	Maximum Normal Load
100Vac/50 Hz	2.192	6	218.03	F2	--	Maximum Normal Load
100Vac/60 Hz	2.192	6	217.95	F2	--	Maximum Normal Load
240Vac/50 Hz	0.916	3	212.93	F2	--	Maximum Normal Load
240Vac/60 Hz	0.920	3	212.92	F2	--	Maximum Normal Load
254Vac/50 Hz	0.863	--	212.09	F2	--	Maximum Normal Load
254Vac/60 Hz	0.869	--	212.24	F2	--	Maximum Normal Load
264Vac/50 Hz	0.830	--	211.73	F2	--	Maximum Normal Load
264Vac/60 Hz	0.847	--	211.98	F2	--	Maximum Normal Load
--	--	--	--	--	--	Supplied by both AC power supply Model CPR-4011-4M1
90Vac/50Hz z	1.188/1.334	--	106.32/118.42	F2	--	Maximum Normal Load
90Vac/60Hz z	1.191/1.334	--	106.49/118.31	F2	--	Maximum Normal Load
100Vac/50 Hz	1.069/1.198	6	106.13/117.80	F2	--	Maximum Normal Load
100Vac/60 Hz	1.072/1.199	6	106.24/117.77	F2	--	Maximum Normal Load
240Vac/50 Hz	0.4875/0.4976	3	110.54/111.05	F2	--	Maximum Normal Load
240Vac/60 Hz	0.4964/0.5050	3	110.66/110.88	F2	--	Maximum Normal Load
254Vac/50 Hz	0.4648/0.4722	--	110.51/110.68	F2	--	Maximum Normal Load
254Vac/60 Hz	0.4751/0.4818	--	110.61/110.68	F2	--	Maximum Normal Load
264Vac/50 Hz	0.4501/0.4557	--	110.42/110.43	F2	--	Maximum Normal Load
264Vac/60 Hz	0.4608/0.4677	--	110.29/110.57	F2	--	Maximum Normal Load

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
--	--	--	--	--	--	Supplied by both AC power supply Model CPR-4011-4M1 (out blowing) Left and YM-2401J (out blowing) Right
90Vac/50Hz	1.199/1.283	--	107.22/114.88	F2/F100	--	Maximum Normal Load
90Vac/60Hz	1.186/1.292	--	106.13/115.87	F2/F100	--	Maximum Normal Load
100Vac/50Hz	1.071/1.157	6	106.28/115.12	F2/F100	--	Maximum Normal Load
100Vac/60Hz	1.066/1.161	6	105.76/115.58	F2/F100	--	Maximum Normal Load
240Vac/50Hz	0.5033/0.4631	3	114.52/114.05	F2/F100	--	Maximum Normal Load
240Vac/60Hz	0.5104/0.4781	3	114.31/114.22	F2/F100	--	Maximum Normal Load
254Vac/50Hz	0.4789/0.4453	--	114.25/114.08	F2/F100	--	Maximum Normal Load
254Vac/60Hz	0.4884/0.4617	--	114.25/114.09	F2/F100	--	Maximum Normal Load
264Vac/50Hz	0.4633/0.4381	--	114.06/114.06	F2/F100	--	Maximum Normal Load
264Vac/60Hz	0.4745/0.4566	--	114.20/114.08	F2/F100	--	Maximum Normal Load
--	--	--	--	--	--	Supplied by both AC power supply Model CPR-4011-4M2 (in blowing) Right and YM-2401J (in blowing) Left
90Vac/50Hz	1.160/1.360	--	103.37/121.93	F2/F100	--	Maximum Normal Load
90Vac/60Hz	1.161/1.361	--	103.53/122.04	F2/F100	--	Maximum Normal Load
100Vac/50Hz	1.038/1.219	6	102.48/121.41	F2/F100	--	Maximum Normal Load
100Vac/60Hz	1.038/1.219	6	102.59/121.49	F2/F100	--	Maximum Normal Load
240Vac/50Hz	0.4868/0.4920	3	109.44/111.58	F2/F100	--	Maximum Normal Load
240Vac/60Hz	0.4554/0.5318	3	99.67/118.76	F2/F100	--	Maximum Normal Load
254Vac/50Hz	0.4643/0.4722	--	109.41/111.78	F2/F100	--	Maximum Normal Load
254Vac/60Hz	0.4750/0.4871	--	109.41/111.61	F2/F100	--	Maximum Normal Load
264Vac/50Hz	0.4516/0.4611	--	109.77/111.33	F2/F100	--	Maximum Normal Load
264Vac/60Hz	0.4612/0.4787	--	109.26/111.64	F2/F100	--	Maximum Normal Load
Supplementary information: Maximum normal load condition: All ports link to adjacent port, all ports transmitting and operating continuously. One USB port provide a load of 5 Vdc , 0.5 A.						

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

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

2.1.1.5 c) 2)	TABLE: stored energy			N/A
Capacitance C (μF)	Voltage U (V)	Energy E (J)		
supplementary information:				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			Pass
Component (measured between)	Max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
--	--	--	--	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
--	--			
supplementary information:				
- Evaluated as part of AC adapter.				

2.5	TABLE: Limited power sources					Pass
Circuit output tested: See below						
Note: Measured Uoc (V) with all load circuits disconnected: See below						
Components	Test condition (Single fault)	Uoc (V)	I <sub>sc</sub> (A)		VA	
			Meas.	Limit	Meas.	Limit
Micro USB Port Pin 1	Normal	5.027	0.516	8	2.23	100
Micro USB Port Other pins	Normal	0	-	8	-	100
Console Port Pin 1	Normal	5.690	0	8	0	100

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Clause	Requirement + Test			Result - Remark		Verdict
Console Port Pin 3	Normal	5.470	0	8	0	100
Console port Other pins	Normal	0	--	8	--	100
MGNT port All pins	Normal	0	--	8	--	100
supplementary information:						
Sc=Short circuit, Oc=Open circuit USB are protected by power distribution IC, see critical component list for detail.						

2.10.2	Table: working voltage measurement				N/A
Location	RMS voltage (V)	Peak voltage (V)	Comments		
supplementary information:					

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						Pass
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:							
Basic/supplementary:							
Reinforced:							
Supplementary information: Only functional insulation required, otherwise evaluated in certificate power supply							

2.10.5	TABLE: Distance through insulation measurements					N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	

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

Supplementary information:

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

4.3.8	TABLE: Batteries								N/A
Battery category .....									
Manufacturer .....									
Type / model .....									
Voltage .....									
Capacity .....									
Tested and Certified by (incl. Ref. No.).....									
Circuit protection diagram:									
See critical component list for detail.									

MARKINGS AND INSTRUCTIONS (1.7.13 )	
Location of replaceable battery	N/A
Language(s) .....	N/A
Close to the battery .....	N/A
In the servicing instructions .....	N/A
In the operating instructions .....	N/A
Location of replaceable battery	N/A

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

4.5	TABLE: Thermal requirements				Pass	
	Supply voltage (V) .....	See below	See below	See below	See below	—
	Ambient $T_{min}$ (°C) .....	See below	See below	See below	See below	—
	Ambient $T_{max}$ (°C) .....	See below	See below	See below	See below	—
Maximum measured temperature T of part/at.....:		T (°C)				Allowed $T_{max}$ (°C)
Supplied by both power supply model YM-2401J (out blowing)		90 Vac / 60 Hz (Original)	90 Vac / 60 Hz (Shift to 40°C)	264 Vac / 60 Hz (Original)	264 Vac / 60 Hz (Shift to 40°C)	--
Power Supply		--	--	--	--	--
Appliance inlet		30.3	45.3	31.0	46.0	70
T601 coil		31.2	46.2	33.8	48.8	110
L103 coil		31.7	46.7	31.3	46.3	105
PCB near Q116		35.6	50.6	33.9	48.9	105
Main Board		--	--	--	--	--
PCB near heatsink (HS1)		27.8	42.8	29.4	44.4	105
Module (CPU) Board		--	--	--	--	--
PCB near heatsink (HS1)		27.0	42.0	28.7	43.7	105
Enclosure outside near HS1		26.6	41.6	28.3	43.3	70
Ambient		25	40	25	40	--
Supplied by left power supply model YM-2401J (out blowing)		90 Vac / 60 Hz (Original)	90 Vac / 60 Hz (Shift to 40°C)	264 Vac / 60 Hz (Original)	264 Vac / 60 Hz (Shift to 40°C)	--
Power Supply		--	--	--	--	--
Appliance inlet		33.3	48.3	33.9	48.9	70
T601 coil		36.7	51.7	37.0	52.0	110
L103 coil		37.1	52.1	33.0	48.0	105
PCB near Q116		41.9	56.9	36.3	51.3	105
Main Board		--	--	--	--	--
PCB near heatsink (HS1)		29.5	44.5	29.4	44.4	105
Module (CPU) Board		--	--	--	--	--
PCB near heatsink (HS1)		28.9	43.9	28.7	43.7	105
Enclosure outside near HS1		28.4	43.4	28.3	43.3	70



