



Test Report issued under the responsibility of:



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

Report Number PSE104-1165
Date of issue 2016-01-06
Total number of pages..... 62
Applicant's name..... MSTRONIC CO LTD
Address..... 2ND FL 12 GONGSHANG RD WUGU NEW TAIPEI, 248
 TAIWAN

Test specification
Standard IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure CB Scheme
Non-standard test method N/A

Test Report Form No...... IEC60950_1F
Test Report Form(s) Originator SGS Fimko Ltd
Master TRF Dated 2014-02

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General disclaimer:

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Test item description PoE injector
Trade Mark..... 
Manufacturer MSTRONIC CO LTD
 2ND FL 12 GONGSHANG RD WUGU NEW TAIPEI, 248
 TAIWAN
Model/Type reference..... MIT-09x-56z
 (x=G with Gigabite module or blank; z=D or blank for output rating
 difference)
Ratings..... Input: 100-240Vac, 50-60Hz, 1.02A
 Output:

- 1) 56Vdc, 0.63A (Model: MIT-09x-56D)
- 2) 56Vdc, 0.9A (Model: MIT-09x-56)

Testing procedure and testing location:	
☒ CB Testing Laboratory: Testing location/ address: PSE INC. TAIWAN / 9F-1, No. 80, Sec. 2, Guang Fu Rd., San Chung Distr., New Taipei City, TAIWAN CHINESE TAIPEI	
☐ Associated CB Testing Laboratory: Testing location/ address: Tested by (name + signature).....: Eric Wu  Approved by (name + signature): Jacky Hsu 	
☐ Testing procedure: TMP/CTF Stage 1: Testing location/ address: Tested by (name + signature).....: Approved by (name + signature):	
☐ Testing procedure: WMT/CTF Stage 2: Testing location/ address: Tested by (name + signature).....: Witnessed by (name + signature).....: Approved by (name + signature):	
☐ Testing procedure: SMT/CTF Stage 3 or 4: Testing location/ address: Tested by (name + signature).....: Witnessed by (name + signature).....: Approved by (name + signature): Supervised by (name + signature).....:	

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

- 1) National Differences (62 pages)
 - 1) National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013
 - 2) National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009
 - 3) National Difference of IEC 60950-1:2005 (Second Edition)
 - 4) National Difference of IEC 60950-1:2001 (First Edition)
- 2) Photo (4 pages)

Summary of testing:**Tests performed (name of test and test clause):****Testing location:**

1.6.2 - INPUT TEST: SINGLE-PHASE	PSE INC., TAIWAN /9F-1, No. 80, Sec. 2, Guang Fu Rd., San Chung Distr., New Taipei City, TAIWAN CHINESE TAIPEI
1.7.11 - DURABILITY OF MARKING TEST	Same as above
2.1.1.5, 2.1.2, 1.2.8.10 ENERGY HAZARD MEASUREMENTS	Same as above
2.1.1.7 CAPACITANCE DISCHARGE TEST	Same as above
2.2.2, 2.2.3, 2.2.4, PART 22 6.1 SELV RELIABILITY TEST INCLUDING HAZARDOUS VOLTAGE MEASUREMENTS	Same as above
2.3.1 TNV-1, TNV-2, TNV-3 LIMITS (NORMAL)	Same as above
2.3.1, 2.3.4 TNV-1, TNV-2, TNV-3 LIMITS (SINGLE FAULT)	Same as above
2.4.1, 2.4.2 - LIMITED CURRENT CIRCUIT MEASUREMENTS	Same as above
2.5 LIMITED POWER SOURCE MEASUREMENTS	Same as above
2.6.3.4 LIMITED SHORT-CIRCUIT TEST	Same as above
2.6.3.4, 2.6.1 - PROTECTIVE BONDING TEST	Same as above
2.9.1, 2.9.2, 5.2.2 HUMIDITY TEST	Same as above
2.10.2 DETERMINATION OF WORKING VOLTAGE - WORKING VOLTAGE MEASUREMENT TEST	Same as above
2.10.5.9, 2.10.5.10, 2.10.5.6 – THIN SHEET MATERIAL TESTS	Same as above
2.10.5.6, 2.10.5.13 TRANSFORMER AND WIRE INSULATION ELECTRIC STRENGTH TEST	Same as above
4.2.1 - 4.2.4 – STEADY FORCE TESTS	Same as above
4.2.5, 4.2.1, PART 22 10.2 - IMPACT TEST	Same as above
4.2.7, 4.2.1 STRESS RELIEF TEST	Same as above
4.5.1, 1.4.12, 1.4.13 HEATING TEST	Same as above
5.1, ANNEX D TOUCH CURRENT TEST (SINGLE-PHASE; TN/TT SYSTEM).	Same as above
5.2.2 ELECTRIC STRENGTH TEST	Same as above
5.3.1, 5.3.4, 5.3.7 COMPONENT FAILURE TEST	Same as above

