Report No.: T1505073-051

TEST REPORT

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

Report Reference No. ..... :	T1505073-051	
Tested by (printed name and signature) ..... :	Leo Pan	
Reviewed by (printed name and signature) ..... :	Bruce Yang	
Approved by (Manager) (printed name and signature) ..... :	Nicole Gan	
Date of issue ..... :	2015-05-20	
Testing Laboratory Name..... :	Cerpass Technology (Dong Guan) Co., Ltd.	
Address ..... :	1F. No.10, Taida Rd., ChangAn, Dongguan City, Guangdong 523850, China.	
Applicant's name ..... :	Yesa Technology Co., Ltd	
Address ..... :	No. 1504, Launch Industrail Zone, North Of Wuhe Rd, Bantian, Longgang, Shenzhen, China	
Test specification:		
Standard..... :	IEC 60950-1:2005 + A1:2009 + A2:2013 AS/NZS 60950.1:2011 Amendment 1:2012	
Test procedure ..... :	Safety Report	
Non-standard test method..... :	N/A	
Test item description .....:	CHARGER TO SUIT PASLODE	
Trade Mark..... :		
Manufacturer..... :	Yesa Technology Co., Ltd No. 1504, Launch Industrail Zone, North Of Wuhe Rd, Bantian, Longgang, Shenzhen, China	
Model/Type reference ..... :	YS902672	
Serial number ..... :	Test sample without serial number	
Ratings ..... :	Input: AC 220-240V, 50/60Hz, 350mA (Max). Output: 8.4V⎓, 2A	

Particulars: test item vs. test requirements	
Equipment mobility ..... :	Transportable and movable
Connection to the mains ..... :	non-detachable power supply cord
Operating condition ..... :	Continuous
Access location ..... :	Operator accessible
Over voltage category (OVC) ..... :	II
Mains supply tolerance (%) or absolute mains supply values ..... :	-10%, +10%
Tested for IT power systems ..... :	N/A
IT testing, phase-phase voltage (V) ..... :	N/A
Class of equipment ..... :	Class II
Considered current rating (A) ..... :	16A
Pollution degree (PD) ..... :	PD2
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	Up to 2000
Altitude of test laboratory (m) ..... :	Below 2000
Mass of equipment (kg) ..... :	Approx. 0.245
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 ..... :	2015-05-16
Date(s) of performance of tests ..... :	2015-05-16 to 2015-05-20

General remarks:

If any questions of the inspection report, please proposed with in 15 days from receiving the report, deadline will not be accepted.

Report would be inefficiency if any scrawling or modification was made.

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

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

"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

The instructions specified by the standard have to be in official language of each country, however, only English is checked for this report. It is the applicant responsibility to provide instruction in each official language of the EU.

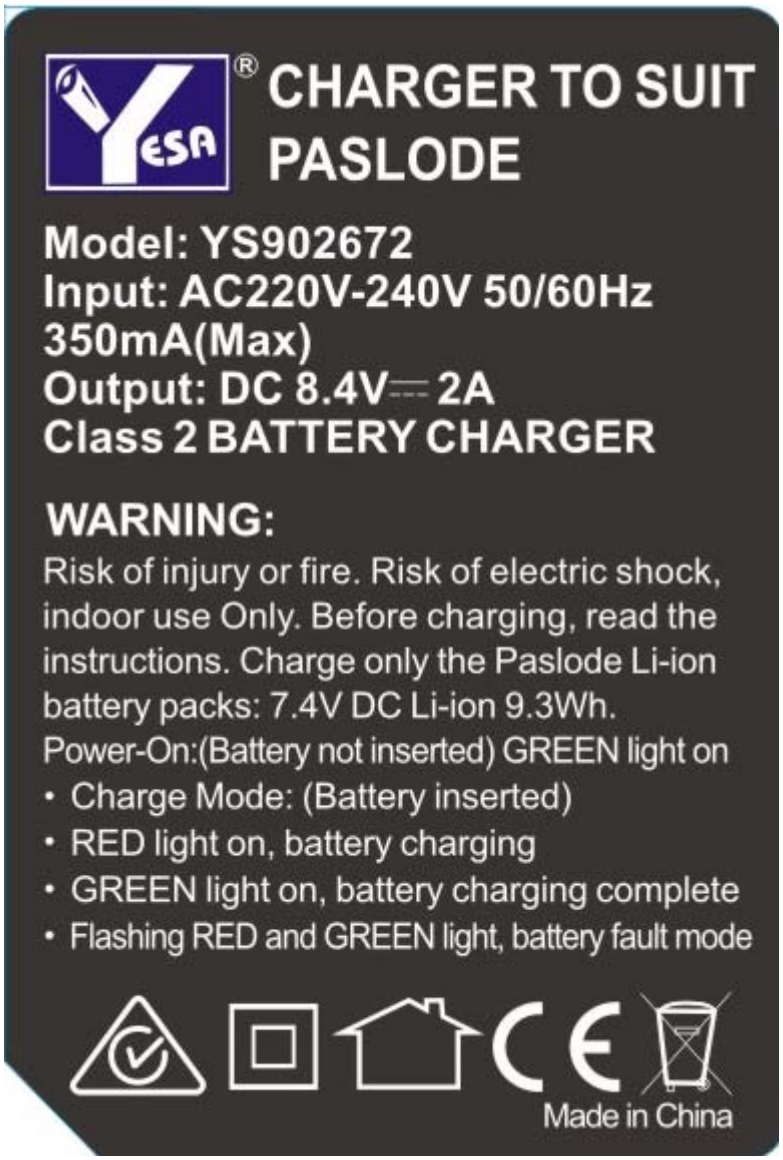
This report is submitted for the exclusive use of the client to whom it is addressed. Its significance is subject to the adequacy and representative character of the sample(s) and to the comprehensiveness of the tests, examinations or surveys made.

This report justified only the submitted samples exclusively and not necessarily implies that all other samples are also to be found in same result.

The CE marking may only be used if all relevant and effective EC directives are complied with.

Factor(ies): Yesa Technology Co., Ltd No. 1504, Launch Industrail Zone, North Of Wuhe Rd, Bantian, Longgang, Shenzhen, China
General product information: The equipment is transportable type Battery charger used for information technology equipment. The equipment's top enclosure is secured to bottom enclosure by screw. The manufacturer declared that the maximum ambient temperature is 35°C.
Other comments: None

Copy of marking plate and summary of test results (information/comments):



