



Test Report issued under the responsibility of:

The Standards Institution of Israel

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

Report Number..... : 9412334720
 Date of issue..... : 06/08/2015
 Total number of pages : 47 + appendices

Applicant's name : Shirtal DiaCam Ltd.
 Address..... : Jabotinsky 3, Building Shimshon, Ramat Gan, 52520, Israel

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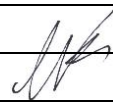
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

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Test item description..... : DiaCam360 Scanner
 Trade Mark..... : 
 Manufacturer : Same as applicant
 Model/Type reference : DIACAM360
 Ratings..... : 120-240Vac, 50/60Hz, 3A



Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	The Standards Institution of Israel
Testing location/ address		42 Chaim Levanon St., Tel Aviv 69977, Israel
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address		
Tested by (name + signature)		Vladimir Rosengart 
Approved by (name + signature)		Leonid Fine 
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		

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

- Appendix 1 – Photographs (5 pages attached)
- Appendix 2 – European Group and National Differences according to EN60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (20 pages attached)
- Appendix 3 – National Differences for Germany (2 pages attached)
- Appendix 4 – National Differences for USA (7 pages attached)
- Appendix 5 – National Differences for Australia/New Zealand (7 pages attached)
- Appendix 6 – National Differences for Korea (2 pages attached)
- Appendix 7 – National Differences for Israel (4 pages attached)
- Appendix 8 – National Differences for China (7 pages attached)
- Appendix 9 – National Differences for Canada (7 pages attached)

Summary of testing:

The maximum operating ambient temperature declared by the manufacturer for the product: 35°C.

Tests performed (name of test and test clause):

- 1.6 Electrical data in normal condition (input test)
- 1.7.11 Durability of markings
- 2.1.1.1 Access to energized parts
- 2.1.1.7 Discharge of capacitors in equipment
- 2.6 Earthing test
- 2.10.3/4 Clearance/creepage distance measurements
- 4.2 Mechanical strength testing
- 4.5 Temperature rise test
- 5.1 Touch current test
- 5.2 Electric strength tests
- 5.3 Abnormal operation tests

Testing location:

The Standards Institution of Israel
42 Chaim Levanon St., 69977 Tel Aviv,
Israel

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

EU Group Differences, EU Special National Conditions, EU A-Deviations, Australia (AU)**, Austria (AT), Belgium (BE), Belarus (BY)*, Canada (CA), Switzerland (CH), China (CN)**, Czech Republic (CZ), Germany (DE), Denmark (DK), Spain (ES), Finland (FI), France (FR), United Kingdom (GB), Hungary (HU), India (IN)*, Ireland (IE), Israel (IL)**, Italy (IT), Japan (JP)*, Korea (KR)**, Malaysia (MY)*, Netherlands (NL), Norway (NO), New Zealand (NZ)**, Poland (PL), Russia (RU), Sweden (SE), Singapore (SG)*, Slovenia (SI), Slovakia (SK), Ukraine (UA)*, United States (US)

*) For countries marked with an asterisk, no National Differences have been reported.

**) For countries marked with a double asterisk, National Differences have been reported only for IEC 60950-1:2005 (2nd Ed.) or IEC 60950-1:2005 (2nd Ed.) + A1:2009.

☒ **The product fulfils the requirements of IEC 60950-1:2005 (2nd Ed.) + A1:2009 + A2:2013 and EN 60950-1:2006 (2nd Ed.) + 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.





Test item particulars	
Equipment mobility.....	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains.....	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition.....	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	+6%, -10%
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	2000
Altitude of test laboratory (m)	34
Mass of equipment (kg)	6 kg

Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	12/05/2015
Date (s) of performance of tests.....	13/05/2015 – 19/05/2015
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	


Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950:	
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....: Shirtal DiaCam Ltd. Jabotinsky 3, Building Shimshon, Ramat Gan, 52520, Israel	
General product information:	
<p>1. The equipment under test is a DiaCam360 Scanner, consisting mainly of two metal boxes: a power supply module and a scanner module. The equipment is supplied by mains. The power supply module contains a separately approved AC/DC power supply and a vacuum pump. The scanner module contains PCBs located in SELV, a photo camera, a step motor, and a LED panel.</p> <p>2. In the normal operation mode the enclosure of the equipment is closed and the LEDs operate inside the metal enclosure without openings. A suitable warning appears on the scanner enclosure.</p> <p>3. All data communication lines are indoor and not intended for connection to exposed outdoor lines.</p>	
Abbreviations used in the report:	
- normal conditions N.C. - functional insulation OP - double insulation DI - between parts of opposite polarity BOP	- single fault conditions S.F.C - basic insulation BI - supplementary insulation SI - reinforced insulation RI
Indicate used abbreviations (if any)	

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

1	GENERAL		P
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1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	Safety critical components comply with IEC 60950-1 or relevant component standards (see appended table)	P
1.5.3	Thermal controls	No such components	N/A
1.5.4	Transformers	Evaluated as part of an approved power supply	N/A
1.5.5	Interconnecting cables		P
1.5.6	Capacitors bridging insulation	Evaluated as part of an approved power supply	N/A
1.5.7	Resistors bridging insulation	Evaluated as part of an approved power supply	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 an approved power supply	N/A
1.5.9	Surge suppressors	Evaluated as part of an approved power supply	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		P
1.6.1	AC power distribution systems	Intended for TN power distribution system	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	Not a hand-held equipment	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.4	Neutral conductor	Neutral conductor is separated from ground by basic insulation.	P
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections		P
	Rated voltage(s) or voltage range(s) (V)	120-240Vac	P
	Symbol for nature of supply, for d.c. only.....		N/A
	Rated frequency or rated frequency range (Hz) ...	50/60Hz	P
	Rated current (mA or A)	3A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark		P
	Model identification or type reference	DIACAM360	P
	Symbol for Class II equipment only	Class I unit	N/A
	Other markings and symbols		P
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking		P
1.7.2.1	General	Provided in the User / Service Manual	P
1.7.2.2	Disconnect devices	The unit is not a permanently connected equipment.	N/A
1.7.2.3	Overcurrent protective device	The unit is not a pluggable equipment Type B or permanently connected equipment	N/A
1.7.2.4	IT power distribution systems	Not intended for IT system	N/A
1.7.2.5	Operator access with a tool	No tool is necessary to gain access to an operator access area.	N/A
1.7.2.6	Ozone	The equipment does not produce ozone.	N/A
1.7.3	Short duty cycles	The equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage adjustment	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No such outlets	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference).....:	No operator accessible fuses. Fuses not located in the operator access area are provided with unambiguous cross-reference to the service instructions.	P
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals.....:	The main PE terminal is part of appliance inlets. The PE terminal, located on the enclosure for connection to external earthing conductors, is marked with symbol 60417-1-IEC-5019.	P
1.7.7.2	Terminals for a.c. mains supply conductors	Appliance inlets are provided.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No DC supply	N/A
1.7.8	Controls and indicators	No safety related controls or indicators are provided.	N/A
1.7.8.1	Identification, location and marking.....:		N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417.....:		N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices	No such devices	N/A
1.7.11	Durability		P
1.7.12	Removable parts	Markings are not placed on removable parts	P
1.7.13	Replaceable batteries	No batteries	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations		N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	Only SELV circuits and grounded parts are accessible to the operator.	P
2.1.1.1	Access to energized parts		P
	Test by inspection	Only SELV circuits and earthed parts are accessible.	P
	Test with test finger (Figure 2A)	No ELV or hazardous voltage circuits are accessible.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test with test pin (Figure 2B)	No ELV or hazardous voltage circuits are accessible.	P
	Test with test probe (Figure 2C)	No TNV or cable distribution circuits in the equipment	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No ELV circuits	N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)	(see appended tables 2.10.2 and 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring	No access to hazardous voltage circuit wiring	P
2.1.1.5	Energy hazards	No energy hazard in the operator access area	P
2.1.1.6	Manual controls	No manual controls	P
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s)	Phase to Neutral: 0V after 1sec; Phase to ground: 100V after 1sec	—
2.1.1.8	Energy hazards – d.c. mains supply	No connection to DC mains	N/A
	a) Capacitor connected to the d.c. mains supply ...		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	No such parts	N/A
2.1.2	Protection in service access areas	Unintentional contact with hazardous voltage is unlikely during service operations.	P
2.1.3	Protection in restricted access locations	Not intended for restricted locations	N/A