5.3.3, 5.3.7b, ANNEX C.1 - TRANSFORMER ABNORMAL OPERATION TEST	Same as above
5.3.7 POWER SUPPLY OUTPUT SHORT-CIRCUIT/OVERLOAD TEST	Same as above
6.2.2.1 ELECTRIC STRENGTH TEST PROCEDURE - IMPULSE TEST	Same as above
6.2.2.2 ELECTRIC STRENGTH TEST PROCEDURE - STEADY-STATE TEST	Same as above
7.4.2 CABLE DISTRIBUTION SYSTEM, VOLTAGE SURGE TEST	Same as above
7.4.3 CABLE DISTRIBUTION SYSTEM, IMPULSE TEST	Same as above

Summary of compliance with National Differences:

List of countries addressed

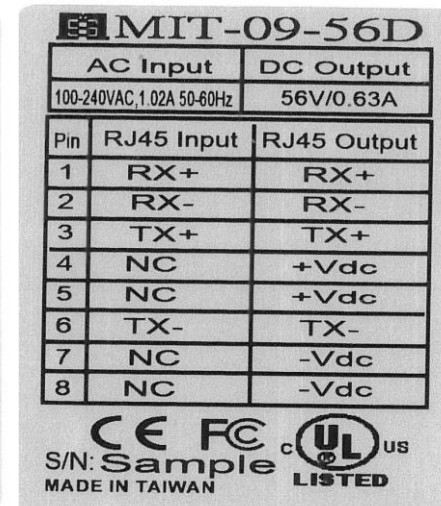
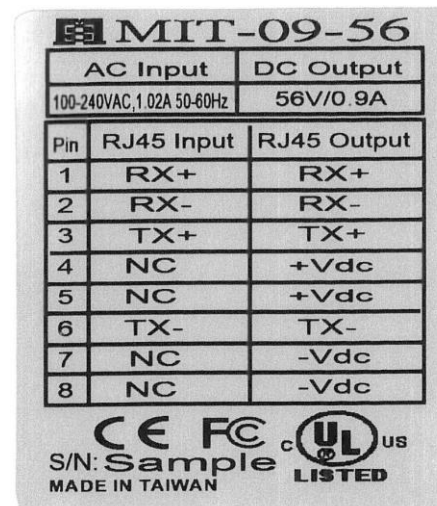
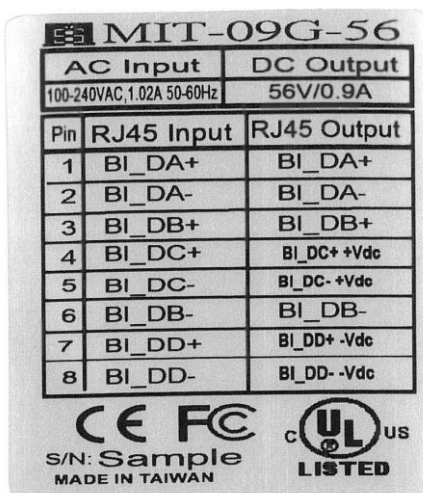
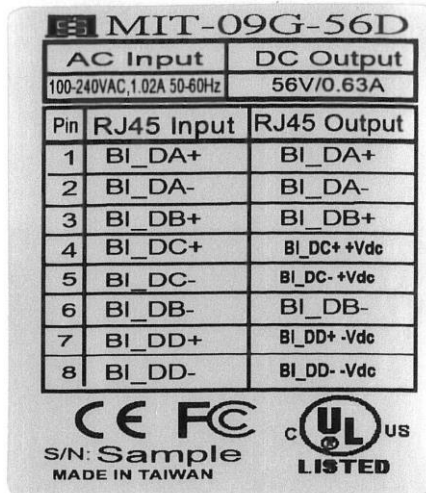
- IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013
EU Group Differences, EU Special National Conditions, GB, AT, DK, IT, SE, US, CA
- IEC 60950-1:2005 (Second Edition) + Am 1: 2009
DE, KR, SI, IL, FI
- IEC 60950-1:2005 (Second Edition)
AU, CN, IE, NO, ES, CH
- IEC 60950-1:2001 (First Edition)
JP, BY