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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		P
1.5	**Components**		P
1.5.1	General	See below.	P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application. Components, which no relevant IEC-Standard exists, are used within their ratings and are tested under the conditions occurring in the equipment	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	Transformer used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C.	P
1.5.5	Interconnecting cables	Not such cables used.	N/A
1.5.6	Capacitors bridging insulation	No such components.	N/A
1.5.7	Resistors bridging insulation	No such components	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	No such components.	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No such components.	N/A
1.5.8	Components in equipment for IT power systems	No such components.	N/A
1.5.9	Surge suppressors	No such components.	N/A
1.5.9.1	General	No such components.	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	No such components.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR	No such components.	N/A
1.6	**Power interface**		P
1.6.1	AC power distribution systems	TN power system.	P
1.6.2	Input current	Highest load according to 1.2.2.1 for this equipment is the operation with the max. specified DC-load. (see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment.	N/A
1.6.4	Neutral conductor	Class II equipment. The neutral is not identified in the equipment. Double or reinforced insulation for rated voltage between accessible parts and primary phases.	P
1.7	**Marking and instructions**		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking	See below	P
	Multiple mains supply connections.....:	Only one mains supply connections.	N/A
	Rated voltage(s) or voltage range(s) (V) .....:	AC 220-240V	P
	Symbol for nature of supply, for d.c. only.....:	Mains from AC source	N/A
	Rated frequency or rated frequency range (Hz) ....:	50/60Hz	P
	Rated current (mA or A).....:	350mA	P
1.7.1.2	Identification markings	See below	P
	Manufacturer's name or trade-mark or identification mark .....:		P
	Model identification or type reference .....:	YS902672	P
	Symbol for Class II equipment only .....:	Double square symbol provided.	P
	Other markings and symbols .....:	Additional symbols or marking do not give rise to misunderstanding.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1.3	Use of graphical symbols	Graphical symbols are all explained in the user’s manual.	P
1.7.2	Safety instructions and marking	See below.	P
1.7.2.1	General	The user’s manual contains information for operation, installation, servicing, transport, storage and technical data. The operation guide is provided to the user.	P
1.7.2.2	Disconnect devices	The mains plug is regarded as disconnected device and it is incorporated with equipment during normal use.	P
1.7.2.3	Overcurrent protective device	Pluggable equipment type A	N/A
1.7.2.4	IT power distribution systems	It shall be evaluated when submitted for Norway national approval.	N/A
1.7.2.5	Operator access with a tool	No operator accessible area that needs to be accessed by the use of a tool.	N/A
1.7.2.6	Ozone	The equipment not containing Ozone.	N/A
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment .....:	No voltage selector.	N/A
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:	No power outlets provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:	Current fuse (F1) used, marking adjacent to it: T1A/250Vac.	P
1.7.7	Wiring terminals	No such terminals	N/A
1.7.7.1	Protective earthing and bonding terminals .....:	Class II equipment.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	No such terminals.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	AC mains supply only.	N/A
1.7.8	Controls and indicators	No safety relevant controls or indicators	N/A
1.7.8.1	Identification, location and marking.....:		N/A
1.7.8.2	Colours .....:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.8.3	Symbols according to IEC 60417.....:	There are no mains switches in the equipment.	N/A
1.7.8.4	Markings using figures .....:	No controls affecting safety.	N/A
1.7.9	Isolation of multiple power sources.....:	Only one supply from the mains.	N/A
1.7.10	Thermostats and other regulating devices .....:	No thermostats or other regulating devices.	N/A
1.7.11	Durability	he label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 s and then again for 15s with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was neither curling nor lifting of the label edge	P
1.7.12	Removable parts	No removable parts provided.	N/A
1.7.13	Replaceable batteries .....:	No battery provided.	N/A
	Language(s) .....:		—
1.7.14	Equipment for restricted access locations .....:	No restricted access location.	N/A