2.2	SELV circuits		P
2.2.1	General requirements	SELV circuits are powered from SELV outputs of a separately approved power supply.	P
2.2.2	Voltages under normal conditions (V)	Not more than 42.4Vpk or 60Vdc	P
2.2.3	Voltages under fault conditions (V)	Part of a certified power supply	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are connected to SELV circuits only.	P

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

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Clause	Requirement + Test	Result - Remark	Verdict
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	Limited current circuits		N/A
2.4.1	General requirements	Not evaluated for limited current circuits	N/A
2.4.2	Limit values		N/A
	Frequency (Hz).....		—
	Measured current (mA)		—
	Measured voltage (V)		—
	Measured circuit capacitance (nF or μ F)		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	Limited power sources		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters	(See Annex CC)	N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)		—
	Current rating of overcurrent protective device (A) .:		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	All accessible conductive parts are connected to protective earthing.	P
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing		P
2.6.3	Protective earthing and protective bonding conductors	The protective conductor of each power supply cord is a protective earthing conductor.	P
2.6.3.1	General	Requirements of 2.6.3.3 and 2.6.3.4 apply	P
2.6.3.2	Size of protective earthing conductors	Complies with requirements of table 3B	P
	Rated current (A), cross-sectional area (mm ²), AWG	3A, 0.75mm ² (18AWG)	—
2.6.3.3	Size of protective bonding conductors	--	N/A
	Rated current (A), cross-sectional area (mm ²), AWG	--	—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	Resistance between the earthing terminal of appliance inlet and: top enclosure (scanner module): 0.034 Ω ; enclosure (power supply module): 0.028 Ω ; tested by 32A for 2 min.	P
2.6.3.5	Colour of insulation	Insulation of protective bonding conductors is green-yellow	P
2.6.4	Terminals		P
2.6.4.1	General	Requirements of 2.6.4.2 and 2.6.4.3 apply	P
2.6.4.2	Protective earthing and bonding terminals	The earthing pin of the appliance inlet is regarded as the main protective earthing terminal. The stud located inside is specified as a bonding terminal.	P
	Rated current (A), type, nominal thread diameter (mm)	3A The PE terminal is a pin of an approved appliance inlet; M3 stud is specified as a bonding terminal.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5	Integrity of protective earthing		P
2.6.5.1	Interconnection of equipment	The equipment does not provide earthing to other equipment.	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switches or overcurrent protective devices in protective earthing or bonding conductors	P
2.6.5.3	Disconnection of protective earth	It is impossible to break a protective earthing conductor without disconnecting the supply conductors.	P
2.6.5.4	Parts that can be removed by an operator	The appliance inlets make earthing connection earlier and break later than the phase and the neutral connections.	P
2.6.5.5	Parts removed during servicing	Installation instructions state that servicing is possible only after the equipment is fully disconnected from mains.	N/A
2.6.5.6	Corrosion resistance	No risk of corrosion. Combination of materials comply with table J.1, see Annex J	P
2.6.5.7	Screws for protective bonding		P
2.6.5.8	Reliance on telecommunication network or cable distribution system	The equipment is not connected to telecommunication network or cable distribution system.	N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Pluggable equipment Type A. Protection against overcurrent, short circuit and earth faults in primary is provided as part of a separately approved power supply. Additional protection is provided as part of building installation.	P
	Instructions when protection relies on building installation	Protection does not rely on building installation.	N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection	Pluggable equipment type A, building installation is considered as providing short-circuit back-up protection.	P
2.7.4	Number and location of protective devices	Protective device is provided as part of an approved power supply.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel.....:	No protective device provided in the neutral conductor.	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No interlocks provided	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	(see appended table 5.2)	N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, materials containing asbestos and hygroscopic materials are not used as insulation.	P
2.9.2	Humidity conditioning	Separately approved power supply	N/A
	Relative humidity (%), temperature (°C)		—
2.9.3	Grade of insulation	Basic insulation between Primary and Earth. Reinforced insulation between Primary and SELV (provided by an approved power supply). Functional insulation in SELV circuits.	P
2.9.4	Separation from hazardous voltages	Provided by a separately approved power supply	P
	Method(s) used	1	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	Part of a certified power supply	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.1.1	Frequency	50/60Hz	P
2.10.1.2	Pollution degrees	Pollution Degree 2	P
2.10.1.3	Reduced values for functional insulation	Functional insulation complies with the requirements of Cl.5.3.4c	P
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	Clause 2.3.2 is not applicable.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuits	N/A
2.10.2	Determination of working voltage	Part of the approved power supply investigation	P
2.10.2.1	General		P
2.10.2.2	RMS working voltage	240Vrms	P
2.10.2.3	Peak working voltage	336Vpk	P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply	Overvoltage Category II, 2500 Vp	P
	b) Earthed d.c. mains supplies	No connection to DC mains	N/A
	c) Unearthed d.c. mains supplies	No connection to DC mains	N/A
	d) Battery operation	Not battery operated	N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	Functional insulation in SELV complies with 5.3.4c)	N/A
2.10.3.5	Clearances in circuits having starting pulses	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.3.6	Transients from a.c. mains supply	Separation between primary and SELV is provided by approved power supply	N/A
2.10.3.7	Transients from d.c. mains supply	No connection to DC mains	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	Not connected to telecommunication networks or cable distribution systems	N/A
2.10.3.9	Measurement of transient voltage levels	Part of a certified power supply	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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests	Material group IIIb is assumed to be used.	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation	Solid insulation is part of the power supply evaluation.	N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	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	(see appended table 2.10.5)	—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components	Part of an approved power supply	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
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test	(see appended table 2.10.5)	—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	Part of an approved power supply	N/A
	Working voltage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		P
2.10.6.1	Uncoated printed boards		P
2.10.6.2	Coated printed boards	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation	(see appended table 2.10.5)	N/A
	Number of insulation layers (pcs).....		N/A
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	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	(see appended table 5.2)	N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	The cross-sectional area of internal conductors is adequate for the current they are intended to carry. See also table 4.5. Overcurrent protection in primary circuits is provided by an approved power supply.	P
3.1.2	Protection against mechanical damage	No sharp edges or corners	P
3.1.3	Securing of internal wiring	Wiring is reliably routed or separated and adequately fixed to prevent excessive strain on the wire and the connector.	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.4	Insulation of conductors	Internal wiring is an approved component suitable for the application.	P
3.1.5	Beads and ceramic insulators	No such components	N/A
3.1.6	Screws for electrical contact pressure	At least two complete threads into metal are provided.	P
3.1.7	Insulating materials in electrical connections	No such materials	N/A
3.1.8	Self-tapping and spaced thread screws	No such screws	N/A
3.1.9	Termination of conductors	All internal wiring is properly terminated and fixed.	P
	10 N pull test		P
3.1.10	Sleeving on wiring	No sleeving on wiring	N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection	Connection is provided by the appliance inlet and a detachable power supply cord.	P
3.2.1.1	Connection to an a.c. mains supply	IEC 60320 type appliance inlets are used for connection to AC mains (by means of detachable power supply cords).	P
3.2.1.2	Connection to a d.c. mains supply	No connection to DC supply	N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment	Not a permanently connected equipment	N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	IEC 60320 appliance inlets are installed on the front panel.	P
3.2.5	Power supply cords		P
3.2.5.1	AC power supply cords		P
	Type	See attached table	—
	Rated current (A), cross-sectional area (mm ²), AWG	3A, 0.75 mm ² 18AWG	—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief	A detachable power supply cord used.	N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.7	Protection against mechanical damage	Detachable cord. No sharp edges on the equipment that could damage the power supply cord.	P
3.2.8	Cord guards	Detachable cord	N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space	Detachable cord	N/A
3.3	Wiring terminals for connection of external conductors		P
3.3.1	Wiring terminals	Appliance inlet	N/A
3.3.2	Connection of non-detachable power supply cords	Detachable cord	N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		P
3.4.1	General requirement	Disconnect devices are provided to disconnect the equipment from mains for servicing.	P
3.4.2	Disconnect devices	The appliance coupler is used as a disconnect device	P
3.4.3	Permanently connected equipment	Not a permanently connected equipment	N/A
3.4.4	Parts which remain energized	No accessible parts on the supply side of the disconnect device	N/A
3.4.5	Switches in flexible cords	No such parts	N/A
3.4.6	Number of poles – single-phase and d.c. equipment	Disconnect device (appliance coupler) disconnects all poles simultaneously.	P
3.4.7	Number of poles – three-phase equipment	Single-phase equipment	N/A
3.4.8	Switches as disconnect devices		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.9	Plugs as disconnect devices	See 3.4.2	N/A
3.4.10	Interconnected equipment	No transmitting of hazardous voltage or hazardous energy levels	N/A
3.4.11	Multiple power sources		N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements	Conformance to the requirements of 2.2 for SELV circuits	P
3.5.2	Types of interconnection circuits	Interconnection circuits are SELV circuits.	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuits	N/A
3.5.4	Data ports for additional equipment	Data ports supplied by external PC USB port	P
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	The equipment weighs less than 7kg.	P
	Test force (N)	Not a floor standing equipment	P
4.2	Mechanical strength		P
4.2.1	General	The equipment has adequate mechanical strength.	P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	Tested	P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	Tested	P
4.2.5	Impact test		P
	Fall test	Tested	P
	Swing test		N/A
4.2.6	Drop test; height (mm)	Not required	N/A
4.2.7	Stress relief test	Metal enclosure	N/A
4.2.8	Cathode ray tubes	No such components	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No such components	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not a wall or ceiling mounted device	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are well rounded and smoothed so as not to constitute a hazard.	P
4.3.2	Handles and manual controls; force (N)	No safety related handles or manual controls	N/A
4.3.3	Adjustable controls	No adjustable controls	N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets	IEC60320 connectors are not used for SELV circuits.	P
4.3.6	Direct plug-in equipment	Not a direct plug-in equipment	N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment	No heating elements	N/A
4.3.8	Batteries	No batteries	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	No oil and grease	N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	The equipment does not produce Ionizing, UV.	P
4.3.13.1	General		N/A
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	No such components	N/A
	Part, property, retention after test, flammability classification	No such components	N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5.1	Lasers (including laser diodes)	Laser transmitters are not shipped with the product.	N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	LEDs operate inside the metal enclosure of the scanner module.	
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		P
4.4.1	General	An approved pump	P
4.4.2	Protection in operator access areas	The test finger does not penetrate the pump enclosure.	P
	Household and home/office document/media shredders	Not a shredder	N/A
4.4.3	Protection in restricted access locations	Unintentional contact with hazardous moving parts is unlikely.	P
4.4.4	Protection in service access areas	Unintentional contact with hazardous moving parts is unlikely.	P
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. A).....		N/A
	Is considered to cause pain, not injury. B)		N/A
	Considered to cause injury. C).....		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning	--	N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning	--	N/A