Explanation of used codes: DE=Germany, DK=Denmark, FI=Finland, GB=United Kingdom, KR=Republic of Korea, SE=Sweden, SI=Slovenia, CA=Canada, CH=Switzerland, ES=Spain, IE=Ireland, IL=Israel, NO=Norway, US=United States of America, AU=Australia, JP=Japan, CN=China, AT=Austria, IT=Italy, BY=Belarus

☒ **The product fulfils the requirements of EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013**

Copy of marking plate:

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



Test item particulars..... :	
Equipment mobility.....:	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location.....:	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values.....:	+10% of 240Vac and -10% of 100Vac
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V).....:	230V for Norway
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16 (20A for North America)
Pollution degree (PD).....:	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class.....:	IPX0
Altitude during operation (m)	2000
Altitude of test laboratory (m)	100
Mass of equipment (kg).....:	0.23
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	2010-03-20
Date (s) of performance of tests	2010-03-29 to 2010-04-26
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:	

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... : ☐ **Yes**
☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) : CHATA ELECTRONICS LTD
 43 LAN 57 DONGSHUN ST SHULIN CITY NEW
 TAIPEI 238 TAIWAN

General product information:

No tests conducted under this investigation due to reissue of CB Test Report Ref. No. PSE98-0973-A, All required tests were carried out under the original investigation.

Report Summary:

All applicable tests according to the referenced standard(s) have been carried out.

This report is a reissue of CBTR Ref. No.: PSE98-0973-A, CB Test Certificate Ref. No. DK-18080-A1. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, has been determined that the product continues to comply with the standard.

Report Number	Issued Date	Modification to the appliances	CB Certificate No.	Issued Date
PSE98-0973-A	2010-06-07	Main Test Report	DK-18080-A1	2010-06-25
PSE104-1165	2016-01-06	1) Upgrade standard to IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 and EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 2) Change Applicant's / Manufacturer address from 2ND FL 12 GONGSHANG RD, WUGU TOWNSHIP, TAIPEI HSIEN, 248 TAIWAN to 2ND FL 12 GONGSHANG RD WUGU NEW TAIPEI, 248 TAIWAN 3) Change CBTL Testing Laboratory address to 9F-1, No. 80, Sec. 2, Guang Fu Rd., San Chung Distr., New Taipei City, TAIWAN CHINESE TAIPEI 4) Add one factory CHATA ELECTRONICS LTD 5) Delete LIH RONG ELECTRONICS CO LTD 6) Modify 1.5.1 list of critical components	--	--

Product Description:

The product is an Power over Ethernet (PoE) for Information Technology Equipment (ITE). All live parts are enclosed in a thermoplastic enclosure, provided with appliance inlet for connection to the AC mains supply and an output in RJ45 connectors.

Model Difference:

Model MIT-09x-56D is identical to model MIT-09x-56 except for output current.

Model MIT-09G-56z is identical to model MIT-09-56z except for Gigabite module.

Technical Considerations:

The product was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 40°C

The means of connection to the mains supply is: Detachable power cord, Pluggable A

The product is intended for use on the following power systems: TN, IT for Norway

The equipment disconnect device is considered to be: Appliance inlet

The following accessible locations (with circuit/schematic designation) were investigated as a limited power source (LPS): RJ45 ports.