2	**PROTECTION FROM HAZARDS**		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See below	P
2.1.1.1	Access to energized parts	See below.	P
	Test by inspection .....:	No access with test finger and test pin to any parts with only basic insulation to ELV or hazardous voltage.	P
	Test with test finger (Figure 2A) .....:	See above.	P
	Test with test pin (Figure 2B) .....:	See above.	P
	Test with test probe (Figure 2C) .....:	No TNV circuits in the equipment.	N/A
2.1.1.2	Battery compartments	No battery compartments	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N/A
	Working voltage (Vpeak or Vrms); 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 hazardous voltage wiring in operator accessible area.	N/A
2.1.1.5	Energy hazards .....:	Energy does not exceed 240VA between any two points in accessible parts (o/p connector of secondary circuit). Results see appended table 2.1.1.5. No energy hazard in operator access area.	P
2.1.1.6	Manual controls	Not connected to and sufficiently separated from hazardous voltages.	N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s).....:	(see appended table 2.1.1.7)	—
2.1.1.8	Energy hazards – d.c. mains supply	Connected to a.c. 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 Audio amplifiers.	N/A
2.1.2	Protection in service access areas	No service access areas.	N/A
2.1.3	Protection in restricted access locations	No restricted access locations.	N/A
2.2	**SELV circuits**		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V) .....:	Between any conductors of the SELV circuits 42.4 V peak or 60 V d.c. are not exceeded. (See appended table 2.2.2.)	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.3	Voltages under fault conditions (V) .....:	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V d.c. were not exceeded within 0.2 seconds and limits 42.4V peak and 60V d.c. were not exceeded for longer than 0.2 seconds.	P
2.2.4	Connection of SELV circuits to other circuits .....:	See above.	P
2.3	**TNV circuits**		N/A
2.3.1	Limits	See below.	N/A
	Type of TNV circuits .....:	No TNV circuits in the equipment.	—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....:		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed .....:		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed .....:		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		P
2.4.1	General requirements		P
2.4.2	Limit values	See below	P
	Frequency (Hz).....:	(see appended table 2.4.2)	—
	Measured current (mA) .....:	(see appended table 2.4.2)	—
	Measured voltage (V).....:	(see appended table 2.4.2)	—
	Measured circuit capacitance (nF or µF) .....:	CY1=2200pF	—
2.4.3	Connection of limited current circuits to other circuits	See 2.2.2 and 2.2.3. No direct connection between SELV and any primary circuits.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.5	**Limited power sources**		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....:		N/A
	Current rating of overcurrent protective device (A) .:	No such parts used.	N/A
2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing	Class II equipment.	N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing .....:		N/A
2.6.3	Protective earthing and protective bonding conductors		—
2.6.3.1	General		—
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
	Protective current rating (A), cross-sectional area (mm^2), AWG .....:		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) .....:		N/A
2.6.3.5	Colour of insulation.....:		N/A
2.6.4	Terminals		—
2.6.4.1	General		—
2.6.4.2	Protective earthing and bonding terminals		—
	Rated current (A), type, nominal thread diameter (mm) .....:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		—
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		P
2.7.1	Basic requirements	Equipment relies on 16A rated fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Over-current protection is provided by the current fuse.	P
	Instructions when protection relies on building installation	The final system is considered to be pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	The protection device is well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A. Building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices .....:	Over current protection by one built-in current fuse.	P
2.7.5	Protection by several devices	Only one protective device. See Sub-clause 2.7.4.	N/A
2.7.6	Warning to service personnel.....:		N/A
2.8	**Safety interlocks**		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.8.1	General principles	No safety interlock 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		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic material are not used.	P
2.9.2	Humidity conditioning	Humidity treatment performed at 120 h	P
	Relative humidity (%), temperature (°C) .....:	93%, 40°C	—
2.9.3	Grade of insulation	Please refer to 2.10, 4.5.1 and 5.2	P
2.9.4	Separation from hazardous voltages	The secondary circuit is separated from hazardous voltages by reinforce insulation.	P
	Method(s) used .....:	Method 1 used	—
2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General	See below.	P
2.10.1.1	Frequency .....:	Considered.	P
2.10.1.2	Pollution degrees .....:	2	P
2.10.1.3	Reduced values for functional insulation	The functional are comply with 5.3.4 a) and c)	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.1.4	Intervening unconnected conductive parts	No such part.	N/A
2.10.1.5	Insulation with varying dimensions	No such insulations.	N/A
2.10.1.6	Special separation requirements	Not used.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such part.	N/A
2.10.2	Determination of working voltage	See below.	P
2.10.2.1	General	Considered.	P
2.10.2.2	RMS working voltage	(see appended table 2.10.2)	P
2.10.2.3	Peak working voltage	(see appended table 2.10.2)	P
2.10.3	Clearances	See below.	P
2.10.3.1	General	See below, Annex G was not considered.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply .....:	Normal transient voltage considered (overvoltage category II for primary circuit).	P
	b) Earthed d.c. mains supplies .....:	Not intended for d.c.	N/A
	c) Unearthed d.c. mains supplies .....:	Not intended for d.c.	N/A
	d) Battery operation .....:		N/A
2.10.3.3	Clearances in primary circuits	Annex F and minimum clearances considered. (see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	See 5.3.4.	P
2.10.3.5	Clearances in circuits having starting pulses	No such circuit.	N/A
2.10.3.6	Transients from a.c. mains supply .....:		N/A
2.10.3.7	Transients from d.c. mains supply .....:		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....:	No TNV circuits in the equipment.	N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains suplply		N/A
	For an a.c. mains supply .....:		N/A
	For a d.c. mains supply .....:		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.4.1	General	See below.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.4.2	Material group and caomparative tracking index	Material group IIIb is assumed to be used	P
	CTI tests .....:	CTI rating for all materials are min. 100.	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	**Solid insulation**		P
2.10.5.1	General	See below.	P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	No such components.	N/A
2.10.5.4	Semiconductor devices	Approved optocoupler with dti. ≥0.4mm used.	P
2.10.5.5.	Cemented joints	No cemented joints.	N/A
2.10.5.6	Thin sheet material – General	The thin sheet materials of polyester tape used in transformer T1.	P
2.10.5.7	Separable thin sheet material	Two layers of polyester tape wrapped around the body of transformer T1 were used as reinforced insulation.	P
	Number of layers (pcs).....:	2 layers.	—
2.10.5.8	Non-separable thin sheet material	Not applicable.	N/A
2.10.5.9	Thin sheet material – standard test procedure	Not applicable.	N/A
	Electric strength test	Not applicable.	—
2.10.5.10	Thin sheet material – alternative test procedure		P
	Electric strength test	(See appended table 5.2)	P
2.10.5.11	Insulation in wound components	Approved source of triple insulated wire used in T1 primary winding for reinforced insulation.	P
2.10.5.12	Wire in wound components	See above.	P
	Working voltage :	See appended table C.2 in Measurement Section.	P
	a) Basic insulation not under stress .....:		N/A
	b) Basic, supplemetary, reinforced insulation .....:	Reinforced insulation.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c) Compliance with Annex U .....:	Approved source of triple insulated wire used in T1 primary winding for reinforced insulation.	P
	Two wires in contact inside wound component; angle between 45° and 90° .....:	By tubing or insulation tape.	P
2.10.5.13	Wire with solvent-based enamel in wound components	No such parts.	N/A
	Electric strength test		—
	Routine test		—
2.10.5.14	Additional insulation in wound components	No such construction.	N/A
	Working voltage .....:		N/A
	- Basic insulation not under stress .....:		N/A
	- Supplemetary, reinforced insulation .....:		N/A
2.10.6	**Construction of printed boards**	See below.	P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards	No such parts.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	No such parts.	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board	No such parts.	N/A
	Distance through insulation		—
	Number of insulation layers (pcs).....:		—
2.10.7	Component external terminations	No such parts.	N/A
2.10.8	Tests on coated printed boards and coated components	No such parts.	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	No such components.	N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	All internal wires are UL recognized wiring which is PVC insulated, rated VW-1, minimum 80°C. Internal wiring gauge is suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges, which could damage the insulation.	P
3.1.3	Securing of internal wiring	Internal wiring is secured reliable so that loosening of terminal connections is unlikely.	P
3.1.4	Insulation of conductors	Insulation of the conductor is suitable for the application. For insulation material see subclause 3.1.1.	P
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	No such screws.	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal.	N/A
3.1.8	Self-tapping and spaced thread screws	No such part.	N/A
3.1.9	Termination of conductors	All conductors are reliably secured by solder-pin or glued or other mechanical fixing means.	P
	10 N pull test	Break away or pivot on its terminal is unlikely.	P
3.1.10	Sleeving on wiring	No sleeving used to provide supplementary insulation.	N/A
3.2	**Connection to a mains supply**		P
3.2.1	Means of connection	See below	P
3.2.1.1	Connection to an a.c. mains supply	Non-detachable power supply cord with plug	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.2	Connection to a d.c. mains supply	AC Source.	N/A
3.2.2	Multiple supply connections	Only one supply connection	N/A
3.2.3	Permanently connected equipment	The equipment is not intended for permanent connection to the mains.	N/A
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords	Non-detachable power supply cord	P
3.2.5.1	AC power supply cords	(see appended table 1.5.1.)	P
	Type ..... :	(see appended table 1.5.1.)	—
	Rated current (A), cross-sectional area (mm^2), AWG ..... :	(see appended table 1.5.1.)	—
3.2.5.2	DC power supply cords	No connected to DC mains	N/A
3.2.6	Cord anchorages and strain relief	Test on non-detachable power supply cords. After the test, there was no indication of damage and not displaced more than 2mm. The equipment complies with the requirements of electric strength test.	P
	Mass of equipment (kg), pull (N) ..... :	0.245, 30N	—
	Longitudinal displacement (mm) ..... :	0.12 max.	—
3.2.7	Protection against mechanical damage	No arts under this unit likely to damage the power supply cord. No sharp edges.	N/A
3.2.8	Cord guards	Integral cord guard is provided on power supply cord	N/A
	Diameter or minor dimension D (mm); test mass (g) ..... :	3.5mm; 122.5g	—
	Radius of curvature of cord (mm)..... :	6.0mm	—
3.2.9	Supply wiring space	Cord guard is provided that prevent the wiring not be damaged and be free from its terminal.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3	**Wiring terminals for connection of external conductors**		P
3.3.1	Wiring terminals		P
3.3.2	Connection of non-detachable power supply cords	No special non-detachable power supply cord used.	N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected	See below.	P
	Rated current (A), cord/cable type, cross-sectional area (mm^2)..... :	(See appended table 1.5.1.)	—
3.3.5	Wiring terminal sizes	No such wiring terminal. Supply cord is soldered on PCB and additionally fixed by glue.	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	The conductor is not subject to contact pressure.	N/A
3.4	**Disconnection from the mains supply**		P
3.4.1	General requirement	See below.	P
3.4.2	Disconnect devices	The mains plug on the power cord is regarded as disconnected device and it is incorporated with equipment during normal use.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	There is no parts remained with hazardous voltage or energy in the equipment when SPS is separated from AC mains.	P
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles – single-phase and d.c. equipment	See sub-clause 1.7.2.2. The disconnected device disconnects both poles simultaneously.	P
3.4.7	Number of poles – three-phase equipment	Single phase.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.4.8	Switches as disconnect devices	No switches provided.	N/A
3.4.9	Plugs as disconnect devices	(see sub-clause 3.4.2)	P
3.4.10	Interconnected equipment	No interconnections using hazardous voltages.	N/A
3.4.11	Multiple power sources	Only one supply connection provided.	N/A
3.5	**Interconnection of equipment**		P
3.5.1	General requirements	Considered.	P
3.5.2	Types of interconnection circuits ..... :	SELV Circuit.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N/A
3.5.4	Data ports for additional equipment	No data ports.	N/A
4	**PHYSICAL REQUIREMENTS**		P
4.1	Stability		P
	Angle of 10	Less than 7kg.	N/A
	Test force (N) .....:		N/A
4.2	**Mechanical strength**		P
4.2.1	General	See below. After the tests, the equipment complies with the requirements of sub-clauses 2.1.1, 2.6.1, 2.10 and 4.4.1.	P
	Rack-mounted equipment.	No such equipment	N/A
4.2.2	Steady force test, 10 N	10 N applied to all components other than the parts serving as an enclosure.	P
4.2.3	Steady force test, 30 N	No internal enclosure	N/A
4.2.4	Steady force test, 250 N	250N applied to outer enclosure. No energy or other hazards. Test was performed for all sources of enclosure material.	P
4.2.5	Impact test	Not applied for direct plug-in equipment.	N/A
	Fall test	See above.	N/A
	Swing test	See above.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.6	Drop test; height (mm) .....:	The equipment has been subjected to three drops from 1m height on a hard wooden surface. No hazard as result from drop test.	P
4.2.7	Stress relief test	After 7 hours at temperature of 85°C and cooling down to room temperature, no shrinkage, distortion or loosening any enclosure part was noticeable on the equipment.	P
4.2.8	Cathode ray tubes	No cathode ray tube.	N/A
	Picture tube separately certified .....:		N/A
4.2.9	High pressure lamps	No high pressure lamp.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:	Not wall or ceiling mounted equipment.	N/A
4.3	**Design and construction**		P
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed	P
4.3.2	Handles and manual controls; force (N) ..... :	No handles or controls provided.	N/A
4.3.3	Adjustable controls	No adjustable controls.	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur	P
4.3.5	Connection by plugs and sockets	No mismating of connectors, plugs or sockets possible.	P
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque .....:		N/A
	Compliance with the relevant mains plug standard .....:		N/A
4.3.7	Heating elements in earthed equipment	No heating elements provided	N/A
4.3.8	Batteries	No battery provided.	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	Insulation is not exposed to oil and grease etc	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not contain flammable liquids or gases	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment	N/A
4.3.12	Flammable liquids .....:	The equipment does not contain flammable liquid	N/A
	Quantity of liquid (l) .....:		N/A
	Flash point (°C) .....:		N/A
4.3.13	Radiation	No radiation hazards.	N/A
4.3.13.1	General		—
4.3.13.2	Ionizing radiation	No ionizing radiation or flammable liquids present.	N/A
	Measured radiation(pA/kg) .....:		—
	Measured high-voltage (kV).....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	No UV radiation.	N/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	The LED is considered as indicating light.	P
4.3.13.5.1	Lasers (including laser laser diodes)		N/A
	Laser class .....:		—
4.3.13.5.2	Light emitting diodes (LEDs)	The output radiation of the LED indicator (optional) is far less than the limit of laser class 1.	P
4.3.13.6	Other types .....:	Not used.	N/A