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests	The equipment was tested under the most adverse actual and simulated condition permitted in the installation instruction.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Normal load condition per Annex L	The unit operated in its maximum normal load configuration. Data ports were looped to simulate the normal load, application was running.	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	(see appended table 4.5.5)	P
4.6	Openings in enclosures		P
4.6.1	Top and side openings	No top openings	P
	Dimensions (mm)	Power supply module: left and right sides: 3.7 mm in diameter openings in the area of 127X34mm on each side. No hazardous voltage/energy parts are located within 5° of the openings.	—
4.6.2	Bottoms of fire enclosures		P
	Construction of the bottom, dimensions (mm)	Metal plate without openings	—
4.6.3	Doors or covers in fire enclosures		P
4.6.4	Openings in transportable equipment	No such equipment	N/A
4.6.4.1	Constructional design measures	No such equipment	N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings	No such equipment	N/A
4.6.4.3	Use of metallized parts	No such equipment	N/A
4.6.5	Adhesives for constructional purposes	Not used	N/A
	Conditioning temperature (°C), time (weeks).....		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	(see appended table 4.7)	P
	Method 1, selection and application of components wiring and materials	(see appended table 5.3)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Fire enclosure is required.	P
4.7.2.1	Parts requiring a fire enclosure	All parts	P
4.7.2.2	Parts not requiring a fire enclosure		P
4.7.3	Materials		P
4.7.3.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.2	Materials for fire enclosures	Metal enclosure	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better and are mounted on PCB rated V-1 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filter assemblies	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)	Single phase Class 1 equipment.	P
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	Only one connection is used.	N/A
5.1.3	Test circuit		P
5.1.4	Application of measuring instrument	According to Annex D.1	P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Supply voltage (V)	264V	—
	Measured touch current (mA)	0.5mA	—
	Max. allowed touch current (mA)	3.5mA	—
	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		P
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No connection to telecommunication network	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