The following Telecommunication Network Voltage (TNV-1) circuit locations (with circuit/schematic designation) with exposed plant leads were investigated to Clause 6 and 7: RJ-45 connector

The following are available from the Applicant upon request: Specific data sheets for LED indicators that are class I and operate at wavelength in the 400-710 nm range.

For instruction manual provided with the unit, reviewed only English language. Applicant to furnish Instructions in language suitable for countries noted in National Differences Enclosure of the report when submitting for National Certification.

The following circuit locations (with circuit/schematic designation) were investigated as a limited current circuit (LCC): Output side of bridging capacitor (C11).

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

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

1	GENERAL		P
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1.5	Components		P
1.5.1	General	See as 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 harmonized standard and checked for correct application. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component Standard. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	P
1.5.3	Thermal controls	No thermal controls provided.	N/A
1.5.4	Transformers	Transformer used is suitable for the intended application and comply with the relevant requirements of the standard and particularly Annex C.	P
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of this standard.	P
1.5.6	Capacitors bridging insulation	1) Between lines: min. X2 capacitors according to IEC 60384-14 with 21 days damp heat test. 2) Between primary and earth: capacitors arte subclass Y1 or Y2 according to IEC 60384-14 with 21 days damp heat test. 3) Between primary and secondary: Bridged by one or two capacitor(s), which used was certified as Y1 capacitor according to IEC 60384-14 with 21 days damp heat test. Accessible conductive parts separated from other	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
		parts by DOUBLE or REINFORCED INSULATION bridged by C11 comply with the requirements for LIMITED CURRENT CIRCUITS of clause 2.4 (See appended tables 1.5.1)	
1.5.7	Resistors bridging insulation	See as below.	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	All resistors are after current fuse (F1), there are only functional insulation.	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	No such resistors provided.	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No such resistors provided.	N/A
1.5.8	Components in equipment for IT power systems	Y-Capacitors are all rated min. 230V and complied with IEC 60384-14, and others component in such condition has suitable voltage rating. (see appended table 1.5.1)	P
1.5.9	Surge suppressors	See as below.	P
1.5.9.1	General	The VDR (ZP1) is in compliance with Annex Q. (See appended table 1.5.1)	P
1.5.9.2	Protection of VDRs	A fuse (F1) is connected in series with the VDR (ZP1). (See appended table 1.5.1)	P
1.5.9.3	Bridging of functional insulation by a VDR	VDR (ZP1) is located between Line and Neutral after fuse (F1). (See appended table 1.5.1)	P
1.5.9.4	Bridging of basic insulation by a VDR	No such VDR provided.	N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR	No such VDR provided.	N/A

1.6	Power interface		P
1.6.1	AC power distribution systems	IT power system for Norway only, TN power system for others.	P
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
		NORMAL LOAD. (See appended table 1.6.2)	
1.6.3	Voltage limit of hand-held equipment	This appliance is not hand-held equipment.	N/A
1.6.4	Neutral conductor	Neutral serve as Line conductor, Neutrals insulated from earth with basic insulation and from enclosure with double or reinforce insulation.	P