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Clause	Requirement + Test		Result - Remark		Verdict
Ambient	25	40	25	40	--
Supplied by left power supply model YM-2401J (in blowing)	90 Vac / 60 Hz (Original)	90 Vac / 60 Hz (Shift to 40°C)	264 Vac / 60 Hz (Original)	264 Vac / 60 Hz (Shift to 40°C)	--
Power Supply	--	--	--	--	--
Appliance inlet	27.3	42.3	27.4	42.4	70
T601 coil	47.1	62.1	43.9	58.9	110
L103 coil	34.7	49.7	30.7	45.7	105
PCB near Q116	45.9	60.9	36.7	51.7	105
Main Board	--	--	--	--	--
PCB near heatsink (HS1)	27.9	42.9	27.7	42.7	105
Module (CPU) Board	--	--	--	--	--
PCB near heatsink (HS1)	28.1	43.1	27.8	42.8	105
Enclosure outside near HS1	26.5	41.5	26.3	41.3	70
Ambient	25	40	25	40	--
Supplied by both power supply model CPR-4011-4M1 (out blowing)	90 Vac / 60 Hz (Original)	90 Vac / 60 Hz (Shift to 40°C)	264 Vac / 60 Hz (Original)	264 Vac / 60 Hz (Shift to 40°C)	--
Power Supply	--	--	--	--	--
Appliance inlet	42.0	57.0	36.1	51.1	70
T3 coil	43.3	58.3	42.6	57.6	110
T3 core	43.3	58.3	41.9	56.9	110
PCB near Q17	48.3	63.3	45.7	60.7	105
Main Board	--	--	--	--	--
PCB near heatsink (HS1)	29.2	44.2	30.4	45.4	105
Module (CPU) Board	--	--	--	--	--
PCB near heatsink (HS1)	28.5	43.5	29.8	44.8	105
Enclosure outside near HS1	28.1	43.1	29.4	44.4	70
Ambient	25	40	25	40	--
Supplied by left power supply model CPR-4011-4M1 (out blowing)	90 Vac / 60 Hz (Original)	90 Vac / 60 Hz (Shift to 40°C)	264 Vac / 60 Hz (Original)	264 Vac / 60 Hz (Shift to 40°C)	--
Power Supply	--	--	--	--	--
Appliance inlet	40.9	55.90	36.0	51.0	70
T3 coil	42.3	57.30	46.2	61.2	110
T3 core	42.1	57.10	44.6	59.6	110
PCB near Q17	47.1	62.10	46.1	61.1	105
Main Board	--	--	--	--	--
PCB near heatsink (HS1)	29.0	44.00	29.0	44.0	105
Module (CPU) Board	--	--	--	--	--
PCB near heatsink (HS1)	28.4	43.40	28.3	43.3	105

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Clause	Requirement + Test				Result - Remark		Verdict
Enclosure outside near HS1	28.1	43.10	28.0	43.0	70		
Ambient	25	40	25	40	--		
Supplied by Left power supply model CPR-4011-4M2 (in blowing)	90 Vac / 60 Hz (Original)	90 Vac / 60 Hz (Shift to 40°C)	264 Vac / 60 Hz (Original)	264 Vac / 60 Hz (Shift to 40°C)	--		
Power Supply	--	--	--	--	--		
Appliance inlet	29.5	44.5	29.3	44.3	70		
T3 coil	50.6	65.6	49.1	64.1	110		
T3 core	51.1	66.1	47.7	62.7	110		
PCB near Q17	51.9	66.9	50.6	65.6	105		
Main Board	--	--	--	--	--		
PCB near heatsink (HS1)	27.8	42.8	27.4	42.4	105		
Module (CPU) Board	--	--	--	--	--		
PCB near heatsink (HS1)	28.1	43.1	27.7	42.7	105		
Enclosure outside near HS1	26.8	41.8	25.9	40.9	70		
Ambient	25	40	25	40	--		
Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
--	--	--	--	--	--	--	--
Supplementary information: The temperatures were measured under worst case normal mode (See below) Defined in 1.2.2.1 load as described in 1.6.2 at voltages as described in 1.4.5. Maximum Normal Load is as specified in Table 1.6.2 with max, ambient temperature specified as 40°C.							

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					Pass
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
--	--	--	--	--	--	
Supplementary information: Refer to table 1.5.1						

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Clause	Requirement + Test	Result - Remark	Verdict
<b>5.1</b>	<b>TABLE: touch current measurement</b>		N/A
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
Supplied by left power supply model YM-2401J	--	--	--
LINE to Metal Enclosure surface	0.784	3.5	"e" – Open; P1 – Normal
LINE to Metal Enclosure surface	0.748	3.5	"e" – Open; P1 – Reverse
LINE to SELV Connector (RJ45)	0.0006	0.25	"e" – Close; P1 – Normal
LINE to SELV Connector (RJ45)	0.0005	0.25	"e" – Close; P1 – Reverse
Supplied by both power supply model YM-2401J	--	--	--
LINE to Metal Enclosure surface	1.508	3.5	"e" – Open; P1 – Normal
LINE to Metal Enclosure surface	1.448	3.5	"e" – Open; P1 – Reverse
LINE to SELV Connector (RJ45)	0.001	0.25	"e" – Close; P1 – Normal
LINE to SELV Connector (RJ45)	0.001	0.25	"e" – Close; P1 – Reverse
Supplied by left power supply model CPR-4011-4M1	--	--	--
LINE to Metal Enclosure surface	1.628	3.5	"e" – Open; P1 – Normal
LINE to Metal Enclosure surface	1.538	3.5	"e" – Open; P1 – Reverse
LINE to SELV Connector (RJ45)	0.001	0.25	"e" – Close; P1 – Normal
LINE to SELV Connector (RJ45)	0.001	0.25	"e" – Close; P1 – Reverse
Supplied by both power supply model CPR-4011-4M1	--	--	--
LINE to Metal Enclosure surface	3.23	3.5	"e" – Open; P1 – Normal
LINE to Metal Enclosure surface	3.18	3.5	"e" – Open; P1 – Reverse
LINE to SELV Connector (RJ45)	0.001	0.25	"e" – Close; P1 – Normal
LINE to SELV Connector (RJ45)	0.001	0.25	"e" – Close; P1 – Reverse
supplementary information:			
Input: 264 Vac, 60 Hz , "e" opened current limit= 3.5 mA, "e" closed current limit= 0.25 mA			

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Clause	Requirement + Test	Result - Remark		Verdict
<b>5.2</b>	<b>TABLE: Electric strength tests, impulse tests and voltage surge tests</b>			Pass
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdo wn Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
Primary to Earth (Metal Enclosure) (AC power supply Model YM-2401J, CPR-4011-4M1 / CPR-4011-4M2)		DC	2594	No
Reinforced:				
Primary to SELV Circuit (Output connector) (AC power supply Model YM-2401J, CPR-4011-4M1 / CPR-4011-4M2)		DC	4242	No
Supplementary information:				

<b>5.3</b>	<b>TABLE: Fault condition tests</b>					<b>Pass</b>
Ambient temperature (°C) .....		See below			—	
Power source for EUT: Manufacturer, model/type, output rating .....		See critical component list for detail.			—	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
--	--	--	--	--	--	5.3.1 5.3.9 ABNORMAL OPERATION TESTS
--	--	--	--	--	--	Supplied by left power supply model CPR-4011-4M1 (out blowing).
Ventilation opening	Blocked	240Vac/ 60Hz	01:41	F2	0.669	Normal Operation, NC, NB, NT
System fan 1,3,5	Stalled	240Vac/ 60Hz	01:30	F2	0.588	Normal Operation, NC, NB, NT
System fan 2,4	Stalled	240Vac/ 60Hz	01:30	F2	0.600	Normal Operation, NC, NB, NT
R2012	Short	240Vac/ 60Hz	--	--	--	V=3.37 V, NC, NB, NT
--	--	--	--	--	--	5.3.7 - OVERLOAD OF OPERATOR ACCESSIBLE CONNECTOR TEST
Connector	Pin #s	Open Circuit Voltage (V)	Maximum Available Current (mA)	Length of Test	--	Comments
USB	Pin 1 to RTN	5.027	516	1hr	--	Normal Operation, NC, NB, NT

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Clause	Requirement + Test			Result - Remark		Verdict
USB	Pin 2,3,4 to RTN	0	--	--	--	--
RJ45 Console	Pin 1 to RTN	5.690	0	--	--	Normal Operation, NC, NB, NT
RJ45 Console	Pin 3 to RTN	5.470	0	--	--	Normal Operation, NC, NB, NT
RJ45 Console	Other pins to RTN	0	--	--	--	--
RJ45 MGNT	All pins to RTN	0	--	--	--	--
QSFP+ (1-38)	2	0.49	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	3	0.49	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	5	0.49	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	6	0.49	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	9	3.37	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	10	3.37	8100	1hr	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	11	3.37	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	12	3.32	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	27	3.33	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	28	3.33	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	29	3.37	8100	1hr	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	30	3.37	8100	1hr	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	33	0.48	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	34	0.48	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	36	0.48	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	37	0.48	0	--	--	Normal Operation, NC, NB, NT
QSFP+ (1-38)	Others	0	--	--	--	--
Supplementary information: NC: Cheesecloth remained intact, NT: Tissue paper remained intact, NB - No indication of dielectric breakdown						

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Clause	Requirement + Test	Result - Remark	Verdict

C.2	TABLE: transformers							N/A
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)	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
supplementary information:								