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

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	Part of an approved power supply	N/A
5.3.2	Motors	No motors except a certified pump	N/A
5.3.3	Transformers	Part of an approved power supply	N/A
5.3.4	Functional insulation :	Functional insulation in SELV circuitry meets 5.3.4 c)	P
5.3.5	Electromechanical components	No such components	N/A
5.3.6	Audio amplifiers in ITE :	No such components	N/A
5.3.7	Simulation of faults	See Table 5.3	P
5.3.8	Unattended equipment	No thermostats, temperature limiters and thermal cut-outs	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests	No fire, emission of molten parts or deformation was noted during the tests.	P
5.3.9.2	After the tests	The equipment withstood the dielectric strength test.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	(see appended table 5.2)	N/A
	Supply voltage (V) :		—
	Current in the test circuit (mA) :		—
6.1.2.2	Exclusions :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test	(see appended table 5.2)	N/A
6.2.2.2	Steady-state test	(see appended table 5.2)	N/A
6.2.2.3	Compliance criteria		N/A

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm).....		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2.7	Alternative test acc. To IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures	(see appended table 5.3)	N/A
B.4	Running overload test	(see appended table 5.3)	N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors	(see appended table 5.3)	N/A
B.9	Test for three-phase motors	(see appended table 5.3)	N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position	Transformers are part of approved power supply	—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—

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Clause	Requirement + Test	Result - Remark	Verdict
C.1	Overload test	(see appended table 5.3)	N/A
C.2	Insulation	(see appended tables 5.2 and C2)	N/A
	Protection from displacement of windings		N/A
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	Annex D.1, Fig. D.1	P
D.2	Alternative measuring instrument	Not used	N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Steel chassis and stainless steel grounding stud	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation	(see appended table 5.3)	N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	The maximum normal load: continuous operation with data transmission (USB port connected to PC)	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) :		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	- 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
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
		IPX0	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
		Part of a certified power supply	—

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

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems	Separate neutral and protective conductors are used.	P

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits	No connection to telecommunication network	N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A

Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
----------	--	--	----------

AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
-----------	--	--	------------

BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A

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

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

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

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
AC power supply cord	Interchangeable	HAR type	3x0.75mm ² , 300Vac	--	VDE or equivalent	
USB cable	Interchangeable	UL style 2425	30V, VW-1	UL758	UL	
Power supply module enclosure	Interchangeable	Interchangeable	metal, overall dimensions 260 (L) by 160 (H) by 80 (W) mm	--	Tested in appliance	
Scanner module enclosure	Interchangeable	Interchangeable	metal, overall dimensions 112 (L) by 120 (H) by 162 (W) mm	--	Tested in appliance	
LEDs strips	FINE LED	FL-24FS5050-60-WW	24V, 0.6A	--	Tested in appliance	
LED	Lumimicro	3528	5V, 0.2W	--	Tested in appliance	
LED cover	PALRAM INDUSTRIES	PALSUN	V-2	U94	UL (E221255)	
Appliance inlet (with fuseholder)	Jackson Electronics Industrial	JR-101-1F	250Vac, 10A	UL498 CSA-C22.2 No. 42 IEC/EN60320	UL (E117978), CSA, VDE	
Alternate for appliance inlet (without RF filter and with fuseholder)	Interchangeable	Interchangeable	250Vac, 10A	UL498 CSA-C22.2 No. 42 IEC/EN60320	UL, CSA, VDE or equivalent	
Main fuse	Schurter	FSL series	250V, 2.5A	UL248	UL (E184831)	
Internal primary wiring	Interchangeable	Interchangeable	min. 18AWG, 300V,	UL758	UL	
Power supply	Mean Well	RS-75-24	Input: 88-264Vac, 50/60Hz, 1.2A@ 240V; 2A @115V Output: 24Vdc, 52A; 12Vdc/0.5A	IEC/UL60950-1 (ed. 2+A1+A2)	TUV, UL (QQGQ2/8 E155698)	
Interconnection cable	Interchangeable	Interchangeable	min. 18AWG, 30V,	UL758	UL	
Isolation tubing	Interchangeable	Interchangeable	VW-1, 125°C, 600V	UL224	UL	
Internal secondary wiring	Interchangeable	Interchangeable	600V, 18AWG min, VW-1	UL758 CSA-C22.2 No. 210	UL, CSA	
Vacuum pump	G & m Tech.	25RVS-DF1	24Vdc; 600mmHg	EN60204-1; EN60034-1	TUV	

TRF No. IEC60950_1F

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Relay located on relay board	Omron	G5LE-14 DC5	Contacts: 10A, 35Vdc; Coil 5Vdc;	UL508; EN 61810-1	UL (E41643); VDE
Relay located on relay board	Omron	G5LE-14 DC12	Contacts: 10A, 35Vdc; Coil 12Vdc;	UL508; EN 61810-1	UL (E41643); VDE
PTC on CPU board	Bouirns	MF-MSMF050-2	15Vdc, Ihold = 0.5A; Itrip = 1A	UL 1434	UL (E174545); TUV
Printed wiring board (for all boards)	Interchangeable	Interchangeable	min. 105°C, V-1	UL796	UL
DC Connectors	Interchangeable	Interchangeable	min.V-1	UL1977 UL94	UL, TUV or equivalent
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					



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

1.5.1	TABLE: Opto Electronic Devices	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		

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

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
110V/50Hz	1.28	--	100.2	--	--	Maximum normal load	
120V/50Hz	1,16	3	98.1	--	--	Maximum normal load	
240V/50Hz	0.78	3	95.3	--	--	Maximum normal load	
264V/50Hz	0.76	--	95.6	--	--	Maximum normal load	
110V/60Hz	1.26	--	99.3	--	--	Maximum normal load	
120V/60Hz	1.18	3	99.0	--	--	Maximum normal load	
240V/60Hz	0.80	3	95.0	--	--	Maximum normal load	
264V/60Hz	0.77	--	96.0	--	--	Maximum normal load	
Supplementary information:							

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				N/A
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:					

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

2.5	TABLE: Limited power sources					N/A
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
supplementary information: see 2.5						
Sc=Short circuit, Oc=Open circuit						

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						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							
Basic/supplementary:							
Primary to GND	336	240	2.0	4.0	2.5	4.0	
Reinforced:							
Supplementary information: approved power supplies are used							

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

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)
Supplementary information:						

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



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

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

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	
Language(s):	
Close to the battery:	
In the servicing instructions:	
In the operating instructions:	

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

Normal Condition:

4.5	TABLE: Thermal requirements						P
	Supply voltage (V) :	110Vac 60Hz	110Vac 60Hz	264Vac 50Hz	264Vac 50Hz	--	—
	Ambient T _{min} (°C) :	23	35*	23	35*	--	—
	Ambient T _{max} (°C) :	23	35*	23	35*	--	—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T _{max} (°C)
Power supply module:							
Terminal blocks		69.0	81.0	70.1	82.1	--	90
Capacitor C60		76.5	88.5	78.9	90.9	--	105
Capacitor C1		85.2	97.2	81.7	93.7	--	105
Inductor LF1		109.0	121.0	90.7	102.7	--	130
PCB near LF1		86.3	98.3	84.1	96.1	--	105
Transformer T1		107.1	119.1	105.0	117.0	--	130
Capacitor C5		90.7	102.7	82.7	94.7	--	105
Pump		94.0	106.0	98.3	110.3	--	130
Internal wiring		64.4	76.4	65.3	77.3	--	85
Applaine inlet		57.3	69.3	56.9	68.9	--	90
Top enclosure		56.7	68.7	56.4	68.4	--	70
Scanner module:							
ARDINO PCB		46.4	58.4	48.4	60.4	--	105
I/O Connector		48.6	60.6	50.9	62.9	--	70
Top enclosure		49.0	61.0	50.4	62.4	--	70
Supplementary information: Measured by thermocouple method; *) calculated to 35°C ambient temperature;							
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)
--		--	--	--	--	--	--
Supplementary information:							