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	Rating marking readily visible to operator.	P
1.7.1.1	Power rating marking	See as below.	P
	Multiple mains supply connections	Not multiple power sources provided.	N/A
	Rated voltage(s) or voltage range(s) (V)	100-240VAC	P
	Symbol for nature of supply, for d.c. only.....	Mains from AC source only.	N/A
	Rated frequency or rated frequency range (Hz)	50-60Hz	P
	Rated current (mA or A)	1.02A	P
1.7.1.2	Identification markings	See as below.	P
	Manufacturer's name or trade-mark or identification mark	MSTRONIC CO LTD or 	P
	Model identification or type reference	MIT-09x-56z (x=G with Gigabite module or blank; z=D or blank for output rating difference)	P
	Symbol for Class II equipment only	Class I equipment.	N/A
	Other markings and symbols	Additional symbols or markings do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols	No such symbols provided.	N/A
1.7.2	Safety instructions and marking	See as below.	P
1.7.2.1	General	Safety instruction in English. Other languages will be provided when submitted for national approval.	P
1.7.2.2	Disconnect devices	Appliance inlet is provided as disconnection device.	N/A
1.7.2.3	Overcurrent protective device	There are appropriate overcurrent protective devices in the equipment.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.4	IT power distribution systems	230V for Norway only.	P
1.7.2.5	Operator access with a tool	No operator accessible area which needs to be accessed by use of a tool.	N/A
1.7.2.6	Ozone	No ozone produced within this equipment.	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/frequency setting.	N/A
	Methods and means of adjustment; reference to installation instructions	Same as above.	N/A
1.7.5	Power outlets on the equipment	No socket-outlets provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fuse marking on PCB near fuse: F1: T2A/250V	P
1.7.7	Wiring terminals	Appliance Inlet provided.	P
1.7.7.1	Protective earthing and bonding terminals.....	The earth terminal is marked with standard earth symbol (IEC 60417-5019) on the Inlet.	P
1.7.7.2	Terminals for a.c. mains supply conductors	Not permanently connected equipment and no non-detachable power supply cords provided.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Mains from AC source only.	N/A
1.7.8	Controls and indicators		P
1.7.8.1	Identification, location and marking:	Not applicable.	N/A
1.7.8.2	Colours.....	LED is illuminated when the unit is operating.	P
1.7.8.3	Symbols according to IEC 60417	No symbols provided.	N/A
1.7.8.4	Markings using figures	No figures provided.	N/A
1.7.9	Isolation of multiple power sources.....	Not multiple power sources provided.	N/A
1.7.10	Thermostats and other regulating devices.....	No thermostats or similar regulating devices provided.	N/A
1.7.11	Durability	All markings provided on UL Recognized Component labels suitable for surface they are applied upon and meet the durability test and the label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 s and	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
		then again for 15 s 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 no curling nor lifting of the label edge.	
1.7.12	Removable parts	No marking is located on removable parts.	N/A
1.7.13	Replaceable batteries	No batteries provided.	N/A
	Language(s)	Same as above.	—
1.7.14	Equipment for restricted access locations.....	Equipment is not intended for use in restricted access locations.	N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See as below.	P
2.1.1.1	Access to energized parts	The operator has access to bare parts of SELV CIRCUITS.	P
	Test by inspection	All accessible circuits are SELV circuits.	P
	Test with test finger (Figure 2A)	The test finger was unable to contact bare hazardous parts, basic insulation, or ELV circuits.	P
	Test with test pin (Figure 2B)	The test pin was unable to contact bare hazardous parts.	P
	Test with test probe (Figure 2C)	The test probe was unable to contact parts of TNV-1 circuit.	P
2.1.1.2	Battery compartments	No battery compartments circuit provided.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)	Same as above.	—
2.1.1.4	Access to hazardous voltage circuit wiring	No internal wiring accessible to the user.	N/A
2.1.1.5	Energy hazards	The hazardous energy circuits can't be bridged by the test finger in a straight position. (see appended table 2.1.1.5 c) 1))	P

IEC 60950-1																				
Clause	Requirement + Test	Result - Remark			Verdict															
2.1.1.6	Manual controls	No manual controls provided.			N/A															
2.1.1.7	Discharge of capacitors in equipment	No risk of electric shock, see as below.			P															
	Measured voltage (V); time-constant (s)..... :	Worst case selected: Model No. : MIT-09-56 Result : I/P: 264Vac, 60Hz <table><tr><td>locati</td><td>Swit</td><td>V</td><td>37%</td><td>V_{tc}</td></tr><tr><td>on</td><td>ch</td><td>(pk)</td><td>(pk)</td><td>(pk)</td></tr><tr><td>L-N</td><td>N/A</td><td>362</td><td>134</td><td>62</td></tr></table>			locati	Swit	V	37%	V _{tc}	on	ch	(pk)	(pk)	(pk)	L-N	N/A	362	134	62	—
locati	Swit	V	37%	V _{tc}																
on	ch	(pk)	(pk)	(pk)																
L-N	N/A	362	134	62																
2.1.1.8	Energy hazards – d.c. mains supply	Mains from AC source only.			N/A															
	a) Capacitor connected to the d.c. mains supply.. :	Same as above.			N/A															
	b) Internal battery connected to the d.c. mains supply :	Same as above.			N/A															
2.1.1.9	Audio amplifiers :	No audio amplifiers provided.			N/A															
2.1.2	Protection in service access areas	No bare parts operating at HAZARDOUS VOLTAGES in a service access area.			N/A															
2.1.3	Protection in restricted access locations	The equipment is not intended to be used in restricted locations.			N/A															