4.4	**Protection against hazardous moving parts**	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.1	General	No moving parts.	N/A
4.4.2	Protection in operator access areas .....:		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations .....:		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)……..:		N/A
	Is considered to cause pain, not injury. b) ……:		N/A
	Considered to cause injury. c) ……:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……:		N/A

4.5	**Thermal requirements**		P
4.5.1	General	See below.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L .....:	See Annex L.	—
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	Phenolic bobbin material used in Transformer T1, which acceptable without test. No other parts to be tested.	N/A

4.6	**Openings in enclosures**		P
4.6.1	Top and side openings	No openings.	N/A
	Dimensions (mm) .....:		—
4.6.2	Bottoms of fire enclosures	(see appended table 4.6.1)	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Construction of the bottomm, dimensions (mm) ..:		—
4.6.3	Doors or covers in fire enclosures	No doors or covers provided.	N/A
4.6.4	Openings in transportable equipment	Not applicable.	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes	No adhesives for constructional purposes.	N/A
	Conditioning temperature (°C), time (weeks).....:		—
4.7	**Resistance to fire**		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: - Components in primary - Components in secondary - Components having unenclosed arcing parts at hazardous voltage or energy level. - Insulated wiring The fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure	All parts are located inside a fire enclosure.	N/A
4.7.3	Materials		P
4.7.3.1	General	Parts mounted on PCB of flammability class V-1 or better.	P
4.7.3.2	Materials for fire enclosures	V-1 or better.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.3	Materials for components and other parts outside fire enclosures	No such component.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Other materials inside fire enclosure are minimum V-2 material.	P
4.7.3.5	Materials for air filter assemblies	No air filter.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage 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 sub-clauses 5.1.2 to 5.1.6.	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Equipment of figure 5A used.	P
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	P
5.1.5	Test procedure	The touch current was measured from mains to secondary circuit and enclosure.	P
5.1.6	Test measurements	See below.	P
	Supply voltage (V) .....:	(see appended table 5.1.6)	—
	Measured touch current (mA) .....:	(see appended table 5.1.6)	—
	Max. allowed touch current (mA) .....:	(see appended table 5.1.6)	—
	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 .....:		—
5.1.7.2	Simultaneous multiple connections to the supply		—
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Not connected to telecommunication networks.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks	Not connected to a telecommunication network.	N/A
	a) EUT with earthed telecommunication ports .....:		—
	b) EUT whose telecommunication ports have no reference to protective earth		—
5.2	**Electric strength**		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P
5.3	**Abnormal operating and fault conditions**		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No motors.	N/A
5.3.3	Transformers	With the shorted o/p of the transformer, no high temperature of the transformer was recorded. Results of the short-circuit tests see appended table 5.3 and Annex C.	P
5.3.4	Functional insulation.....:	Method c). Test results see appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical components in secondary circuits.	N/A
5.3.6	Audio amplifiers in ITE .....:	No audio amplifiers inside equipment.	N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment	No thermostats, temperature limiters or thermal cut-outs	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary to SELV was passed.	P
5.3.9.1	During the tests	No fire occurred beyond the equipment, no molten metal emitted and no deformation of enclosure.	P
5.3.9.2	After the tests	Electric strength test primary to SELV was passed.	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		N/A
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions .....:		N/A
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements	6.2.1-6.2.2.3: No TNV circuits.	N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) .....:		—
	Current limiting method .....:		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	General	7.1-7.4.3: Not connected to cable distribution systems.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
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 18kg, and of stationary equipment (see 4.7.3.2)	Refer below:	N/A
A.1.1	Samples.....:	Product mass <18kg	N/A
	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.....:		N/A
	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Flame A, B or C .....:		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s) .....:		—
	Sample 2 burning time (s) .....:		—
	Sample 3 burning time (s) .....:		—
A.2.7	Alternative test acc. To IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s) .....:		—
	Sample 2 burning time (s) .....:		—
	Sample 3 burning time (s) .....:		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		N/A
B.1	General requirements	No motor provided.	N/A
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) .....:		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.6.4	Electric strength test; test voltage (V) .....:		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) .....:		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) .....:		—
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		P
	Position .....:	T1	—
	Manufacturer .....:	(see appended table 1.5.1)	—
	Type .....:	(see appended table 1.5.1)	—
	Rated values .....:	Class B	—
	Method of protection.....:	By protection circuit design.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 5.2)	P
	Protection from displacement of windings .....:	By tube or insulation tape.	P
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		P
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply .....:		N/A
G.2.2	Earthed d.c. mains supplies .....:		N/A
G.2.3	Unearthed d.c. mains supplies .....:		N/A
G.2.4	Battery operation .....:		N/A
G.3	Determination of telecommunication network transient voltage (V) .....:		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks .....:		N/A
G.4.2	Transients from telecommunication networks .....:		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances .....:		N/A
H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A
J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		N/A
	Metal(s) used.....:		—
K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....:		N/A
K.3	Thermostat endurance test; operating voltage (V):		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
K.4	Temperature limiter endurance; operating voltage (V) .....:		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) .....:		—
M.3.1.2	Voltage (V) .....:		—
M.3.1.3	Cadence; time (s), voltage (V) .....:		—
M.3.1.4	Single fault current (mA) .....:		—
M.3.2	Tripping device and monitoring voltage .....:		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) .....:		N/A
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
			—
U	**Annex U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.12)**		P
		(see appended table 1.5.1)	—
V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		P
V.1	Introduction		P
V.2	TN power distribution systems		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		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	No provided.	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	The equipment is not such equipment.	N/A
DD.2	Mechanical strength test, variable N……..:		N/A
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……:		N/A