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

4.5	TABLE: Thermal requirements						P
	Supply voltage (V):	264Vac 50Hz	264Vac 50Hz	--	--	--	—
	Abnormal Conditions	openings blocked		--	--	--	
	Ambient T _{min} (°C):	23	35*	--	--	--	—
	Ambient T _{max} (°C):	23	35*	--	--	--	—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T _{max} (°C)
Power supply module:							
Terminal blocks		66.6	78.6	--	--	--	--
Capacitor C60		72.1	84.1	--	--	--	--
Capacitor C1		73.0	85.0	--	--	--	--
Inductor LF1		76.5	88.5	--	--	--	140
PCB near LF1		75.0	87.0	--	--	--	--
Transformer T1		87.4	99.4	--	--	--	140
Capacitor C5		78.0	90.0	--	--	--	--
Pump		92.0	104.0	--	--	--	--
Internal wiring		58.2	70.2	--	--	--	--
Power Inlet		54.4	66.4	--	--	--	--
Top enclosure		47.3	59.3	--	--	--	--
Scanner module:							
ARDINO PCB		44.7	56.7	--	--	--	--
I/O Connector		41.0	53.0	--	--	--	--
Top enclosure		42.2	54.2	--	--	--	--
Supplementary information: Measured by thermocouple method;) calculated to 35°C ambient temperature;							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
Supplementary information:							

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

4.5.5	TABLE: Ball pressure test of thermoplastic parts		N/A
	Allowed impression diameter (mm)	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Supplementary information:			

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Enclosure	Generic	Metal	--	--	--	
Internal connectors	Generic	Various	--	V-2 min.	Refer to table 1.5.1	
PCB	Generic	Various	--	V-1 min.	Refer to table 1.5.1	
Supplementary information:						

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
Ph and GND	0.5mA	3.5mA	--	
N and GND	0.47mA	3.5mA	--	
supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Functional:				
--	--	--	--	
Basic/supplementary:				
Primary to GND	DC	2121	No	
--	--	--	--	
Reinforced:				
Primary to SELV	DC	4242	No	
--	--	--	--	
Supplementary information:				

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

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)		As specified in tables 4.5			—
	Power source for EUT: Manufacturer, model/type, output rating		California Instruments, 4500Ls-1-400-LAN-LF-RMS-6950 (4.5KVA, Out: 0-135V, 44.4A; 0-270V, 22.2A			—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Power supply module						
Openings	Closed	264Vac 50Hz	1h. 30 min.	--	--	No excessive temperatures were achieved, refer to temperature rise measurements, abnormal condition A.
Scanner module						
Input to LED strip	Shorted	264Vac 50Hz	--	--	--	Protection of the driver board operated immediately. No hazard.
Supplementary information:						

IEC 60950-1			
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		

List of test equipment used:

Clause	Measurement / testing	Testing / measuring equipment / material used				Range used	Calibration date	
		SII Ref. No.	Instrument Type	Manufacturer	Model		Last	Due
1.6, 4.5, 5.3	Voltage, current, power measurements	4875	Power Analyzer	Avpower	PA2200	auto	01/15	01/16
1.6	Current measurements	564544	DC/AC Clamp Meter	Prova Instruments	CM-01 S/N 09050328	auto	04/15	04/16
1.6, 5.3 2.1.1.7	Voltage measurements	53930 563205/2	Industrial scopemeter Voltage probe 1:100MOhm	Fluke	123 S/N DM7540064 VP201	auto	11/14	11/15
1.6, 5.1 2.1.1.7	Voltage measurements	605414 605450 605366	True RMS Multimeter AC/DC current clamp HV probe	Fluke	289 i30 80K-6	auto	08/14	08/15
1.7.11	Durability of markings	--	N-hexane	BIO-LAB	CAS # 110-54-3	--	10/12	10/17
2.1.1.1	Access to energized parts	52654	Jointed test finger	PTL	P 10.04	--	02/14	02/17
2.6.3.4	Resistance of earthing conductors	5972	Ground Bond Tester	Associated Research	3140 (S/N 9500194)	auto	01/15	01/16
2.10.3 2.10.4	Clearance/creepage	6501330	Digital Caliper	SIGNET	75430	auto	11/14	11/15
2.10.3 2.10.4	Clearance/creepage	52746	Test gauge	PTL	L25.84	--	02/14	02/17
4.2	Mechanical strength tests	52839	Test probe 250N	PTL	P10.64	--	09/14	09/15
4.2	Mechanical strength tests	52656	Steel ball for Impact test	SII	--	--	02/14	02/17
4.5, 5.3	Temperature measurements	5524 6501339 6501340	Data Acquisition/Switch Unit with Thermocouples Type J 20-Channel Armature Multiplexer	Agilent	34970A S/N MY44013244 34901A S/N US37257415 34901A S/N MY41044797	auto	08/14	08/15
4.5	Temperature measurements	563019	Stopwatch / Timer	Extech Instruments	365528	auto	04/15	04/16
5.2	Electric strength test	5971	AC/DC Withstand Voltage Tester	Associated Research	3670 (S/N 9331305)	auto	01/15	01/16
--	Ambient conditions monitoring	6501242	Humidity/Baro/Temperature Data Recorder	Lutron	MHB-382SD S/N Q655832	auto	11/14	11/15



APPENDIX 1 PHOTOGRAPHS

Fig. 1
Overall front/left/top view
Power supply module



Scanner module



Fig. 2
Overall rear/right/bottom view
Power supply module



Scanner module



Fig. 3
Power supply module
Internal view



Fig. 4
Scanner module
Internal view





APPENDIX 2
EUROPEAN GROUP DIFFERENCES AND
NATIONAL DIFFERENCES ACCORDING TO
EN 60950-1:2006 + A11:2009 + A1:2010 +
A12:2011 + A2:2013



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

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

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013

Attachment Form No.....: EU_GD_IEC60950_1F

Attachment Originator: SGS Fimko Ltd

Master Attachment: Date 2014-02

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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)				
Clause	Requirement + Test			Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it's amendmets are prefixed "Z"			P
Contents (A2:2013)	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords			P
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2			P
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note			P

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		P
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		P
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	No connection to headphones or earphones	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		P
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.	The equipment is not a portable sound system.	N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N/A

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx Protection against excessive sound pressure from personal music players		N/A
	<p>Zx.1 General</p> <p>This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. <p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> – hearing aid equipment and professional equipment; <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p>	The equipment is not a personal music player.	N/A

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</p> <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A
	<p>Zx.2 Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <ol style="list-style-type: none"> protect the user from unintentional acoustic outputs exceeding those mentioned above; and have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and 		N/A