C.2	TABLE: transformers							N/A
Transformer								

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

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


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



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.1 General</b></p> <p>This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> <li>- is designed to allow the user to listen to recorded or broadcast sound or video; and</li> <li>- primarily uses headphones or earphones that can be worn in or on or around the ears; and</li> <li>- allows the user to walk around while in use.</li> </ul> <p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> <li>- while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used.</li> </ul> <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> <li>- hearing aid equipment and professional equipment;</li> </ul> <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p> <ul style="list-style-type: none"> <li>- analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</li> </ul> <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.2 Equipment requirements</b></p> <p>No safety provision is required for equipment that complies with the following:</p> <p>equipment provided as a package (personal music player with its listening device), where the acoustic output LAeq,T is <math>\leq 85</math> dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is <math>\leq 27</math> mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1.</p> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level LAeq,T is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <p>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</p> <p>b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and</p>		N/A

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

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.3 Warning</b></p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods."</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Figure 1 – Warning label (IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		N/A
	<b>Zx.4 Requirements for listening devices (headphones and earphones)</b>		N/A
	<p><b>Zx.4.1 Wired listening devices with analogue input</b></p> <p>With 94 dBA sound pressure output LAeq,T, the input voltage of the fixed "programme simulation noise" described in EN 50332-2 shall be <math>\geq 75</math> mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A
	<p><b>Zx.4.2 Wired listening devices with digital input</b></p> <p>With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output LAeq,T of the listening device shall be <math>\leq 100</math> dBA.</p> <p>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.4.3 Wireless listening devices In wireless mode:</b></p> <p>with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA.</p> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p><b>Zx.5 Measurement methods</b></p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A
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>	Replaced	N/A

IEC 60950-1			
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>		N/A
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted	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> <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  </p> <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>		N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <p>Over 10 up to and including 16   1,5 to 2,5   1,5 to 4  </p> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>	Deleted	N/A
4.3.13.6 (A1:2010)	<p>Replace the existing NOTE by the following:</p> <p>NOTE Z1 Attention is drawn to:</p> <p>1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and</p> <p>2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).</p>	Replaced	N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 $\mu$ Sv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	Replaced	N/A
Bibliography	Additional EN standards.		—

<b>ZA</b>	<b>NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS</b>	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In <b>Denmark</b> , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In <b>Norway and Sweden</b> , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In <b>Finland, Norway and Sweden</b> , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In <b>Norway</b> , 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).		N/A

**Annex ZD  
(informative)**

**IEC and CENELEC code designations for flexible cords**

Type of flexible cord	Code designations	
	IEC	CENELEC
<b>PVC insulated cords</b>		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F

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Clause	Requirement + Test	Result - Remark	Verdict

<b>Rubber insulated cords</b>			
	Braided cord	60245 IEC 51	H03RT-F
	Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
	Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
	Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
<b>Cords having high flexibility</b>			
	Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
	Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
	Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H



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

<b>ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013</b> <b>U.S.A. NATIONAL DIFFERENCES</b> Information technology equipment – Safety – Part 1: General requirements
<b>Differences according to.....:</b> UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014 <b>Attachment Form No.....:</b> US_ND_IEC60950_1F <b>Attachment Originator.....:</b> UL <b>Master Attachment.....:</b> Date 2014-07
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	Special national conditions		Pass
1.1.1	All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2	Unit was evaluated according to IEC 60950-1.	Pass
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75	Complied.	Pass
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A		Pass
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 /NEC		N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings		Pass
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		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		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions"		
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent	Not applicable.	N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable		N/A
2.6	Equipment with isolated ground (earthing) receptacles is in compliance with NEC 250.146(D) and CEC 10-112 and 10-906(8)		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment		Pass
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 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	Terminal block used	Pass
3.2.5	Power supply cords are no longer than 4.5 m in length		Pass
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		N/A
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0		N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm <sup>2</sup> )		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		Pass
	- rated 125 per cent of the equipment rating, and		Pass
	- are specially marked when specified (1.7.7)		Pass
3.3.5	Revise first column of Table 3E to "Smaller of the rated current of the equipment or the protective current rating of the circuit under consideration"		Pass
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30		N/A
4.3.13.5.1	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		Pass
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less		N/A
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370)		N/A
	<b>Other National Differences</b>		Pass
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury 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 backup systems, battery packs, 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, electrochemical capacitor modules (energy storage modules with ultracapacitors), 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 cut-offs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables		Pass
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , 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		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts		N/A
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT		N/A
4.3.2	Equipment with handles complies with special loading tests		N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests		N/A
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 overloaded		Pass
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions		N/A

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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 comply with special acoustic pressure requirements		N/A

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

<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>FINLAND NATIONAL DIFFERENCES</b> Information technology equipment – Safety – Part 1: General requirements
<b>Differences according to .....</b> : EN 60950-1:2006/A11:2009/A1:2010

	National Differences		Pass
<b>General</b>	See also Group Differences (EN 60950-1:2006/A11/A1)		Pass
1.5.7.1	In <b>Finland</b> 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.	It should be checked by national approval.	N/A
1.5.9.4	In <b>Finland</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	Not applicable.	N/A
1.7.2.1	In <b>Finland</b> , 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.  The marking text in in Finland shall be as follows: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"		N/A
2.3.2	In <b>Finland</b> , there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	N/A
2.10.5.13	In <b>Finland</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In <b>Finland</b>, 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"> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> <li>- is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and</li> <li>- has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and</li> <li>- is provided with instructions for the installation of that conductor by a SERVICE PERSON;</li> </ul> </li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul>		N/A
6.1.2.1 (A1:2010)	<p>In <b>Finland</b>, 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"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>Alternatively for components, 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"> <li>- 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</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14: 2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14:2005 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;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005;</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14:2005, in the sequence of tests as described in EN 60384-14:2005.</li> </ul>		N/A
7.2	<p>In <b>Finland</b>, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	No cable distribution system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

<p><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b>  <b>CANADA NATIONAL DIFFERENCES</b>                  Information technology equipment – Safety – Part 1: General requirements</p>
<p><b>Differences according to.....:</b> CAN/CSA-C22.2 NO. 60950-1A-07</p>

	National Differences		Pass
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.	Unit was evaluated according to IEC 60950-1.	Pass
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		Pass
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		Pass
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.	Not exceeding 3.05 m.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		Pass
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.		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		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A
	A voltage rating is 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 are marked with the voltage rating and "Class 2" or equivalent.		N/A
	- Marking is located adjacent to the terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.		N/A
2.6.3.3	Modify first column on Table 2D to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment.		Pass
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 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.		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.		Pass
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		Pass
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).	No wiring terminal	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 percent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
4.3.13.5	Equipment with lasers meets the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.		Pass
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.		N/A
	<b>Other National Differences</b>		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	UL approved components used. Refer to table 1.5.1 of IEC 60950-1 test report for details.	Pass
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.		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , 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.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles complies with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.		N/A
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 overloaded.		Pass
	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		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		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.		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 comply with special acoustic pressure requirements.		N/A

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

<p align="center"><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b></p> <p align="center"><b>KOREA NATIONAL DIFFERENCES</b></p> <p align="center">Information technology equipment – Safety – Part 1: General requirements</p>			
Differences according to .....: (K 60950-1) Last modification 2012-05-31			
1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	The requirements have to be checked during the national approval.	N/A
8	EMC - The apparatus shall comply with the relevant CISPR standards.	The requirements have to be checked during the national approval.	N/A

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

<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>AUSTRALIA and NEW ZEALAND NATIONAL DIFFERENCES</b> Information technology equipment – Safety – Part 1: General requirements			
Differences according to .....: AS/NZS 60950.1:2011			
1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE ..... 1.2.12		N/A
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: <b>1.2.12.201</b> <b>POTENTIAL IGNITION SOURCE</b> 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 BOARD. 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		N/A
1.5.1	Add to the end of the first paragraph and in note 1 after the word "standard; "or the relevant Australian / New Zealand Standard".	Added	Pass
1.5.2	Add to the first and third dashed items after the words "IEC Component Standard": "or the relevant Australian / New Zealand Standard".	Added	Pass



IEC 60950-1													
Clause	Requirement + Test	Result - Remark	Verdict										
3.2.5.1	<p>Replace the first four rows for Table 3B with the following: Sizes of Conductors</p> <hr/> <table> <thead> <tr> <th>Rated Current of Equipment (A)</th> <th>Nominal cross-sectional area (mm<sup>2</sup>)</th> </tr> </thead> <tbody> <tr> <td>0.2 ≤ 3</td> <td>0.5 1)</td> </tr> <tr> <td>3 ≤ 7.5</td> <td>0.75</td> </tr> <tr> <td>7.5 ≤ 10</td> <td>(0.75) 2) 1.00</td> </tr> <tr> <td>10 ≤ 16</td> <td>(1,0) 3) 1.5</td> </tr> </tbody> </table> <hr/> <p>Replace footnote 1) with the following:  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 mm<sup>2</sup> three-core supply flexible cords are not permitted; see S/NZS 3191).  Delete Note 1.</p>	Rated Current of Equipment (A)	Nominal cross-sectional area (mm <sup>2</sup> )	0.2 ≤ 3	0.5 1)	3 ≤ 7.5	0.75	7.5 ≤ 10	(0.75) 2) 1.00	10 ≤ 16	(1,0) 3) 1.5		N/A
Rated Current of Equipment (A)	Nominal cross-sectional area (mm <sup>2</sup> )												
0.2 ≤ 3	0.5 1)												
3 ≤ 7.5	0.75												
7.5 ≤ 10	(0.75) 2) 1.00												
10 ≤ 16	(1,0) 3) 1.5												
4.1.201	<p>Addition: Display devices used for television purposes</p> <p>Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television received, specified in AS/NZS 60065.</p>		N/A										
4.3.6	<p>Delete the third paragraph and replace with the following: 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>		N/A										
4.3.13.5.1	<p>Add the following after each reference to 'IEC 60825-1':  'or AS/NZS 60825.1'  Add the following after 'IEC 60825-2' in line two of the first paragraph:  'or AS/NZS 60825.2'</p>	Added	N/A										
4.7	<p>Add after the clause: For alternative resistance to fire tests, refer to Clause 4.7.201</p>	Added	N/A										
4.7.201	<p>Additional after the clause 4.7.3.6:  Resistance to fire - Alternative tests</p>		N/A										