2.2	SELV circuits		P
2.2.1	General requirements	The secondary circuits were tested as SELV. See 2.2.1 to 2.2.4.	P
2.2.2	Voltages under normal conditions (V) :	Between any conductors of the SELV circuits 42.4V peak or 60V d.c. are not exceeded. (see appended table 2.2.2)	P
2.2.3	Voltages under fault conditions (V) :	Under fault conditions voltages never exceed 71V peak and 120V dc and do not exceed 42.4V peak or 60V dc for more than 0.2 sec. (see appended table 2.2)	P
2.2.4	Connection of SELV circuits to other circuits :	SELV circuits are only connected to other secondary circuits.	P

2.3	TNV circuits		P
2.3.1	Limits	Complies by inspection base on review of circuit voltages. Result: (Method with 5k Ω)	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
		Normal operation: +56V to RTN=56.5Vdc Single Fault operation: +56V to RTN=56.5Vdc (PL1A pin1 open)	
	Type of TNV circuits..... :	TNV-1.	—
2.3.2	Separation from other circuits and from accessible parts	TNV-1 only.	N/A
2.3.2.1	General requirements	Same as above.	N/A
2.3.2.2	Protection by basic insulation	Same as above.	N/A
2.3.2.3	Protection by earthing	Same as above.	N/A
2.3.2.4	Protection by other constructions	Same as above.	N/A
2.3.3	Separation from hazardous voltages	TNV-1 circuits are separated from circuits at primary hazardous voltages by reinforced insulation.	P
	Insulation employed	Same as above.	—
2.3.4	Connection of TNV circuits to other circuits	See 2.3.3.	N/A
	Insulation employed	Same as above.	—
2.3.5	Test for operating voltages generated externally	Not applicable	N/A

2.4	Limited current circuits		P
2.4.1	General requirements	Worst case selected: Model No. : MIT-09G-56 The output connector is accessible to the user and connected to the primary circuit by one Y1 bridging capacitor (C11) with 2200pF.	P
2.4.2	Limit values	0.7mA	P
	Frequency (Hz)	60	—
	Measured current (mA)	0.35 (0.7V/2000ohm)	—
	Measured voltage (V).....	320	—
	Measured circuit capacitance (nF or μ F)	< 0.1 μ F	—
2.4.3	Connection of limited current circuits to other circuits	Output circuit as limited current circuit connected to other circuits.	P

2.5	Limited power sources		P
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) Inherently limited output	No inherently limited output provided.	N/A
	b) Impedance limited output	No Impedance limited output provided.	N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	(see appended table 2.5)	P
	Use of integrated circuit (IC) current limiters	No IC current limiter provided.	N/A
	d) Overcurrent protective device limited output	No overcurrent protective device limited output provided.	N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A)	No overcurrent protective device limited output provided.	—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	Protective earthing provided as one level of protection against electric shock.	P
2.6.2	Functional earthing	Functional Earthing connected to protective bonding.	P
	Use of symbol for functional earthing..... :	Complied check.	P
2.6.3	Protective earthing and protective bonding conductors	See as below.	P
2.6.3.1	General	See 2.6.3.2, 2.6.3.3 and 2.6.3.4.	P
2.6.3.2	Size of protective earthing conductors	Power supply cord earthing conductor complies with Table 3B.	P
	Rated current (A), cross-sectional area (mm ²), AWG..... :	Rated input 1.02 A, min. 0.75mm ² / 18AWG wire shall be used.	—
2.6.3.3	Size of protective bonding conductors	Protective bonding conductors evaluated based on 2.6.3.3 and 2.6.3.4.	P
	Rated current (A), cross-sectional area (mm ²), AWG..... :	Rated input 1.02A, 0.75 mm ² / 18AWG wire was used, see 2.6.3.4 for test result also.	—
	Protective current rating (A), cross-sectional area (mm ²), AWG	Not applicable.	—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	Result as below: 1) Between inlet PE and PCB(FG): 0.216V / 0.0068Ω	P