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

Clause	Requirement + Test	Result - Remark	Verdict
	<p>c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <p>1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1.</p> <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		N/A

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.3 Warning</p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p>  <p>Figure 1 – Warning label (IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	<p>Zx.4.1 Wired listening devices with analogue input</p> <p>With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.</p> <p>This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>	The equipment is not a wired listening device.	N/A

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.4.2 Wired listening devices with digital input</p> <p>With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.</p> <p>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A
	<p>Zx.4.3 Wireless listening devices</p> <p>In wireless mode:</p> <ul style="list-style-type: none"> – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>	The equipment is not a wireless listening device.	N/A
	<p>Zx.5 Measurement methods</p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)									
Clause	Requirement + Test	Result - Remark	Verdict						
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>	Part of a certified power supply	P						
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>	Not a pluggable equipment type B or a permanently connected equipment	N/A						
2.7.2	This subclause has been declared 'void'.								
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		P						
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 (0,75) ^{b)} </td><td>1,0 </td></tr><tr><td>Over 10 up to and including 16 (1,0) ^{c)} </td><td>1,5 </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10 (0,75) ^{b)}	1,0	Over 10 up to and including 16 (1,0) ^{c)}	1,5		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								

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		P
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).		P
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		P
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 μ 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.	No ionizing radiation	N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.	No connection to the cable distribution system	N/A
1.5.7.1 (A11:2009)	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Part of a certified power supply	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Part of a certified power supply	N/A
1.5.9.4	In Finland , Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	No connection to telecommunication network	N/A



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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A
1.7.2.1 (A11:2009)	<p>In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p>		

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ZB ANNEX (normative)			
SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkople</p> <p>utstyr – og er tilkople et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		N/A
1.7.2.1 (A2:2013)	<p>In Denmark, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in Denmark shall be as follows: In Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”</p>		N/A
1.7.5 1.7.5 (A11:2009)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	No socket-outlets	N/A

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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011.</p> <p>For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a.</p> <p>Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b.</p> <p>Justification the Heavy Current Regulations, 6c</p>		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	Current rating taken as 32A which covers the requirements	P
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Not a direct plug-in equipment	N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No connection to telecommunication network	N/A

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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	<p>In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991 Plug Type 15, 3P+N+PE, 250/400 V, 10 A</p> <p>SEV 6533-2.1991 Plug Type 11, L+N, 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12, L+N+PE, 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25, 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE, 250 V, 16 A</p>		P
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		P

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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Justification the Heavy Current Regulations, 6c</p>		P
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		P
3.2.1.1	<p>In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		P
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125°C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	Not a direct plug-in equipment	N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not a direct plug-in equipment	N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT. 	Not exceeding 3.5mA	N/A
6.1.2.1 (A1:2010)	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. 		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 		N/A
6.1.2.2	<p>In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N/A
7.3 (A11:2009)	<p>In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>		N/A

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

**Annex ZD
(informative)**

IEC and CENELEC code designations for flexible cords

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



APPENDIX 3 NATIONAL DIFFERENCES FOR GERMANY



IEC 60950-1:2005 + Am.1 / VDE 0805-1:2011-01

National Differences for Germany (VDE 0805-1:2011-01)			P
Clause	Requirement + Test	Result - Remark	Verdict
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.	Considered	P



APPENDIX 4 NATIONAL DIFFERENCES FOR USA

IEC 60950-1:2005 + Am.1+ Am.2 / UL 60950-1-07 (2nd Ed.) + A1 + A2 /**ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013
U.S.A. NATIONAL DIFFERENCES**

Information technology equipment – Safety – Part 1: General requirements

Differences according to	UL 60950-1-07 (Second Edition) + A1: 2011 + A2: 2014
Attachment Form No.	US_ND_IEC60950_1F
Attachment Originator	UL
Master Attachment.....	Date 2014-07

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Clause	Requirement + Test	Result - Remark	Verdict
	Special national conditions		P
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		P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75		P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors	Not a baby monitor	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A	Considered 20A	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the /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		P
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	1 phase only	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

IEC 60950-1:2005 + Am.1+ Am.2 / UL 60950-1-07 (2nd Ed.) + A1 + A2 /

Clause	Requirement + Test	Result - Remark	Verdict
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		N/A
	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"		N/A
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	No such terminals	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	No such fuses	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.	No power outlets	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	Not for permanent connection	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	Not shipped with the product	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements	No DC mains	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs	Not for permanent connection	N/A
3.2.5	Power supply cords are no longer than 4.5 m in length	Not shipped with the product	N/A

IEC 60950-1:2005 + Am.1+ Am.2 / UL 60950-1-07 (2nd Ed.) + A1 + A2 /

Clause	Requirement + Test	Result - Remark	Verdict
	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
	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	Not a permanently connected equipment	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0	No such terminals	N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm2)		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent 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	No such components	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	No such battery systems	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30	No flammable liquids	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).		N/A

IEC 60950-1:2005 + Am.1+ Am.2 / UL 60950-1-07 (2nd Ed.) + A1 + A2 /

Clause	Requirement + Test	Result - Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge	No automated information storage systems	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less	No such enclosures	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	No such enclosures	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)	No ionizing radiation	N/A
	Other National Differences		P
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	UL approved components	P
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	No connection to DC mains	N/A

IEC 60950-1:2005 + Am.1+ Am.2 / UL 60950-1-07 (2nd Ed.) + A1 + A2 /

Clause	Requirement + Test	Result - Remark	Verdict
	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 _{peak} or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions	No TNV circuits	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	No CRTs	N/A
4.3.2	Equipment with handles complies with special loading tests	No handles	N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements	No battery packs	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests	No telecommunication ringing signals	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	Not accessible	N/A
	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	No connection to telecommunication network	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	Not a shredder	N/A

IEC 60950-1:2005 + Am.1+ Am.2 / UL 60950-1-07 (2nd Ed.) + A1 + A2 /

Clause	Requirement + Test	Result - Remark	Verdict
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions	No ringing signals	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	No connection to a telecommunication or cable distribution network	N/A