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.1	<p>Addition: General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire. 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 V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 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"> <li>- small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings;</li> <li>- small electrical components, such as capacitors with a volume not exceeding 1 750 mm<sup>3</sup>, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category FV-1, or better, according to AS/NZS 60695.11.10.</li> </ul> <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. 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>		N/A
4.7.201.2	<p>Addition: Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.3	<p>Addition: 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. The test shall be also carried out on other parts of insulating material which are within a distance of 3mm 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 60695.11.5 with the following modifications:</p> <p>Clause of AS/NZS 60695.11.5 Change</p> <p>9 Test procedure</p> <p>9.2 Replace the first paragraph 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.</p> <p>Replace the second paragraph with: The duration of application of the test flame shall be 30s + 1s.</p> <p>9.3 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.</p> <p>11 Evaluation of Replace with: test results The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p> <p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.4	<p>Addition: Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the 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 the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.5	<p>Addition: 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"> <li>- Printed board does not carry any POTENTIAL IGNITION SOURCE;</li> <li>- 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 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category FV-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or</li> <li>- Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category FV-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely.</li> </ul> <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 for more than 2 min when the circuit supplied is disconnected.</p>		N/A
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: In Australia (not in New Zealand) only, compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.	No TNV circuit.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	<p>For Australia only, delete the first paragraph including the note and replace with the following: In Australia only(not 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, <math>U_c</math> is:</p> <p>(i) for 6.2.1a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment and</p> <p>(ii) for 6.2.1b) and 6.2.1c): 1.5 kV.</p> <p>NOTE 201 - The 7 kV impulse is to simulate lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202 - The value of 2.5 kV for 6.2.1a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>	No TNV circuit.	N/A
6.2.2.2	<p>For Australia only, delete the second paragraph including the Note and replace with the following: In Australia (not New Zealand), the a.c. test voltage is:</p> <p>(i) for 6.2.1a) 3 kV; and</p> <p>(ii) for 6.2.1b) and 6.2.1c) 1.5 kV</p> <p>NOTE 201 - Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>NOTE 202 - The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>	No TNV circuit.	N/A
7.3	<p>Add the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunication purposes.</p>	No cable distribution system.	N/A

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

<p><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b></p> <p><b>CHINA NATIONAL DIFFERENCES</b></p> <p>Information technology equipment – Safety – Part 1: General requirements</p> <p><b>Differences according to .....</b>: GB4943.1-2011</p>
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1.1.2	<p>GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates.</p> <p>Amend the third dashed paragraph of 1.1.2 as: —equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;</p>	Amend	Pass
1.4.5	<p>After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%, -10% unless a wider tolerance is declared by the manufacturer. 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%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011</p>	Added	Pass
1.4.12.1	<p>T<sub>ma</sub> in clause 1.4.12.1 amended as: T<sub>ma</sub>: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater.</p> <p>Add note 1: For equipment not to be operated at tropical climatic conditions, T<sub>ma</sub>: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater.</p> <p>Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.</p>	The requirements have to be checked during the national approval.	Pass
1.5.2	<p>Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.</p>	Added.	Pass
1.7	<p>Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.</p>	Added.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	<p>Based on the AC mains supply of China, the RATED VOLTAGE should be 220 V (single phase) or 380 V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220 V or 380 V (three-phases), for multiple RATED VOLTAGES, one of them should be 220 V or 380 V (three-phases) and set on 220 V or 380 V (three-phases) when manufactured.</p> <p>And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.</p>	Included	Pass
1.7.2.1	<p>Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000 m or at non-tropical climate regions:</p> <p>For equipment intended to be used at altitude not exceeding 2000 m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used at altitude not exceeding 2000 m."</p>  <p>For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used in not-tropical climate regions."</p>  <p>If only the symbol used, the explanation of the symbol shall be contained in the instruction manual.</p> <p>The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.</p>	Altitudes up to 5000m	N/A
2.7.1	<p>Amended the first paragraph as:</p> <p>Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3.</p> <p>Delete note of Clause 2.7.1.</p>	Amended	Pass



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.2	<p>First section of Clause 2.9.2 amended as two sections:</p> <p>Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature <math>40\pm 2</math> °C and a relative humidity of <math>(93\pm 3)\%</math>. During this conditioning the component or subassembly is not energized.</p> <p>For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of <math>(93\pm 3)\%</math>. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur.</p> <p>Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered.</p> <p>Add note: For equipment to be operated at 2000 m – 5000 m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.</p>	Amended	Pass
2.10.3.1	<p>Amend the third paragraph of Clause 2.10.3.1 to be:</p> <p>These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.</p>	Amended	Pass
2.10.3.3 & 2.10.3.4	Add "(applicable for altitude up to 2000 m)" in header of Table 2K, 2L and 2M.	Added.	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m – 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1 ( IEC 60664-1) . For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.	Added.	Pass
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.	Proper application is determined by the country's local Certification Body.	N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.	Not apply for.	N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m – 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000 m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		N/A
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.	Amended.	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	<p>Added annex DD: Instructions for the new safety warning labels.</p> <p>DD.1 Altitude warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefore it's the only operating condition applied for the equipment. There may be some potential safety hazard if the equipment is used at altitude above 2000m.</p> <p>DD.2 Climate warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefore it's the only operating condition applied for the equipment. There may be some potential safety hazard if the equipment is used in tropical climate region.</p>		N/A
Annex EE (informative)	<p>Added annex EE:</p> <p>Illustration relative to safety explanation in normative Chinese、Tibetan、Mongolian、Zhuang Language and Uighu.</p>	Added. Overall acceptance has to be evaluated during the national approval process.	N/A
Other amendments	<p>In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.</p>		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Quoting standards and reference documents	<p>The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows:</p> <p>If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments.</p> <p>For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> <li>- If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted;</li> <li>- If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted;</li> <li>- If the date of the national standard or industry standard is not given, the latest edition of the standard applies;</li> <li>- The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard.</li> </ul> <p>When quoting several chapters or clauses of the international standard, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> <li>- If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted;</li> </ul>	Overall acceptance has to be evaluated during the national approval process.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Quoting standards and reference documents (cont.)	<ul style="list-style-type: none"> <li>- If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted.</li> </ul> <p>Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005 and GB 4943.1-2011.</p>		N/A
<b>Special national conditions</b>			
1.1.2	<p>GB4943.1-2011 applies to equipment used at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates.</p> <p>Revise the third dashed paragraph of 1.1.2 as:</p> <ul style="list-style-type: none"> <li>- equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;</li> </ul>		N/A
1.4.5	<p>Amend the second paragraph by the following:</p> <p>If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10% and -10%.</p>	Class III equipment without mains connection.	N/A
1.4.12.1	<p>T<sub>ma</sub>: The maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater.</p> <p>Add note 1: For equipment not to be operated at tropical climatic conditions, T<sub>ma</sub> is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater.</p> <p>Add note 2: For equipment to be operated at 2000m-5000m above sea level, its temperature test conditions and temperature limits are under consideration.</p>	The requirements have to be checked during the national approval.	N/A

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

<p><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b></p> <p><b>ISRAEL NATIONAL DIFFERENCES</b></p> <p>Information technology equipment – Safety – Part 1: General requirement</p> <p><b>Differences according to .....</b>: Israel has national differences declared for 60950-1:2005, Am 1:2009 (below).</p>
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1.6	The clause is applicable with the following addition:	Overall acceptance has to be evaluated during the national approval process.	N/A
1.6.1	Add following note: In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.	Overall acceptance has to be evaluated during the national approval process.	N/A
1.7	Add: Sub-clause 1.7.201 shall be added at the beginning of the clause.	Added.	Pass
1.7.2.1	Add: All the instructions and warnings related to safety shall also be written in the Hebrew language.	Added	Pass
1.7.201	<p>Marking in the Hebrew language</p> <p>The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983.</p> <p>In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language.</p> <p>The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed.</p> <ol style="list-style-type: none"> <li>1. Name of the apparatus and its commercial designation;</li> <li>2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address;</li> <li>3. Manufacturer's registered trademark, if any;</li> <li>4. Name of the model and serial number, if any;</li> <li>5. Country of manufacture.</li> </ol>	Overall acceptance has to be evaluated during the national approval process.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	<p>The following shall be added at the beginning of the clause:</p> <p>In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows:</p> <ol style="list-style-type: none"> <li>1) TN-S - Network system earthing; TN-C-S- Network system earthing;</li> <li>2) TT - Network system earthing;</li> <li>3) IT - Network Insulation Terre;</li> <li>4) Isolated transformer;</li> <li>5) Safety extra low voltage (SELV or ELV);</li> <li>6) Residual current circuit breaker (30 mA = I);</li> <li>7) Reinforced insulation; Double insulation (class II)</li> </ol>	Added.	N/A
2.201	<p>Prevention of electromagnetic interference</p> <ul style="list-style-type: none"> <li>- Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked.</li> </ul> <p>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.</p> <ul style="list-style-type: none"> <li>- If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.</li> </ul>	Overall acceptance has to be evaluated during the national approval process.	N/A
3	The clause is applicable with the following additions:	Added.	N/A
3.2.1.1	Add after the note: The feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.		N/A
3.2.1.2	Add: At the end of the first paragraph add the following note: At the time of issue of the standard, there is no Israel Standard for connection accessories to d.c.		N/A
Annex P	<p>Normative references</p> <p>(List of relevant Israel Standards that have been inserted in place of some of the International Standards)</p>		Pass