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Clause	Requirement + Test	Result - Remark	Verdict
		(32A) , 2min. 2) Between inlet PE and PCB(FG): 0.27V / 0.0068Ω (40A) , 2min.	
2.6.3.5	Colour of insulation	Protective bonding conductor is green with yellow stripe.	P
2.6.4	Terminals	See as below.	P
2.6.4.1	General	Appliance inlet employed and the unit meet the test requirement of 2.6.4.2 and 2.6.4.3.	P
2.6.4.2	Protective earthing and bonding terminals	Appliance inlet employed and the unit meet the test requirement of 2.6.3.4.	P
	Rated current (A), type, nominal thread diameter (mm).....	(see appended tables 1.5.1)	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Ground pin of appliance inlet, there is directly into the PCB through the trace to bonding.	P
2.6.5	Integrity of protective earthing	See as below.	P
2.6.5.1	Interconnection of equipment	The unit has its own earthing connection. Any other units connected via the output wires to other unit shall provide SELV only.	P
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switches or fuses in earthing conductors.	N/A
2.6.5.3	Disconnection of protective earth	Disconnection of the protective earth at one assembly remover connection of HAZRDOUS VOLTAGES from the other assemblies at the same time.	P
2.6.5.4	Parts that can be removed by an operator	An appliance coupler used.	P
2.6.5.5	Parts removed during servicing	It is not possible to disconnect earth without disconnecting mains.	P
2.6.5.6	Corrosion resistance	No risk of corrosion. Complies with Annex J.	P
2.6.5.7	Screws for protective bonding	Not applicable.	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system	Not applicable.	N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Protective devices are	P

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Clause	Requirement + Test	Result - Remark	Verdict

		integrated in the equipment.	
	Instructions when protection relies on building installation	The equipment is pluggable Type A.	N/A
2.7.2	Faults not simulated in 5.3.7	Adequate fault protection provided.	P
2.7.3	Short-circuit backup protection	Pluggable Type A.	P
2.7.4	Number and location of protective devices :	Over current protection by one current fuse.	P
2.7.5	Protection by several devices	Over current protection by one current fuse.	N/A
2.7.6	Warning to service personnel..... :	No service work necessary.	N/A

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

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Electrical insulation does not rely upon driving belts or couplings. Natural rubber materials containing asbestos and hygroscopic materials are not used as insulation. Adequate clearances and creepage distances.	P
2.9.2	Humidity conditioning	Worst case selected: Model No. MIT-09x-56D, MIT-09x-56	P