**APPENDIX 5
NATIONAL DIFFERENCES
FOR AUSTRALIA AND NEW ZEALAND
(AS/NZS 60950.1:2011/Amdt 1:2012)**



National Differences for Australia and New Zealand AS/NZS 60950.1:2011/Amdt 1:2012			P																		
Clause	Requirement – Test	Result - Remark	Verdict																		
1.2.12.201	<p>POTENTIAL IGNITION SOURCE</p> <p>Possible fault which can start a fire if the open-circuit 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.</p> <p>Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards.</p> <p>NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE.</p> <p>NOTE 202 This definition is from AS/NZS 60065:2003.</p>		P																		
1.5.1	<p>Add the following to the end of first paragraph:</p> <p>“or the relevant Australian / New Zealand Standard”</p> <p>In NOTE 1, add the following after the word "standard":</p> <p>“or the relevant Australian / New Zealand Standard”</p>		P																		
1.5.2	<p>Add the following to the end of first and third dash items:</p> <p>“or the relevant Australian / New Zealand Standard”</p>		P																		
3.2.5.1	<p>Modify Table 3B as follows:</p> <p>Delete the first four rows and replace with</p> <table><tr><th>Rated Current of Equipment, A</th><th colspan="2">Minimum conductor sizes</th></tr><tr><th></th><th>Nominal cross-sectional area, mm²</th><th>AWG or kcmil [cross-sectional area in mm²], see Note 2</th></tr><tr><td>Over 0.2 up to and including 3</td><td>0,5^{a)}</td><td>18 [0,8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td>0,75</td><td>16 [1,3]</td></tr><tr><td>Over 7.5 up to and including 10</td><td>(0,75)^{b)} 1,00</td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0)^{c)} 1,5</td><td>14 [2]</td></tr></table> <p>Delete Note 1.</p> <p>Replace Footnote ^a with the following:</p> <p>^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).</p>	Rated Current of Equipment, A	Minimum conductor sizes			Nominal cross-sectional area, mm ²	AWG or kcmil [cross-sectional area in mm ²], see Note 2	Over 0.2 up to and including 3	0,5 ^{a)}	18 [0,8]	Over 3 up to and including 7.5	0,75	16 [1,3]	Over 7.5 up to and including 10	(0,75) ^{b)} 1,00	16 [1,3]	Over 10 up to and including 16	(1,0) ^{c)} 1,5	14 [2]		P
Rated Current of Equipment, A	Minimum conductor sizes																				
	Nominal cross-sectional area, mm ²	AWG or kcmil [cross-sectional area in mm ²], see Note 2																			
Over 0.2 up to and including 3	0,5 ^{a)}	18 [0,8]																			
Over 3 up to and including 7.5	0,75	16 [1,3]																			
Over 7.5 up to and including 10	(0,75) ^{b)} 1,00	16 [1,3]																			
Over 10 up to and including 16	(1,0) ^{c)} 1,5	14 [2]																			
4.1	Insert a new Clause 4.1.201 after Clause 4.1 as follows:		N/A																		
4.1.201	Display devices used for television purposes		N/A																		
	Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.		N/A																		

IEC 60950-1:2005 + Am.1 / AS/NZS 60950.1:2011/Amdt 1:2012

Clause	Requirement – Test	Result - Remark	Verdict
4.3.6	Replace the third paragraph with the following: Equipment with a plug portion, suitable for insertion into a 10A 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 sockets-outlets.	Not direct plug-in equipment	N/A
4.3.13.5	Add the following to the end of the first paragraph: “or AS/NZS 2211.1”		N/A
4.7	Add the following paragraph: For alternative tests refer to Clause 4.7.201		N/A
4.7.201	Add the following after Clause 4.7.3.6		N/A
4.7.201	RESISTANCE TO FIRE – ALTERNATIVE TESTS		N/A
4.7.201.1	General		N/A
	<p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following:</p> <p>(a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.</p> <p>(b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another.</p>		N/A
	<p>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5.</p> <p>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus.</p> <p>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



IEC 60950-1:2005 + Am.1 / AS/NZS 60950.1:2011/Amdt 1:2012

Clause	Requirement – Test	Result - Remark	Verdict
4.7.201.2	Testing of non-metallic materials		N/A
	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. 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.		N/A
4.7.201.3	Testing of insulating materials		N/A
	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.		N/A
	The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. 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 60695.2.11 with the following modifications:		N/A

IEC 60950-1:2005 + Am.1 / AS/NZS 60950.1:2011/Amdt 1:2012

Clause	Requirement – Test	Result - Remark	Verdict
	<p><u>Clause of AS/NZS 60695.2.11:</u> <u>Change:</u></p> <p>9 Test procedure:</p> <p>9.2 Application of needle-flame</p> <p>Replace the first sentence with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner</p> <p>Replace the second paragraph with: The duration of application of the test flame shall be 30 s ± 1 s.</p>		N/A
	<p>9.3</p> <p>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 withstand the test.</p> <p>11 Evaluation of test results</p> <p>Replace with: The duration of burning (t_b) shall not exceed 30s. However, for printed circuit boards, it shall not exceed 15s.</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>		
4.7.201.4	Testing in the event of non-extinguishing material		N/A
	<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



IEC 60950-1:2005 + Am.1 / AS/NZS 60950.1:2011/Amdt 1:2012

Clause	Requirement – Test	Result - Remark	Verdict
4.7.201.5	Testing of printed boards		N/A
	<p>The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.</p> <p>The test is not carried out if the —</p> <ul style="list-style-type: none">- Printed board does not carry any POTENTIAL IGNITION SOURCE;- Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or- Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p>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	<p>For Australia only, delete the first paragraph and Note and replace with the following:</p> <p>In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.</p>		N/A

IEC 60950-1:2005 + Am.1 / AS/NZS 60950.1:2011/Amdt 1:2012

Clause	Requirement – Test	Result - Remark	Verdict
6.2.2.1	<p>For Australia only, delete the first paragraph including the Notes, and replace with the following:</p> <p>In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is:</p> <p>(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment;</p> <p>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</p> <p>NOTE 201 – The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202 – The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>		N/A
6.2.2.2	<p>For Australia only, delete the second paragraph including the Note, and replace with the following:</p> <p>In Australia, the a.c. test voltage is:</p> <p>(i) for 6.2.1 a): 3 kV; and</p> <p>(i) for 6.2.1 b) and 6.2.1 c): 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>		N/A
7.3	<p>Add the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.</p>		N/A
Annex P	<p>Add the following Normative References to Annex P:</p> <p>AS/NZS 3191, Electric flexible cords</p> <p>AS/NZS 3112, Approval and test specification - Plugs and socket-outlets</p>		N/A
Annex ZZ 4.3.13.5.1	<p>Add the following after each reference to "IEC 60825-1": "or AS/NZS 60825.1"</p> <p>Add the following after each reference to "IEC 60825-2": "or AS/NZS 60825.2"</p>		N/A



APPENDIX 6

NATIONAL DIFFERENCES FOR KOREA



IEC 60950-1:2005 + Am.1 / K 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Not shipped with the product	N/A
8	EMC: The apparatus shall comply with the relevant CISPR standards.	Compliance with relevant CISPR requirements will be provided when shipped to Korea.	P




APPENDIX 7 NATIONAL DIFFERENCES FOR ISRAEL

IEC 60950-1:2005 / SI 60950 Part 1: 2009 + Am. 1:2011

Israeli Deviations IS 60950 Part 1: 2009 + Am. 1:2011			P
Clause	Requirement – Test	Result – Remark	Verdict
1.201	Energy Efficiency		N/A
	The equipment should meet the requirements of the energy sources regulations (Maximum Electrical Power Consumption in the Stand By Mode for Household Appliances and Office Equipment: 2011) with a permitted deviation of 10 %.		N/A
1.6	Power Interface		P
1.6.1	AC power distribution systems		P
	Add the following note: In Israel, this clause is applicable subject to the Electricity Law, 1954, with its regulations and revisions		P
1.7	Marking and instructions Add sub-clause 1.7.201 at the beginning of the clause, as follows:		P
1.7.201	Marking in the Hebrew Language		P
	The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods) 1983.	Will be provided when marketed in Israel	P
	In addition to the marking required by Clause 1.7.1, the following details shall be marked in the Hebrew language (the details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed):	Will be provided when marketed in Israel	P
	1. Name of the apparatus and its commercial designation;		P
	2. Manufacturer's name and address, and if imported, the importer's name and address;		P
	3. Manufacturer's registered trademark, if any;		P
	4. Name of the model and its serial number, if any;		P
	5. Country of manufacture.		P
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
	The following shall added to the clause: All the instructions and warnings related to safety shall be also written in the Hebrew language.	Will be provided when marketed in Israel	P