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

<p><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b></p> <p><b>GERMANY NATIONAL DIFFERENCES</b></p> <p>Information technology equipment – Safety – Part 1: General requirements</p> <p><b>Differences according to .....: VDE 0805-1:2011-01</b></p>
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Annex ZC, 1.7.2.1	According to GPSG, section 2, clause 4: If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation.	Safety instructions/markings reviewed in English only. Other languages will be provided when submitted for national approval.	N/A
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

<p><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b></p> <p><b>SINGAPORE NATIONAL DIFFERENCES</b></p> <p>Information technology equipment – Safety – Part 1: General requirements</p>
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<b>7 SAFETY AUTHORITY'S REQUIREMENTS</b>				
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.				
<b>Applicable to all electrical products</b>				
2	All appliances	All appliances must be tested to 230 VAC.	Included	Pass
3	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.		N/A
4	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.		Pass
5	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.	It should be checked by national approval.	N/A
6	Class II appliances (mains plug)	a) All Class II appliances must be fitted with 2-pin mains plug (Appendix T) complied with EN 50075. 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.		N/A
7	Appliances rated $\geq 3$ kW or connected to fixed wiring	Electric appliance $\geq 3$ kW must be connected to fixed wiring. All connection to fixed wiring must be in accordance with Code of Practice CP5.		N/A
8	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.	It should be checked by national approval.	N/A

<b>IEC 60950-1</b>				
<b>Clause</b>	<b>Requirement + Test</b>		<b>Result - Remark</b>	<b>Verdict</b>
9	Circuit diagrams	Circuit diagrams must be indicated with component's values for products tested to IEC 60065 and IEC 60950.	It should be checked by national approval.	N/A
10	Circuit diagrams of electronic modules in electrical appliances	Circuit diagrams of the electronic modules in the electrical appliances must be provided.	It should be checked by national approval.	Pass
11	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.		N/A
<b>Applicable to AC adaptor</b>				
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.	It should be checked by national approval.	N/A
14	2-pin AC adaptor (Appendix V)	The 2-pin (Appendix T) shall comply with EN 50075.		N/A
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.	It should be checked by national approval.	N/A
<b>Applicable to computer products</b>				
16	CD/DVD ROM (used in personal computer)	Test certificate showing that CD/DVD ROM has complied with IEC 825 must be provided.	It should be checked by national approval.	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.		N/A
<b>Applicable to plasma/LCD display monitor</b>				
35	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.		N/A


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

<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>JAPAN NATIONAL DIFFERENCES</b> Information technology equipment – Safety – Part 1: General requirements	
<b>Differences according to .....</b>	J60950-1 (H27) (Based on IEC 60950-1:2005 +A1:2009)
<b>Attachment Form No.....</b>	--
<b>Attachment Originator .....</b>	--
<b>Master Attachment .....</b>	--

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.	Added. Class I product	N/A
1.2.4.3A	Add the following new clause after 1.2.4.3: 1.2.4.3A CLASS 0I EQUIPMENT Equipment having mains plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing one of the following 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. a) Mains plug with an earthing lead wire: Enclosing 2-pin plug with an earthing lead wire to the equipment as an accessory, or including to recommend the using 2-pin plug with an earthing lead wire b) an independent earth terminal, if power supply cord with 2-pin plug (non-protective earthing conductor) is provided, NOTE CLASS 0I EQUIPMENT may have a part constructed with DOUBLE INSULATION or REINFORCED INSULATION.	Added. Class I product	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.2	<p>Add the following new 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 EQUIPMENT 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 EQUIPMENT or CLASS 0I EQUIPMENT unless it is intended to be installed by service personnel.</p>	<p>Added. Class I product</p>	N/A
1.5.1	<p>Replace the first paragraph with the following: 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 IEC 60320-1 or JIS C 8283-1, shall comply with the dimensions of relevant cord connector specified in IEC 60320-1 or JIS C 8283-1.</p> <p>Replace NOTE 1 with the following: NOTE 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p>	<p>Replaced.</p>	Pass

IEC 60950-1			
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"> <li>- 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.</li> </ul> <p>Replace the first sentence in the third dashed paragraph as follows:</p> <ul style="list-style-type: none"> <li>- 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.</li> </ul> <p>Add the following new NOTE after the third dashed paragraph as follows:</p> <p>NOTE 2 See 1.7.5A, when C14 appliance inlet rated 10 A per IEC JIS C 8283-1 is used with an equipment rated not more than 125 V and rated more than 10 A.</p>	Replaced.	Pass
1.5.9.1	<p>Add the following to the last of NOTE 1:</p> <p>It is permitted to use a gas discharge tube (GDT) in series with a VDR.</p>	Added.	N/A
1.7	<p>Change the existing reference as following;</p> <p>JA.1 Shredder warning JA.3 Shredder power disconnection</p>	Changed	N/A
1.7.1.1	<p>Replace the last paragraph with the following:</p> <p>Where symbols are used, they shall conform to JIS S 0101, ISO 7000 or IEC 60417 where appropriate symbols exist.</p>	Replaced	N/A
1.7.1.2	<p>Replace the fifth dashed paragraph with the following:</p> <ul style="list-style-type: none"> <li>- manufacturer's or responsible company's name or trade-mark or identification mark;</li> </ul> <p>Replace the sixth dashed paragraph with the following:</p> <ul style="list-style-type: none"> <li>- manufacturer's or responsible company's model identification or type reference;</li> </ul>	Replaced	N/A
1.7.2.1	<p>Add the following after the second sentence in the first paragraph:</p> <p>Instructions and equipment marking related to safety shall be in Japanese, unless otherwise permitted in this standard.</p>	Shall be evaluated during nation approval.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.5	Replace the last sentence with the following: An acceptable marking for an electric shock hazard is  (6.2.4 of JIS S 0101).	Replaced.	N/A
1.7.5	Replace the last sentence with the following: Socket-outlets conforming to JIS C 8303 are examples of standard power supply outlets.	Replaced.	N/A
1.7.5A	Add the following new clause after 1.7.5: 1.7.5A Power supply cord set If an appliance inlet according to JIS C 8283-1, C14(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" If the power supply cord set does not supply with the equipment provided with appliance inlet, the information of suitable power supply cord set shall be stated in the operating instructions. NOTE The following precautions should be written in the operating instructions for the combination CLASS 01 EQUIPMENT provided with appliance inlet having earthing blade and 2-pin (without earthing conductor) power supply cord set. Supplied power supply cord set is special. The power supply cord set is exclusive use for the equipment, shall not be used with other equipment.	Added. Shall be evaluated during nation approval.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.14A	<p>Add the following new clause after 1.7.14:</p> <p>1.7.17A Marking for the earthing connection of CLASS 0I EQUIPMENT</p> <p>For CLASS 0I EQUIPMENT, the following instruction or equivalent shall be:</p> <ul style="list-style-type: none"> <li>- marked on the visible place of the mains plug or the main body:</li> </ul> <p>必ず接地接続を行って下さい</p> <p>“Provide an earthing connection”</p> <ul style="list-style-type: none"> <li>- indicated on the visible place of the main body or written in the operating instructions:</li> </ul> <p>接地接続は必ず、電源プラグを電源につなぐ前に行ってください。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。</p> <p>“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.”</p>	<p>Added.</p> <p>The equipment is class I equipment.</p>	N/A
1.7.14B	<p>Add the following new clause after 1.7.14A:</p> <p>1.7.14B Protective earthing conductor used with CLASS 0I EQUIPMENT</p> <p>If provided with an independent earth terminal, but not supplied protective earthing conductor with the product, the information for using the suitable protective earthing conductor shall be written in the operating instructions (see 2.6.3.2)</p>		N/A
2.1.1.1	<p>In item b) of this sub-clause:</p> <p>Replace “IEC 60083, IEC 60309, IEC 60320, IEC 60906-1 or IEC 60906-2” with “JIS C 8303, Article 1 of the Ministerial Ordinance (No. 85:1962), JIS C 8285, IEC 60309 series, JIS C 8283 series or IEC 60320 series”</p>		N/A
2.6.3.2	<p>Add the following after the first sentence:</p> <p>If the single core type conductor is used as an earthing lead wire for protective earthing or a protective earthing conductor to CLASS 0I EQUIPMENT shall comply either with follows;</p> <ul style="list-style-type: none"> <li>- Copper wire of minimum 1.6 mm diameter or the metal wire not subject to significant corrosion, and at least same level of strength and diameter to the copper wire</li> <li>- Single core type cord or single core type sheathed cable having the cross sectional area of 1.25mm<sup>2</sup> and over</li> </ul>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.5	Add the following to the first sentence: However, this clause is not required to the sheathed internal conductor of the power supply cord (set) integral molding plug and cord connector.	Added.	N/A
2.6.4.2	Add the following after the second sentence: If CLASS 0I EQUIPMENT provides the separate main protective earthing terminal other than appliance inlet, such terminal can be considered as main protective earthing terminal.	Added.	N/A
2.6.5.4	Replace the first sentence with the following: Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	Replaced.	Pass
2.6.5.8A	Add the following new clause after 2.6.5.8: 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.	Added. No CLASS 0I EQUIPMENT	N/A
2.7.6	Replace "ISO 3864, No. 5036" with "6.2.4 of JIS S 0101".		N/A
2.10.3.1	In this sub-clause, replace IEC 60664-1 with JIS C 60664. Replace the sentence, "For all other CLEARANCES in connectors, including connectors that are not fixed to the equipment, the minimum values specified in 2.10.3.3 or 2.10.3.4 apply.", with the following: The above minimum CLEARANCES do not apply to: - Connectors complied with JIS C 8285, IEC 60309 series, JIS C 8283 series, IEC 60320 series or JIS C 8303, - Connectors complied with Article 1 of the Ministerial Ordinance (No. 85:1962) and are matching with the dimensions of JIS C 8283 series, JIS C 8303 or IEC 60309-2 See also 1.5.2.	Replaced	Pass




IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.3	Add the following before NOTE in table 2L: For voltage values within the PEAK WORKING VOLTAGE values given in the table, linear interpolation is permitted between the nearest two points, the calculated minimum additional CLEARANCE being rounded up to the next higher 0,1 mm increment.	Added	Pass
2.10.4.3	Replace the sentence, "The above minimum CREEPAGE DISTANCES for connectors do not apply to connectors that comply with a standard harmonized with IEC 60083, IEC 60309, IEC 60320, IEC 60906-1 or IEC 60906-2, see also 1.5.2", with the following: The above minimum CREEPAGE DISTANCES do not apply to: - Connectors complied with JIS C 8285, IEC 60309 series, JIS C 8283 series, IEC 60320 series or JIS C 8303, - Connectors complied with Article 1 of the Ministerial Ordinance (No. 85:1962) and are matching with the dimensions of JIS C 8283 series, JIS C 8303 or IEC 60309-2 See also 1.5.2.	Replaced	Pass
3.2.3	Add the following after the second paragraph: Table 3A applies when cables complying with JIS C 3662 series or JIS C 3663 series 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.	Added.	N/A
3.2.4	Add the following after the third dashed paragraph: - Mechanical force shall not be transmitted to soldering section of appliance inlet when connector is inserted in or pulled out. This requirement is not applied to equipment which appliance inlet is securely fixed, and installation of appliance inlet is not relied solely on soldering.		N/A

IEC 60950-1			
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 first sentence in the 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>Add the following to the first sentence in the of third dashed paragraph:</p> <p>However, the insulator of sheathed internal protective earthing conductor of the power supply cord (set) integral molding plug and cord connector may not be the combination green and yellow. Also the protective earthing conductor may not be provided for the power supply cord of CLASS 0I EQUIPMENT provides the separate main protective earthing conductor.</p> <p>Replace the forth dashed paragraph with the following:</p> <p>have conductors with cross-sectional areas not less than those specified in Table 3B for the main cords that complied with JIS C 3662-5 or JIS C 3663-4. The other cords shall comply with the relevant standards.</p> <p>Replace "IEC 60320" with "JIS C 8283 series or IEC 60320 series" in NOTE 1 of Table 3B.</p>		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 series or JIS C 3663 series, terminals shall be suitable for the size of the intended cables.</p>	Added.	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>		N/A
4.3.5	<p>Replace "IEC 60083 or IEC 60320" with "JIS C 8283 series, JIS C 8303 or JIS C 8358".</p>	Replaced	Pass

IEC 60950-1																																
Clause	Requirement + Test	Result - Remark	Verdict																													
4.4.2	Add the following after the first sentence: HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall also comply with Annex JA.		N/A																													
4.5.3	Add the following note to footnote b) of Table 4B: 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.	Added.	N/A																													
5.1.3	Add the following new note after the first sentence: 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.	Added.	N/A																													
5.1.6	Replace Table 5A as follows:		N/A																													
	<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 rowspan="2">HAND-HELD</td> <td>Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td> <td>0.75</td> <td>-</td> </tr> <tr> <td>Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td> <td>0.5</td> <td>-</td> </tr> <tr> <td rowspan="2">MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT</td> <td>Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td> <td>3.5</td> <td>-</td> </tr> <tr> <td>Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td> <td>1.0</td> <td>-</td> </tr> <tr> <td rowspan="2">STATIONARY, PLUGGABLE TYPE A - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td> <td>Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td> <td>3,5 -</td> <td>- 5% of input current</td> </tr> <tr> <td>Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td> <td>1.0 -</td> <td>- -</td> </tr> </tbody> </table>	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	-	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0.5	-	MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	3.5	-	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	1.0	-	STATIONARY, PLUGGABLE TYPE A - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	3,5 -	- 5% of input current	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	1.0 -	- -		
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	1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.																															
6	Add the following at the end of NOTE 1: Refer to Annex JB for information on the adequate additional measure.		N/A																													

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.1	Add the following new note after the first sentence:  NOTE Method A is typical of analogue telephone networks in Europe, and Method B of those in North America.		N/A
P	Add the following Japanese Industrial Standards: JIS C 8303 JIS C 8358:1994 JIS S 0101:2000	Added	N/A
Q	Replace the terms in b) as follows: From "Maximum continuous voltage" to "Maximum continuously applied voltage" From "The maximum continuous a.c. voltage" to "The maximum continuously applied a.c. voltage"		N/A
U.2.4	Add the following new note after NOTE: NOTE 2 Considering environmental issue, "(for example 1,1,1 -trichloroethane)" was deleted from the above paragraph.		N/A
W.1	Replace the third sentence in the first paragraph with the following: Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.		N/A
CC.2	Replace the second paragraph with the following: – 10 000 cycles of turning enable on and off with an ferrite-core inductor having 0,35 mH ± 0,1 mH inductance at 1 kHz and a d.c. resistance not exceeding 1 Ω connected in the output circuit; Replace the fifth paragraph with the following: – 10 000 cycles of turning the input pin on and off with an ferrite-core inductor having 0,35 mH ± 0,1 mH inductance at 1 kHz and a d.c. resistance not exceeding 1 Ω connected to the input supply and return while keeping enable active and shorting the output;		N/A
CC.3	Add the following new note after the last paragraph: NOTE Recommended to use a fast blow fuse complying with IEC 60127-1.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	<p>Replace Annex EE with Annex JA:</p> <p>Annex JA (normative)</p> <p>Document shredding machines (see 1.7, 2.8.3, 3.4 and 4.4)</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</p> <p>The symbol  (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"> <li>- that use by an infants/children may cause a hazard of injury etc.;</li> <li>- that a hand can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- that clothing can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- that hairs can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.</li> </ul> <p>JA.2 Inadvertent reactivation</p> <p>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>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	<p><b>JA.3 Disconnection from the mains supply</b></p> <p>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> <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><b>JA.4 Protection against hazardous moving parts</b></p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>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

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

<p>Annex JA</p>	<p>Dimensions in millimeters</p> <p>25 Radius</p>	<p>N/A</p>
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Figure JA.1 Test finger

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

Annex JA	<p style="text-align: center;">Diameters in millimeters</p> <p style="text-align: center;">Diameters in millimeters</p> <p style="text-align: center;">Diameters in millimeters</p> <p>See Note for thickness dimensions</p> <p>Rounded to allow rotation about hinge pin (screw) in one direction</p> <p><b>Figure JA.2 Wedge-probe</b></p> <p>Details of the tip of wedge</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Distance from the tip (mm)</th> <th>Thickness of probe (mm)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>12</td> <td>4</td> </tr> <tr> <td>180</td> <td>24</td> </tr> </tbody> </table> <p>NOTE 1 The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.</p> <p>NOTE2 The allowable dimensional tolerance of the probe is +/- 0.127 mm.</p>	Distance from the tip (mm)	Thickness of probe (mm)	0	2	12	4	180	24	N/A
Distance from the tip (mm)	Thickness of probe (mm)									
0	2									
12	4									
180	24									



## **Enclosure**

<b><u>Type</u></b>	<b><u>Supplement Id</u></b>	<b><u>Description</u></b>
Photographs	3-01	External view-1
Photographs	3-02	External view-2
Photographs	3-03	External view-3
Photographs	3-04	Internal view
Photographs	3-05	Caution label
Diagrams	4-01	Metal enclosure dimension and opening and fan tray dimension
Diagrams	4-02	Heatsink for Main board / CPU board dimension
Miscellaneous	7-01	Manufacturer declare letter
Miscellaneous	7-02	User manual