EE	**ANNEX EE, Household and home/office document/media shredders**		N/A
EE.1	General	The equipment is not such equipment.	N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols……:		N/A
	Information of user instructions, maintenance and/or servicing instructions……:		N/A
EE.3	Inadvertent reactivation test……:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	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

EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS		
	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 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2	N/A
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	N/A
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.	N/A
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.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.		N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N/A
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		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
	Zx Protection against excessive sound pressure from personal music players		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General 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. A personal music player is a portable equipment for personal use, that: - 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. 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. 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. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: - while the personal music player is connected to an external amplifier; or - while the headphones or earphones are not used. 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. The requirements do not apply to: - hearing aid equipment and professional equipment; 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.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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. 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. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		N/A
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: 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. 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. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. 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. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. 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. 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. 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.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods."  **Figure 1 – Warning label (IEC 60417-6044)** 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.		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input 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. 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). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input 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. 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.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A
	Zx.4.3 Wireless listening devices In wireless mode: - 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. NOTE An example of a wireless listening device is a Bluetooth headphone.		N/A
	Zx.5 Measurement methods 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. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements 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): 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; 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
	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. 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.		N/A
2.7.2	This subclause has been declared ‘void’.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: 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 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a]. In NOTE 1, applicable to Table 3B, delete the second sentence.		N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	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 (artifical optical radiation).		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	Additional EN standards.		—
ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		—

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.		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.		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).		N/A
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	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: In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A
1.7.2.1 (A11:2009)	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. 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. 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: “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).”		

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	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. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		N/A
1.7.2.1 (A2:2013)	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. 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.”		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 1.7.5 (A11:2009)	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For **CLASS II EQUIPMENT** the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A
1.7.5 (A2:2013)	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. 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. 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. Justification the Heavy Current Regulations, 6c		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.		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		P
2.10.5.13	In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In **Switzerland**, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A 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: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998:Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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. 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.		N/A
3.2.1.1 (A2:2013)	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. 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. 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. Justification the Heavy Current Regulations, 6c		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	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. 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. 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. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		N/A
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In **Ireland**, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In **Finland**, **Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • 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.		N/A

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - 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. 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 - 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

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

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
6.1.2.2	In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In **Finland**, **Norway** and **Sweden**, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A

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

Annex ZD
(informative)

IEC and CENELEC code designations for flexible cords

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

1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
For EU plug					
Power plug	Shenzhen HongPu Electron Co., Ltd.	XTH-006	250Vac, 2.5A	EN 50075	VDE
Power cord	Shenzhen Baohing Electric Wrie & Cable Manufacture Co., Ltd.	H03VVH2-F	2 x 0.75 mm²	IEC 60227	VDE
For AU plug					
Power plug	Shenzhen Wang Jing Electrical Co., Ltd.	WJP-205	250Vac, 10A	AS/NZS 3112	N20410
Power cord	Shenzhen Baohing Electric Wrie & Cable Manufacture Co., Ltd.	LTSA-2F	2 x 0.75 mm²	AS/NZS 4417	NSW14586
Plastic Enclosure	SABIC INNOVATIVE PLASTICS US L LC	C6200(GG)	V-0, 75°C, min. thickness 1.5 mm	UL 94	UL
PCB	Interchangeable	Interchangeable	V-1 or better min. 130°C	UL 796	UL
Fuse (F1)	Dongguan Better Electronic Technology Co., Ltd	332	T1A, 250Vac	UL 248-1	UL
	Shenzhen Lanson Electronics Co., Ltd	3K	T1A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE
X –cap	SHANTOU HIGH-NEW TECHNOLOGY	MPX	Max. 0.1μF, min. 250Vac, X2 type, min.	IEC/EN 60334-14	VDE

	DEVELOPMNT ZONE SONGTIAN ENTERPRISW CO LTD		100°C		
	Shenzhen Su Rong Electronic Co., Ltd	MPX	Max. 0.1μF, min. 250Vac, X2 type, min. 100°C	IEC/EN 60334-14	VDE
	Tenta Electric Industrial Co., Ltd	MEX	Max. 0.1μF, min. 250Vac, X2 type, min. 100°C	IEC/EN 60334-14	VDE
Bleeder resistor (R1, R2)	Interchangeable	Interchangeable	Min. 1Mohm, min. 1/2W	--	Tested with appliance
Bridge diode (D1, D2, D3, D4)	Interchangeable	Interchangeable	Min. 0.5A, min. 500V	--	Tested with appliance
Electrolytic capacitors (C2)	Interchangeable	Interchangeable	33μF, min. 400V, 105°C	--	Tested with appliance
Chock (LF1)	SHENZHEN HSJ ELECTRONICS CO.TLD	UU9.8	Min. 130°C	--	Tested with appliance
Transistor (Q1)	Interchangeable	Interchangeable	Min. 0.8A, min. 500V	--	Tested with appliance
Current sense resistor (R12)	Interchangeable	Interchangeable	Min. 0.56ohm, min. 1/2W	--	Tested with appliance
Y-Capacitor (CY1) Y1 type	Shantou High-New Technology Developmnt Zone Songtian Enterprise Co.,Ltd	CD Series	2200 pF, 400 Vac, min. 85°C Y1 type.	IEC/EN 60384-14	VDE
Current Sensor Resistor (R23)	Shenzhen Teruixiang Electronic Co., Ltd	TY-Series	2200pF, min. 400 Vac min. 85 °C. Y1 type.	IEC/EN 60384-14	VDE
Current Sensor Resistor (R22)	Interchangeable	Interchangeable	Min. 0.22ohm, min. 1/2W	--	Tested with appliance
Opto-coupler (U2)	Sharp Corp	PC817	Dti. =0.7mm, Int. dcr. >5.0mm, Ext. dcr. = 8.0mm,	EN 60747-5-2, IEC/EN 60950-1	TUV

			110°C		
Transformer (T1)	SHENZHEN HSJ ELECTRONICS CO.TLD	EE25	Pri. Winding: N1(4-1) Φ0.2mm*48Ts, N3(1-5) Φ0.2mm*48Ts N4(2-3) Φ0.15mm*19Ts Sec. Winding: N2(A-B) Φ0.5mm*2P*13 Ts; Class B	--	Test with appliance
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375J	Phenolic, V-0, 150°C, min. thickness 0.71mm.	UL 94	UL
- Triple insulation wire	E&B TECHNOLOGY CO LTD	E&B-XXXB	130°C	IEC/EN 60950-1	VDE
- Insulation Tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CTI	130°C	UL 510	UL
T1 (Alternative)	Shenzhen Junmeijia electronics co., LTD	EE25	Pri. Winding: N1(4-1) Φ0.2mm*48Ts, N3(1-5) Φ0.2mm*48Ts N4(2-3) Φ0.15mm*19Ts Sec. Winding: N2(A-B) Φ0.5mm*2P*13 Ts; Class B	--	Test with appliance
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375J	Phenolic, V-0, 150°C, min. thickness 0.71mm.	UL 94	UL
- Triple insulation wire	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C	IEC/EN 60950-1	VDE
- Insulation Tape	JINGJIANG YAHUA PRESSURE	CTI	130°C	UL 510	UL