IEC 60950-1:2005 / SI 60950 Part 1: 2009 + Am. 1:2011

Clause	Requirement – Test	Result – Remark	Verdict
2	Protection from hazards Add the following clauses:		P
2.9.4	Separation from hazardous voltages		P
	The following shall be added at the beginning of the clause: 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
	1. TN-S – Network system earthing; TN-C-S – Network system earthing;	TN-S SELV circuits protected by Double/Reinforced insulation, which is part of a certified power supply	P
	2. TT – Network system earthing		N/A
	3. IT – Network Insulation Terre;		N/A
	4. Isolated transformer;	Provided in a separately approved power supply	P
	5. Safety extra low voltage (SELV or ELV);	Provided in a separately approved power supply	P
	6. Residual current circuit breaker (30 ma = I _Δ);		N/A
	7. Reinforced insulation; Double insulation (class II) 		N/A
2.101	Prevention of electromagnetic interference		P
	- Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked. <u>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961</u>		P
	- If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard		P



IEC 60950-1:2005 / SI 60950 Part 1: 2009 + Am. 1:2011

Clause	Requirement – Test	Result – Remark	Verdict
3	Wiring, connections and supply The clause of IEC60950-1 standard is applicable with the following additions:		P
3.2	Connection to a mains supply		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply After the note, the following note shall be added: Note: In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.		P
3.2.1.2	Connection to a d.c. mains supply		N/A
	At the end of the first paragraph, the following note shall be added: Note: At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.		N/A



APPENDIX 8



NATIONAL DIFFERENCES FOR CHINA



IEC 60950-1:2005 / GB 4943.1-2011			
Clause	Requirement + Test	Result - Remark	Verdict



ATTACHMENT TO TEST REPORT IEC 60950-1 CHINA NATIONAL DIFFERENCES Information technology equipment Safety – Part 1: General requirements			
Differences according to: GB 4943.1-2011			
Attachment Form No.: CN_ND_IEC60950_1A			
Attachment Originator: CQC-TIRT			
Master Attachment: Date 2012-11			
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China National Differences			P
Clause	Requirement + Test	Result - Remark	Verdict
1.5. 2	Add a note behind the first dashed paragraph. Note: A component used shall comply with related requirements corresponding altitude of 5000m.	The product is intended for use at altitudes up to 2000 m	N/A
1.7	Add a paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Provided when shipped to China	P
1.7.1	Amend dashed paragraph at the fifth paragraph : The RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.	Tested +10%/-10%	P

IEC 60950-1:2005 / GB 4943.1-2011			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>Add requirements of warning for equipment intended to be used at altitude not exceeding 2000m or at non-tropical climate regions:</p> <p>For equipment intended to be used at altitude not exceeding 2000m, 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 2000m."</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>	Provided on the equipment nameplate	P
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>	Part of a certified power supply	P

IEC 60950-1:2005 / GB 4943.1-2011			
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 $40 \pm 2^\circ\text{C}$ and a relative humidity of $(93 \pm 3)\%$. 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 $(93 \pm 3)\%$. 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 - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.</p>	Not intended for operation in tropical climatic conditions, see main test report for non-tropical conditions	N/A
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>	The equipment is designed to operated at the altitudes up to 2000 m	P
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K、2L and 2M.		P

IEC 60950-1:2005 / GB 4943.1-2011			
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 operated at 2000 m - 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 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.	The equipment is designed to operated at the altitudes up to 2000 m	P
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.	Not shipped with the product	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.	No cathode ray tubes	N/A
Annex E	Amend last section: 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. 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.	Resistance method was not applied	N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 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 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.	The equipment is designed to operated at the altitudes up to 2000 m	N/A

IEC 60950-1:2005 / GB 4943.1-2011			
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>	Provided on the equipment nameplate	P
Annex EE (informative)	<p>Added annex EE:</p> <p>Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighur.</p>		P

	Special national conditions		P
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: —equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;</p>		P
1.4.5	<p>Amend the second paragraph by the following: 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>	The tolerances on rated voltage are taken as +10%, -10%	P



IEC 60950-1:2005 / GB 4943.1-2011			
Clause	Requirement + Test	Result - Remark	Verdict
1.4.12.1	<p>Tma: 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, Tma 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>	Tested for Tma 35°C	P



APPENDIX 9 NATIONAL DIFFERENCES FOR CANADA

IEC 60950-1:2005 + Am.1+ Am.2 / CAN/CSA-C22.2 NO. 60950-1-07 + A1 + A2

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013 U.S.A. AND CANADIAN NATIONAL DIFFERENCES

Information technology equipment – Safety – Part 1: General requirements

Differences according to	CAN/CSA-C22.2 No. 60950-1-07 + A1:2011 + A2:2014
Attachment Form No.	N/A
Attachment Originator	N/A
Master Attachment.....	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	SPECIAL NATIONAL CONDITIONS The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part I and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations.		P
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.		P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75		P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors	Not a baby monitor	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A	Considered 20A	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC		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		P
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	1 phase only	N/A

IEC 60950-1:2005 + Am.1+ Am.2 / CAN/CSA-C22.2 NO. 60950-1-07 + A1 + A2

Clause	Requirement + Test	Result - Remark	Verdict
	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
	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"		N/A
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	No such terminals	N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	No such fuses	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.	No power outlets	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	Not for permanent connection	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	Not shipped with the product	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements	No DC mains	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs	Not for permanent connection	N/A

IEC 60950-1:2005 + Am.1+ Am.2 / CAN/CSA-C22.2 NO. 60950-1-07 + A1 + A2

Clause	Requirement + Test	Result - Remark	Verdict
3.2.5	Power supply cords are no longer than 4.5 m in length	Not shipped with the product	N/A
	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
	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	Not permanently connected equipment	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0	No such terminals	N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm ²)		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent 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	No such components	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	No such battery systems	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30	No flammable liquids	N/A
4.3.13.5.1	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable		N/A

IEC 60950-1:2005 + Am.1+ Am.2 / CAN/CSA-C22.2 NO. 60950-1-07 + A1 + A2

Clause	Requirement + Test	Result - Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge	No automated information storage systems	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less	No such enclosures	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	No such enclosures	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	No ionizing radiation	N/A
	OTHER DIFFERENCES The following key national differences are based on requirements other than national regulatory requirements		P
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	UL approved components	P

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Clause	Requirement + Test	Result - Remark	Verdict
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	No connection to DC mains	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 _{peak} or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions	No TNV circuits	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	No CRTs	N/A
4.3.2	Equipment with handles complies with special loading tests	No handles	N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements	No battery packs	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests	No telecommunication ringing signals	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	Not accessible	N/A
	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	No connection to telecommunication network	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	Not a shredder	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	No ringing signals	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	No connection to a telecommunication or cable distribution network	N/A