Photographs ID 3-01



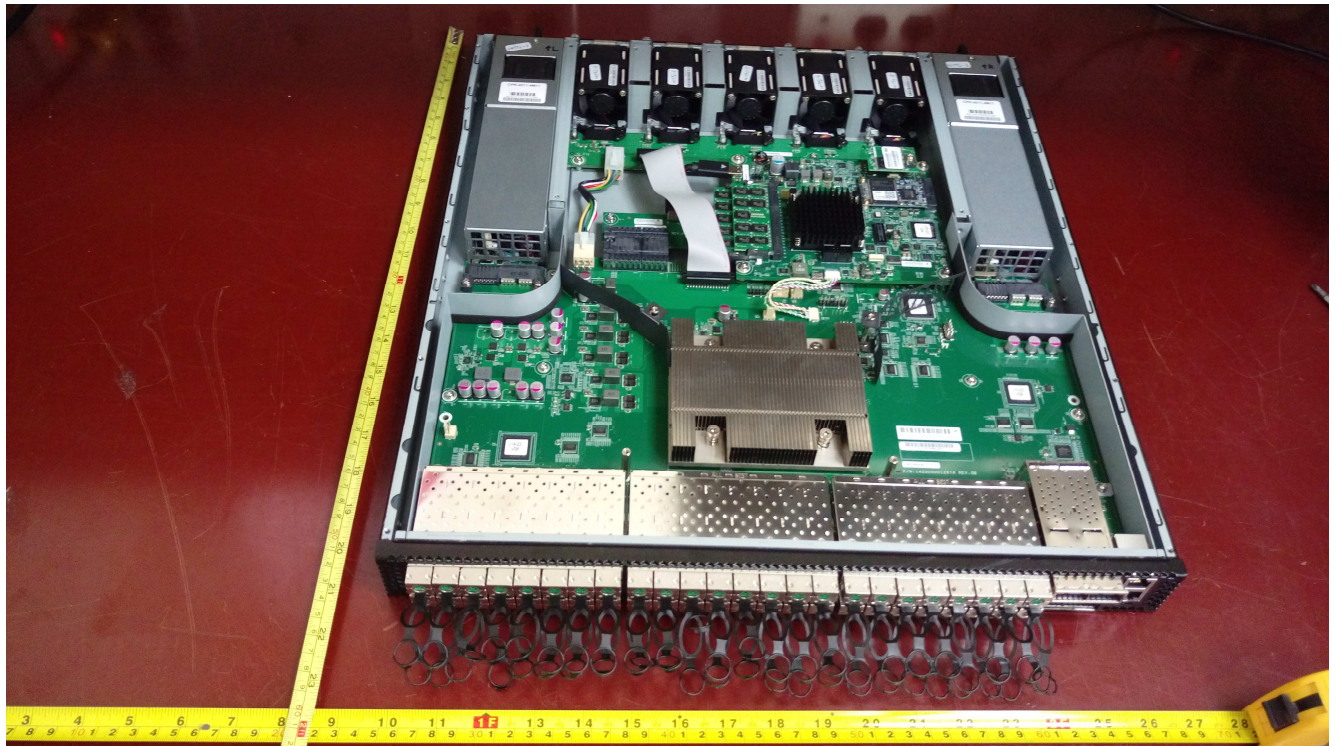
Photographs ID 3-02



Photographs ID 3-03



Photographs ID 3-04

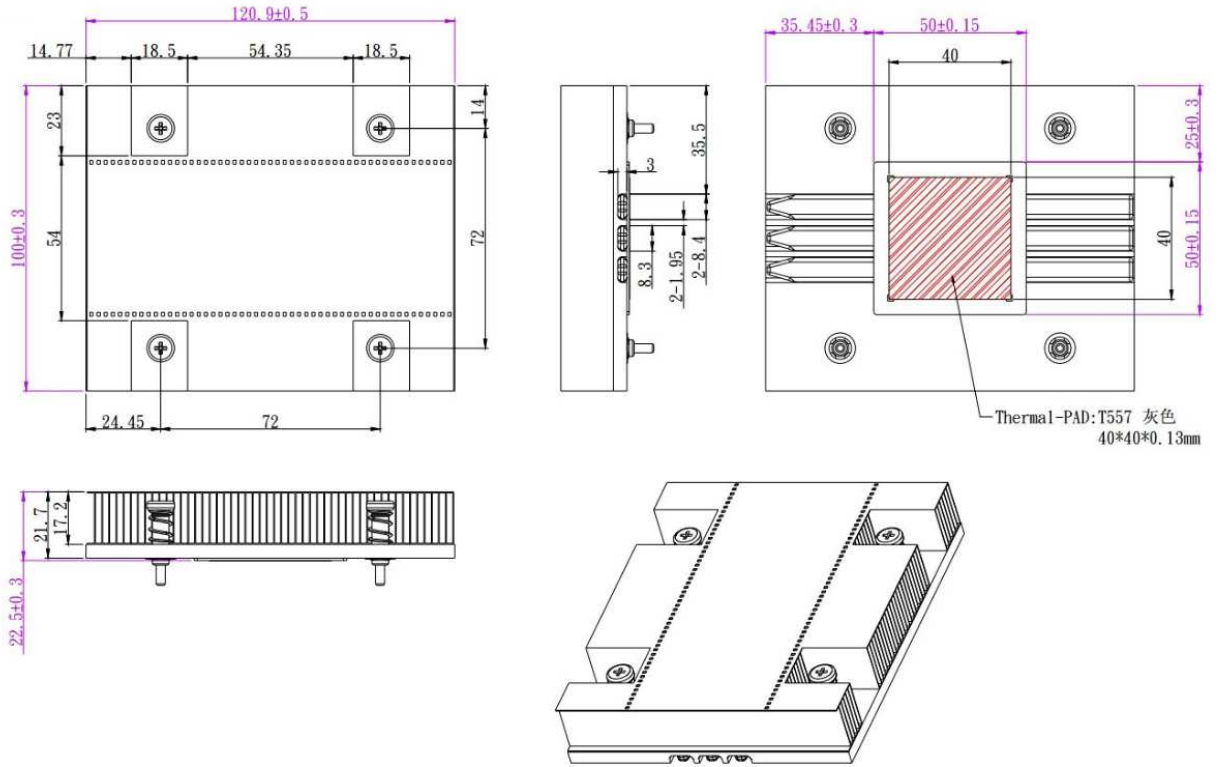


Photographs ID 3-05





Diagrams ID 4-02





## Miscellaneous 7-01

**Manufacturer Declaration for Multiple Factories**

Name and address of the Applicant	ACCTON TECHNOLOGY CORP 1 CREATION 3RD RD SCIENCE-BASED INDUSTRIAL PARK HSINCHU, 300 TAIWAN
Name and address of the Manufacturer	ACCTON TECHNOLOGY CORP 1 CREATION 3RD RD SCIENCE-BASED INDUSTRIAL PARK HSINCHU, 300 TAIWAN
Name and address of the Factory(ies)	1. JOY TECHNOLOGY (SHEN ZHEN) CO., LTD BUILDING A, B, C, D, HENGKENG IND., SHANGPAI SHANGWU, AIQUN ROAD, SHIYAN TOWN, SHENZHEN, CHINA  2. Accton Technology Corporation Factory I No.1, Creation Rd. III Science-Based Industrial Park, East Dist., Hsinchu 300 Taiwan.

**This form is to acknowledge that the above information has been reviewed and the material has been found to be accurate as stated. This is also to record client's confirmation that above factories manufacture product(s) that are equal to those submitted for testing and certification. (Refer to IECEE 02, Sub-clause 6.2.5: "When the application covers more than one factory, the address of each factory shall be stated in the CB Test Certificate and the NCB shall take steps to ensure that the products from all the factories are equal. That shall be confirmed in the Test Report.")**

(Signature, signed by Manufacturer listed in CB Test Certificate and CB Test Report)

Name: Amy KUO

Date: 2014.02.11

Company Name and Address:  
ACCTON TECHNOLOGY CORP  
1 CREATION 3RD RD SCIENCE-BASED INDUSTRIAL PARK  
HSINCHU, 300 TAIWAN

## Miscellaneous 7-02 (1 of 4)

## Quick Start Guide




54-Port 10G Top-of-Rack Switch  
A55512-54X



### 1. Unpack the Switch and Check Contents



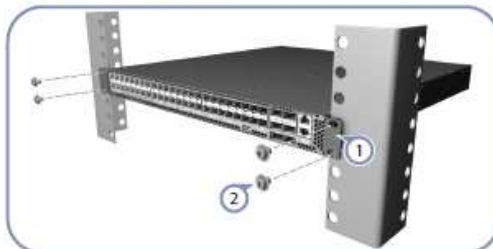
10G Top-of-Rack Switch  
A55512-54X

-  Rack Mounting Kit—contains two brackets and eight screws
-  Power Cord—either Japan, US, Continental Europe, or UK
-  Console Cable—RJ-45 to DB-9
-  Documentation—*Quick Start Guide* (this document) and *Safety and Regulatory Information*

**Note:** The switch has the Open Network Install Environment (ONIE) software installer pre-loaded on the switch, but no switch software image. Information about compatible switch software can be found at [www.edge-core.com](http://www.edge-core.com).

**Caution:** The switch includes two plug-in AC PSUs and five fan tray modules that are installed into its chassis. All installed modules must have a matching airflow direction. That is, all modules must have a front-to-back (F2B) airflow direction, or all modules must have a back-to-front (B2F) airflow direction. The airflow direction of PSU and fan tray modules is indicated by labels on the modules.

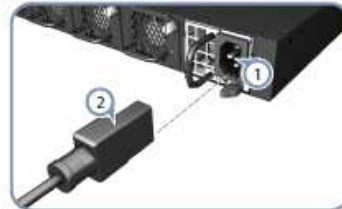
### 2. Mount the Switch



- 1 Attach the brackets to the switch.
- 2 Use the screws supplied with the rack to secure the switch in the rack. (The switch can also be installed in a 21-inch Open Rack using an Open Rack Switch Adapter.)