	SENSITIVE GLUE CO LTD				
Note:					

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V/Hz)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
198/50	--	0.166	19.17	F1	0.166	Maximum normal load(8.4Vdc, 2A)
198/60	--	0.164	19.14	F1	0.164	Maximum normal load(8.4Vdc, 2A)
220/50	0.35	0.156	19.18	F1	0.156	Maximum normal load(8.4Vdc, 2A)
220/60	0.35	0.153	19.12	F1	0.153	Maximum normal load(8.4Vdc, 2A)
240/50	0.35	0.146	19.17	F1	0.146	Maximum normal load(8.4Vdc, 2A)
240/60	0.35	0.139	19.06	F1	0.139	Maximum normal load(8.4Vdc, 2A)
254.4/50	--	0.135	18.94	F1	0.135	Maximum normal load(8.4Vdc, 2A)
254.4/60	--	0.131	18.90	F1	0.131	Maximum normal load(8.4Vdc, 2A)
264/50	--	0.131	18.64	F1	0.131	Maximum normal load(8.4Vdc, 2A)
264/60	--	0.125	18.57	F1	0.125	Maximum normal load(8.4Vdc, 2A)
Supplementary information:						

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

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

2.1.1.7	TABLE: discharge test				N/A
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	Comments	
--	--	--	--	--	
supplementary information:					

2.2	TABLE: evaluation of voltage limiting components in SELV circuits		P
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
T1 Pin A- Pin B	59.2	--	--
After D8 to Pin B	--	8.1	D8

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
D8 Shorted	0 (shut down immediately)
supplementary information:	

2.4.2	TABLE: limited current circuit measurement				P
Location	Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
CY1 Secondary pin to Earth	0.18	0.36	--	0.7	CY1=2200pF
supplementary information:					
Capacitance of CY1= 2200pF					

2.5	TABLE: limited power sources				N/A
Circuit output tested:					
Measured Uoc (V) with all load circuits disconnected:	--				
conditions	I_{sc} (A)		VA		
	Meas.	Limit	Meas.	Limit	
--	--	--	--	--	
supplementary information:					

2.10.2	Table: working voltage measurement	P

Location	RMS voltage (V)	Peak voltage (V)	Comments
T1 pin 2 – pin A	233	400	--
T1 pin 3 – pin A	249	480	
T1 pin 4 – pin A	218	340	
T1 pin 5 – pin A	217	392	
T1 pin 2 – pin B	222	360	
T1 pin 3 – pin B	**257**	**482**	**Maximum Vpeak and Vrms of T1**
T1 pin 4 – pin B	218	352	
T1 pin 5 – pin B	220	440	
U2 pin1 – pin 3	218	356	
U2 pin1 – pin 4	216	360	
U2 pin2 – pin 3	216	358	
U2 pin2 – pin 4	215	365	
CY1	220	368	
supplementary information:			
Test voltage: 240 V Test frequency: 60 Hz			

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)
L and N before fuse (FR1)	420	250	1.5	3.5	2.5	3.5
Poles of fuse (FR1)	420	250	1.5	3.5	2.5	3.5
U2 secondary pin (10N) to core of T1	482	257	4.2	5.3	5.2	5.3
PCB trace under T1	482	257	4.2	7.5	5.2	7.5
PCB trace under CY1	420	250	4.0	6.4	5.0	6.4
PCB trace under U2	420	250	4.0	6.0	5.0	6.0
Primary component to User accessible part	420	250	4.0	10.0	5.0	10.0
supplementary information:						
1. Core of transformer T1 is considered as primary circuit.						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Enclosure		420	250	3000	0.4	2.0
Opto-coupler		420	250	3000	0.4	0.4
Supplementary information:						

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

4.3.8	TABLE: Batteries	N/A
Battery category ..... :	(Lithium, NiMh, NiCad, Lithium Ion …)	
Manufacturer ..... :	--	
Type / model ..... :	--	
Voltage ..... :	--	

Capacity ..... :	--
Tested and Certified by (incl. Ref. No.)..... :	--
Circuit protection diagram:	--

MARKINGS AND INSTRUCTIONS (1.7.2.1, 1.7.13)	
Location of replaceable battery	--
Language(s) ……:	--
Close to the battery……..:	--
In the servicing instructions……:	--
In the operating instructions……..:	--

4.5	**TABLE: Thermal requirements**			P
	Supply voltage (V)	198 V, 50 Hz	264 V, 50 Hz	—
	Ambient T_{min} (°C)			—
	Ambient T_{max} (°C).....	--		—
Maximum measured temperature T of part/at::		T (°C)		Allowed T_{max} (°C)
Input wire		54.9	50.5	80
C1 body		64.9	53.9	100
FL1 body		74.7	56.3	130
PCB near D1		72.8	54.0	130
C2 body		76.0	62.6	105
T1 coil		88.0	73.0	90
T1 core		87.1	73.0	90
PCB near Q1		69.8	61.1	130
U2 body		78.9	66.8	100
PCB near D9		88.3	70.4	130
CY1 body		78.3	64.5	85
Feeling warm piece		65.2	50.8	--
Enclosure inside near T1		74.6	62.8	75

Enclosure outside near T1	59.2	52.3	75
Ambient	35.0	35.0	--

Supplementary information:

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:

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: The bobbin of transformer material is phenolic, no test is needed.

4.6.1, 4.6.2	**Table: enclosure openings**	P
Location	Size (mm)	Comments
Bottom	Numerous rectangular openings provided. Each measured maximum 0.8mm x 5.0mm	--

Note(s): No openings.

4.7	**TABLE: Resistance to fire**				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Plastic Enclosure	SABIC	C6200(GG)	Min. 1.5mm	V-0	Yes
PCB	--	--	--	V-1 or better	Yes

Supplementary information:

5.1	**TABLE: touch current measurement**		P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
L→Output connector	0.15	0.25	System ON
N→ Output connector	0.15	0.25	System ON
L→ Enclosure	0.01	0.25	System ON

N→ Enclosure	0.01	0.25	System ON
supplementary information:			
Test voltage: 264 V Test frequency: 60 Hz, CY1=2200pF			

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
L and N of input (without fuse)		AC	1500	No
Primary and secondary(for unit)		DC	4242	No
Primary and enclosure(cover with metal foil)		AC	3000	No
Transformer primary and secondary		AC	3000	No
Transformer primary with core to secondary		AC	3000	No
One layer insulation tape of T1 (all sources)		AC	3000	No
Supplementary information: Core of transformer considered as primary part.				