**Caution:** Installing the switch in a rack requires two people. One person should position the switch in the rack, while the other secures it using the rack screws.  
装置の吸排気に必要な領域をマニュアル上に規定している。

### 3. Connect Power



- 1 Install one or two AC power modules in the switch. The switch supports up to two PSUs that must have the same matching airflow direction as the installed fan tray.
- 2 Connect an external AC power source to the modules.

### 4. Verify Switch Operation



- 1 Verify basic switch operation by checking the system LEDs. When operating normally, the PSU1/PSU2, Diag, and Fan LEDs should all be on green.

### 5. Perform Initial System Boot

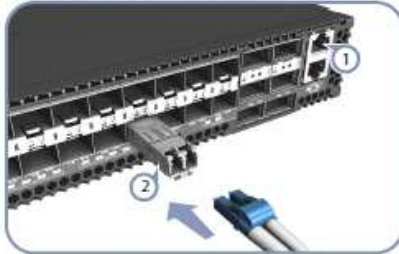
- 1 If the network operating system (NOS) installer is located on a network server, first connect the RJ-45 Management (Mgmt) port to the network using 100-ohm Category 5, 5e or better twisted-pair cable. (Not required if the NOS installer is located on attached storage.)
- 2 Boot the switch. Wait for the ONIE software to locate and execute the NOS installer, and then wait for the installer to load the NOS software image. Subsequent switch boots will bypass ONIE and directly run the NOS software.

**Note:** For switches with ONIE software pre-loaded, refer to the network operating system (NOS) installer and NOS documentation for details on software options and set up for ONIE.

## Miscellaneous 7-02 (2 of 4)

## Quick Start Guide

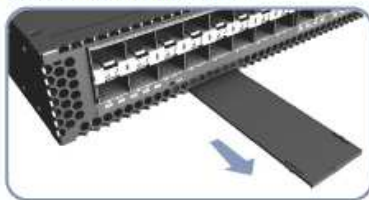
## 6. Connect Network Cables



- ① For the RJ-45 Management port, connect 100-ohm Category 5, 5e or better twisted-pair cable.
- ② Connect DAC cables to the SFP+/QSFP+ slots. Or first install SFP+/QSFP+ transceivers and then connect fiber optic cabling to the transceiver ports.  
The following transceivers are supported:
  - 40GBASE-CR4
  - 40GBASE-SR4
  - 10GBASE-CR
  - 10GBASE-SR (ET5402-SR)
  - 1000BASE-SX (ET4201-SX)
  - 1000BASE-LX (ET4201-LX)

**Note:** As connections are made, check the port status LEDs to be sure the links are valid.

## 7. View the Product Label



- ① The switch product label is located below SFP+ ports 7–12 on left side of the front panel. Pull the label out to view the product information.

## Hardware Specifications

## Switch Chassis

Size (WxDxH)	442.5 x 473 x 43.95 mm (17.42 x 18.62 x 1.73 inches)
Weight	9.0 kg (19.84 lb), with two installed PSUs
Temperature	Operating: 0° C to 40° C (32° F to 104° F) Storage: -40° C to 70° C (-40° F to 158° F)
Humidity	Operating: 5% to 95% (non-condensing)
Power Consumption	282 Watts maximum

## AC PSU

Power Rating	100–240 VAC, 50-60 Hz, 400 Watts, hot pluggable
AC Input	100–240 VAC, 50-60 Hz, 6–3 A
DC Output	5 VDC @ 3 A 12 VDC @ 33 A

## Regulatory Compliances

Emissions	EN 55022:2010 + AC:2011, Class A EN 61000-3-2:2014, Class A EN 61000-3-3:2013, Class A 47 CFR FCC Part 15:2015, Subpart B, Class A VCCI Class A CE Mark
Immunity	EN 55024:2010 IEC 61000-4-2/3/4/5/6/8/11
Safety	UL 60950-1, 2nd Edition, 2014-10-14 & CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 CB (IEC 60950-1:2005 (2nd Edition); Am 1:2009+Am 2:2013 / EN 60950-1:2006+ A1 1:2009+A1: 2010+A12:2011+A2:2013)

## Miscellaneous 7-02 (3 of 4)

## Safety & Regulatory Information

54-Port 10G Top-of-Rack Switch

A5512-54X



### FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

You may use unshielded twisted-pair (UTP) for RJ-45 connections - Category 3 or better for 10 Mbps connections, Category 5 or better for 100 Mbps connections, Category 5e, or 6 for 1000 Mbps connections. For fiber optic connections, you may use 50/125 or 62.5/125 micron multimode fiber or 9/125 micron single-mode fiber.

### CE Mark

#### CE Mark Declaration of Conformance for EMI and Safety (EEC)

This information technology equipment complies with the requirements of the Council Directive 2004/108/EC on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility and 2006/95/EC for electrical equipment used within certain voltage limits and the Amendment Directive 93/68/EEC. For the evaluation of the compliance with these Directives, the following standards were applied:

#### RFI Emission:

- ◆ Limit according to EN 55022:2010 +AC:2011, Class A
- ◆ Limit for harmonic current emission according to EN 61000-3-2:2014, Class A
- ◆ Limitation of voltage fluctuation and flicker in low-voltage supply system according to EN 61000-3-3:2013

#### Immunity:

- ◆ Product family standard according to EN 55024:2010
- ◆ Electrostatic Discharge according to IEC 61000-4-2:2008 ED. 2.0
- ◆ Radio-frequency electromagnetic field according to IEC 61000-4-3:2010 ED. 3.2
- ◆ Electrical fast transient/burst according to IEC 61000-4-4:2012 ED. 3.0
- ◆ Surge immunity test according to IEC 61000-4-5:2014 ED. 3.0
- ◆ Immunity to conducted disturbances, Induced by radio-frequency fields: IEC 61000-4-6:2013 ED. 4.0
- ◆ Power frequency magnetic field immunity test according to IEC 61000-4-8:2009 ED. 2.0
- ◆ Voltage dips, short interruptions and voltage variations immunity test according to IEC 61000-4-11:2004 ED. 2.0

#### LVD:

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

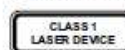
www.edge-core.com



The Declaration of Conformity (DoC) can be obtained from [www.edge-core.com](http://www.edge-core.com) -> support -> download -> declarations & certifications.

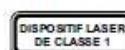
### Laser Safety

**Warning:** Fiber Optic Port Safety:



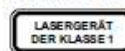
When using a fiber optic port, never look at the transmit laser while it is powered on. Also, never look directly at the fiber TX port and fiber cable ends when they are powered on.

**Avertissement:** Ports pour fibres optiques - sécurité sur le plan optique:



Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port TX (Transmission) à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

**Warnhinweis:** Faseroptikanschlüsse - Optische Sicherheit:



Niemals ein Übertragungslaser betrachten, während dieses eingeschaltet ist. Niemals direkt auf den Faser-TX-Anschluß und auf die Faserkabelenden schauen, während diese eingeschaltet sind.

### PSE Alarm

本製品と同梱いたしております電源コードセットは、本製品専用です。本電源コードセットは、本製品以外の製品並びに他の用途でご使用いただくことは出来ません。製品本体と同梱された電源コードセットを利用し、他製品の電源コードセットを使用しないで下さい。

### Power Cord Safety

Please read the following safety information carefully before installing the switch:

**Warning:** Installation and removal of the unit must be carried out by qualified personnel only.

- ◆ The unit must be connected to an earthed (grounded) outlet to comply with international safety standards.
- ◆ Do not connect the unit to an A.C. outlet (power supply) without an earth (ground) connection.
- ◆ The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN 60320/IEC 320 appliance inlet.
- ◆ The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.
- ◆ This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 60950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.

France and Peru only

This unit cannot be powered from IT $\ddagger$  supplies. If your supplies are of IT type, this unit must be powered by 230 V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labelled Neutral, connected directly to earth (ground).

## Miscellaneous 7-02 (4 of 4)

## Safety &amp; Regulatory Information

**Warnings and Cautionary Messages**

**Warning:** This product does not contain any serviceable user parts.

**Warning:** Installation and removal of the unit must be carried out by qualified personnel only.

**Warning:** When connecting this device to a power outlet, connect the field ground lead on the tri-pole power plug to a valid earth ground line to prevent electrical hazards.

**Warning:** This switch uses lasers to transmit signals over fiber optic cable. The lasers are compliant with the requirements of a Class 1 Laser Product and are inherently eye safe in normal operation. However, you should never look directly at a transmit port when it is powered on.

**Warning:** When selecting a fiber SFP/SFP+/QSFP+ device, considering safety, please make sure that it can function at a temperature that is not less than the recommended maximum operational temperature of the product. You must also use an approved Laser Class 1 SFP/SFP+/QSFP+ transceiver.



**Caution:** Wear an anti-static wrist strap or take other suitable measures to prevent electrostatic discharge when handling this equipment.

**Caution:** Do not plug a phone jack connector in the RJ-45 port. This may damage this device.

**Caution:** Use only twisted-pair cables with RJ-45 connectors that conform to FCC standards.

**Caution:** The switch includes plug-in power supply and fan tray modules that are installed into its chassis. All installed modules must have a matching airflow direction. That is, all modules must have a front-to-back (F2B) airflow direction, or all modules must have a back-to-front (B2F) airflow direction. The airflow direction of PSUs and fan trays is indicated by labels on the modules.

**Caution:** Installing the switch in a rack requires two people: One should position the switch in the rack, while the other secures it using the mounting screws.