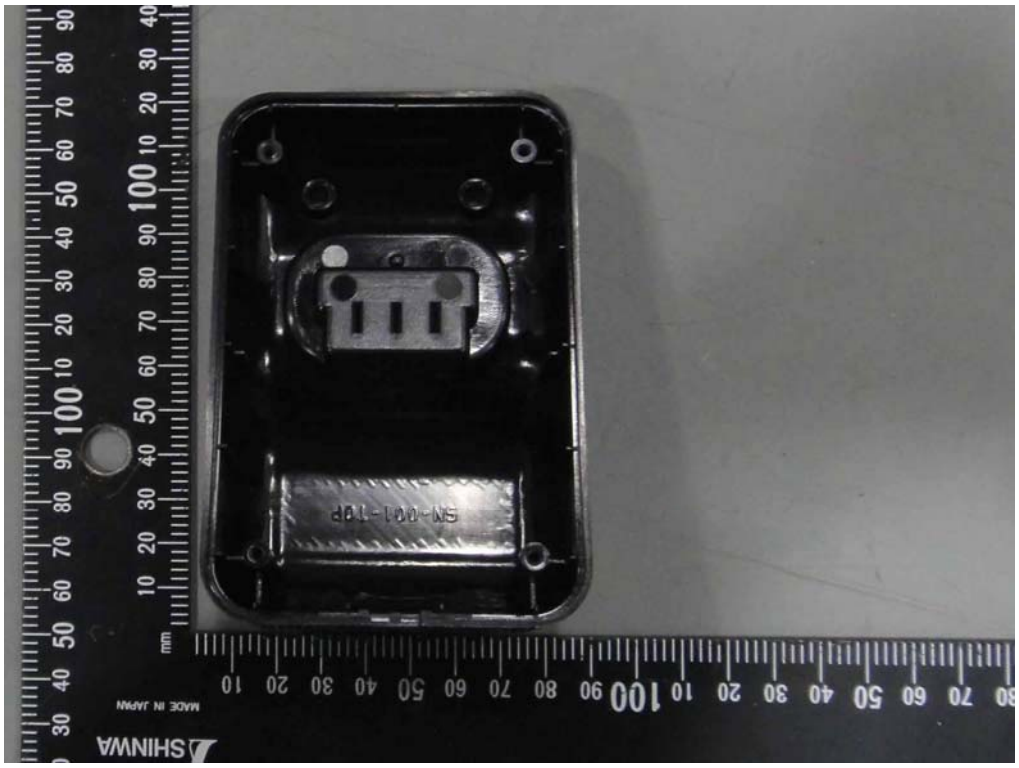
5.3	**TABLE: Fault condition tests**						P
	Ambient temperature (°C)..... :			25°C if not specified			—
	Power source for EUT: Manufacturer, model/type, output rating ..... :			--			—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
D1	s-c	240	1 sec	F1	0.139 -> 0	Fuse open, D4 damage, no hazard.	
C2	s-c	240	1 sec	F1	0.139 -> 0	Fuse open, no hazard.	
Q1 pin G – pin S	s-c	240	10 min	F1	0.139 ->0.01	Unit shut down immediately, no hazard, no damage	
Q1 pin G – pin D	s-c	240	1 sec	F1	0.139 -> 0	Fuse open, Q1,D4, D1 damage, no hazard.	
Q1 pin D – pin S	s-c	240	1 sec	F1	0.139 -> 0	Fuse open, R12 damage, no hazard.	
R12	s-c	240	1 sec	F1	0.139 -> 0	Fuse open, Q1 damage, no hazard.	
U1 pin 5 –pin 1	s-c	240	10 min	F1	0.139 ->0.01	Unit shut down immediately, no hazard, no damage.	

U1 pin 5 –pin 2	s-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no hazard, no damage.
U2 pin 3 –pin 4	s-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no hazard, no damage.
U2 pin 1 –pin 2	s-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no hazard, no damage.
U2 pin 3	o-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no hazard, no damage.
U2 pin 1	o-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no hazard, no damage.
T1 pin 1 to pin 2	s-c	240	10 min	F1	0.139 - >0.007	Unit shut down immediately, no hazard, no damage.
T1 pin 3 – pin 4	s-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no hazard, no damage.
T1 pin 5 to pin 6	s-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no hazard, no damage.
Output	s-c	240	10 min	F1	0.139 - >0.01	Unit shut down immediately, no damage, no hazard.
Supplementary information: 1) s-c = short circuit; o-l = overload.						

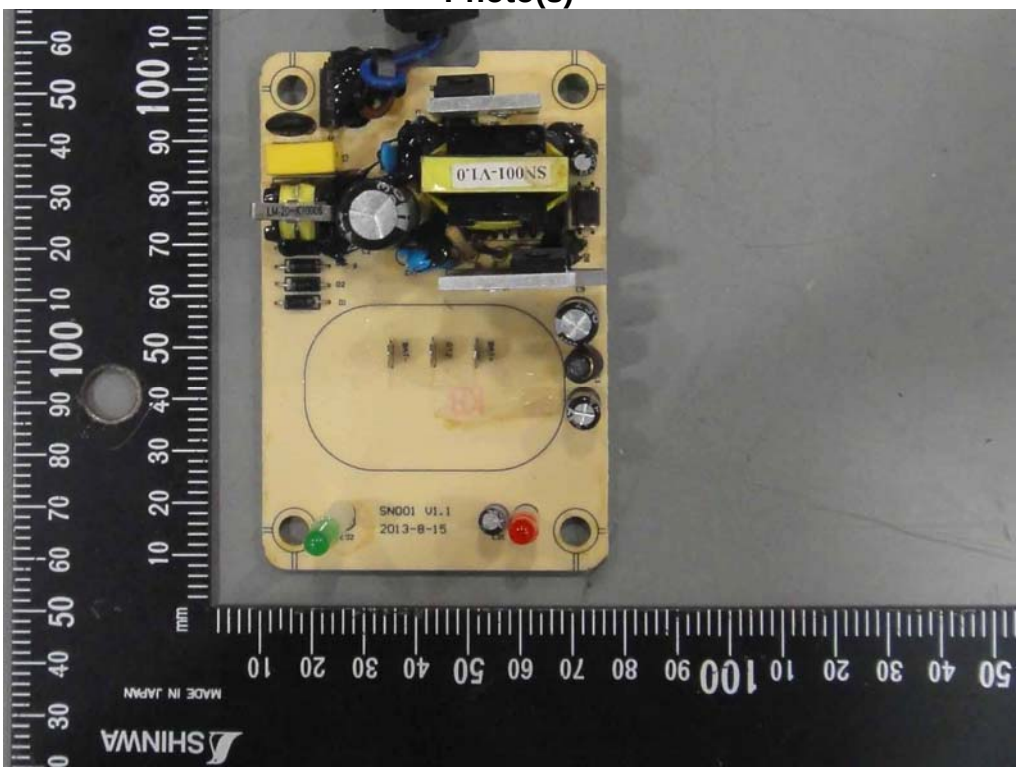
C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
Primary winding to secondary winding	RI	482	257	3000Vac	4.2	5.2	0.4
Core to primary winding	RI	482	257	3000Vac	4.2	5.2	0.4
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
Primary winding to secondary winding	RI			3000Vac	6.0	6.0	TIW wire and two layers insulation tape used
Core to primary winding	RI			3000Vac	6.0	6.0	TIW wire and two layers insulation tape used
supplementary information:							
Transformer core considered as primary.							

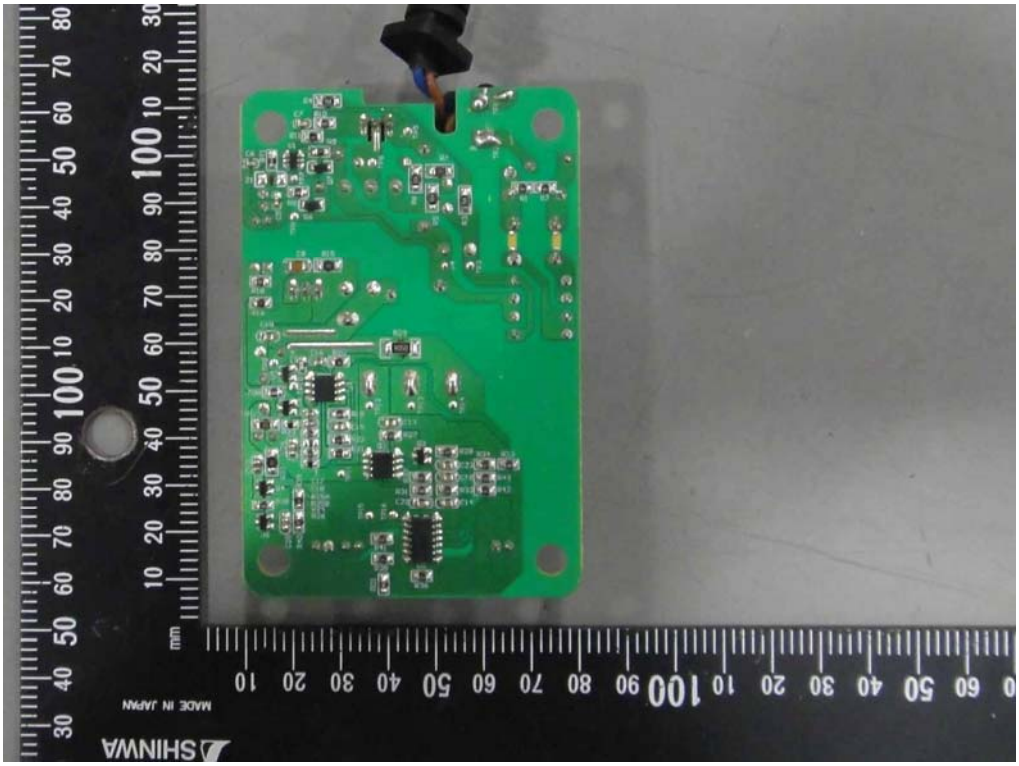
Photo(s)

Photo(s)



Photo(s)





END OF THIS REPORT

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
AUSTRALIA and NEW ZEALAND NATIONAL DIFFERENCES
Information technology equipment – Safety –
Part 1: General requirements

Differences according to.....: AS/NZS 60950.1:2011 Amendment 1:2012

Annex ZZ Variations			
1.2	Between the definitions for "Person, service" and "Range, rated frequency" insert the following: Potential ignition source 1.2.12	Inserted.	P
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: **1.2.12.201** **POTENTIAL IGNITION SOURCE** Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003.	Added.	P
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'	Added.	P

Atttachment 1 **National Differences** **Report No.: T1505073-051**

<table>
<tr><th colspan="4">IEC60950_1F - ATTACHMENT</th></tr>
<tr><th>Clause</th><th>Requirement + Test</th><th>Result - Remark</th><th>Verdict</th></tr>
<tr><td>1.5.2</td><td>Add the following to the end of first and third dash items:
"or the relevant Australian/New Zealand Standard."</td><td></td><td>N/A</td></tr>
<tr><td>3.2.5.1</td><td>Modify Table 3B as follows:
1. Delete the first four rows and replace with the following:
<table>
<tr><th>Rated current of equipment A</th><th>Nominal cross-sectional area mm^2</th><th>AWG or kcmil (cross-sectional area in mm^2) 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>
2. Delete NOTE 1.
3. Delete Footnote [a] and replace with the following:
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 mm^2 three-core supply flexible cords are not permitted; see AS/NZS 3191).</td><td>Replaced.
Should be evaluated during national approval.</td><td>P</td></tr>
</table>

Atttachment 1 **National Differences** **Report No.: T1505073-051**

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: **4.1.201 Display devices used for television purposes** 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.	No such device.	N/A
4.3.6	Delete the third paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flatpin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.	No such device.	N/A
4.7	Add the following new paragraph to the end of the clause: For alternative tests refer to clause 4.7.201.	Added.	P
4.7.201	Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows: 4.7.201 Resistance to fire - Alternative tests	Added.	P
4.7.201.1	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 the fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		P

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm^3 , 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.		
4.7.201.2	Testing of non-metallic materials 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.		P
4.7.201.3	Testing of insulating materials Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance		P

<table>
<tr><th colspan="4">IEC60950_1F - ATTACHMENT</th></tr>
<tr><th>Clause</th><th>Requirement + Test</th><th>Result - Remark</th><th>Verdict</th></tr>
<tr><td></td><td>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
<table>
<tr><th>Clause of AS / NZS 60695.11.5</th><th>Change</th></tr>
<tr><td colspan="2">9 Test procedure</td></tr>
<tr><td>9.2 Application of needle flame</td><td>Replace the first paragraph with:
The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner
Replace the second paragraph with:
The duration of application of the test flame shall be 30 s ±1 s.</td></tr>
<tr><td>9.3 Number of test specimens</td><td>Replace with:
The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</td></tr>
<tr><td>11 Evaluation of test results</td><td>Replace with:
The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed</td></tr>
</table></td><td></td><td></td></tr>
</table>

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	15 s. 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.		
4.7.201.4	Testing in the event of non-extinguishing material 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 is 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 to be tested. NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burring or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. 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.	Added.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.5	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. The test is not carried out if the — - 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. Compliance shall be determined using the smallest thickness of the material. 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	Added.	N/A

Atttachment 1 **National Differences** **Report No.: T1505073-051**

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: 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.	No TNV.	N/A
6.2.2.1	For Australia only, delete the first paragraph including the Notes, and replace with the following: 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, Uc, is: (i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. 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.	No TNV.	N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is: (i) for 6.2.1 a): 3 kV; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values have been determined considering the lowfrequency induced voltages from the power supply distribution system.	No TNV.	N/A

Atttachment 1 **National Differences** **Report No.: T1505073-051**

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Add the following before the first paragraph: 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.	Not connected to cable distribution system.	N/A
Annex P	Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets	Added.	P
Index	1. Insert the following between 'asbestos, not to be used as insulation' and 'attitude see orientation': AS/NZS 3112.....4.3.6 AS/NZS 3191..... ..... 3.2.5.1 (Table 3B) AS/NZS 60064.....4.1.201 AS/NZS 60695.2.11..... 4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10..... 4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5.....4.7.201.3 2. Insert the following between 'positive temperature coefficient (PTC) device' and 'powder': potential ignition source 1.2.201, 4.7.201.3, 4.7.201.5	No asbestos be used.	N/A
Appendix ZZ (A1)	Delete the variation to Clause 4.3.13.5 and replace with the following: 1 Add the following after each reference to 'IEC 60825-1': 'or AS/NZS 60825.1' 2 Add the following after 'IEC 60825-2' in line two of the first paragraph: 'or AS/NZS 60825.2'		N/A

Atttachment 1 **National Differences** **Report No.: T1505073-051**

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Appendix ZZ, Index (A1)	1 Delete the following item from the 'Index' clause: AS/NZS 2211.1 .... 4.3.13.5 2 Add the following two items after the item for AS/NZS 60695.11.5: AS/NZS 60825.1 .... 4.3.13.5.1 AS/NZS 60825.2 .... 4.3.13.5.1		N/A

- End of National Difference -