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Clause	Requirement + Test	Result - Remark	Verdict
		Humidity treatment performed to 120hrs in condition: 95% humidity, 40°C. Electric strength test conducted after the humidity treatment.	
	Relative humidity (%), temperature (°C) :	Same as above.	—
2.9.3	Grade of insulation	Adequate levels of safety insulation were provided and maintained to comply with the requirements of this standard.	P
2.9.4	Separation from hazardous voltages	See as below.	P
	Method(s) used :	The separation comply with method 1.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See as below.	P
2.10.1.1	Frequency :	The frequency does not exceeding 30 kHz.	P
2.10.1.2	Pollution degrees :	Pollution degree 2 applicable	P
2.10.1.3	Reduced values for functional insulation	See sub-clause 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	No such conductive parts.	N/A
2.10.1.5	Insulation with varying dimensions	Not applicable.	N/A
2.10.1.6	Special separation requirements	Only TNV-1 for output.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No lamps provided.	N/A
2.10.2	Determination of working voltage	See as below.	P
2.10.2.1	General	The r.m.s and the peak voltage were measured on the switching power supply. The unit was connected to a 240V TN power system. (See appended table 2.10.2)	P
2.10.2.2	RMS working voltage	(See appended table 2.10.2)	P
2.10.2.3	Peak working voltage	(See appended table 2.10.2)	P
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4).	P
2.10.3.1	General	Annex F and minimum clearances considered.	P
2.10.3.2	Mains transient voltages	See as below.	P
	a) AC mains supply :	Overvoltage category II for primary circuit and transient voltage 2500Vpeak.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Earthed d.c. mains supplies	Not applicable.	N/A
	c) Unearthed d.c. mains supplies	Not applicable.	N/A
	d) Battery operation	Not applicable.	N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4).	P
2.10.3.4	Clearances in secondary circuits	See sub-clause 5.3.4.	N/A
2.10.3.5	Clearances in circuits having starting pulses	No lamps provided.	N/A
2.10.3.6	Transients from a.c. mains supply	Overvoltage category II for secondary circuit and transient voltage 1500Vpeak.	P
2.10.3.7	Transients from d.c. mains supply	Mains from AC source only.	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	No networks and cable distribution systems provided.	N/A
2.10.3.9	Measurement of transient voltage levels	Not applicable.	N/A
	a) Transients from a mains supply	Same as above.	N/A
	For an a.c. mains supply	Same as above.	N/A
	For a d.c. mains supply	Same as above.	N/A
	b) Transients from a telecommunication network :	Same as above.	N/A
2.10.4	Creepage distances	See as below.	P
2.10.4.1	General	(see appended table 2.10.3 and 2.10.4)	P
2.10.4.2	Material group and comparative tracking index	See as below.	P
	CTI tests	CTI rating for all materials of 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	Solid or laminated insulating materials having adequate thickness are provided.	P
2.10.5.1	General	See as 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	Certified sources of photo couplers used. See 2.10.5.2 and 2.10.10.	P
2.10.5.4	Semiconductor devices	See 2.10.5.3.	P
2.10.5.5.	Cemented joints	Not applicable.	N/A
2.10.5.6	Thin sheet material – General	Complied check.	P
2.10.5.7	Separable thin sheet material	Reinforced insulation.	P
	Number of layers (pcs)	Two layers used, each of which	—

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Clause	Requirement + Test	Result - Remark	Verdict
		complies with the required electric strength test (see appended table 2.10.5)	
2.10.5.8	Non-separable thin sheet material	No non-separable thin sheet material employed.	N/A
2.10.5.9	Thin sheet material – standard test procedure	Not applicable.	N/A
	Electric strength test	Same as above.	—
2.10.5.10	Thin sheet material – alternative test procedure	See as below.	P
	Electric strength test	Electric strength test applied to each one layer.	—
2.10.5.11	Insulation in wound components	See sub-clause 2.10.5.12.	P
2.10.5.12	Wire in wound components	Certified source of triple insulated wire used in transformer (T1) for reinforced insulation.	P
	Working voltage	See 2.10.2.	P
	a) Basic insulation not under stress	Not applicable.	N/A
	b) Basic, supplementary, reinforced insulation	Not applicable.	N/A
	c) Compliance with Annex U	Triple insulated wire is used in secondary winding for reinforced insulation for T1, also see annex U and appended table 1.5.1.	P
	Two wires in contact inside wound component; angle between 45° and 90°	Insulation tape and/or tubing provided.	P
2.10.5.13	Wire with solvent-based enamel in wound components	Not applicable.	N/A
	Electric strength test	Same as above.	—
	Routine test	Same as above.	N/A
2.10.5.14	Additional insulation in wound components	Not applicable.	N/A
	Working voltage	Same as above.	N/A
	- Basic insulation not under stress	Same as above.	N/A
	- Supplementary, reinforced insulation	Same as above.	N/A
2.10.6	Construction of printed boards	See as 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 coated printed board provided.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	Not applicable.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.6.4	Insulation between conductors on different layers of a printed board	Not applicable.	N/A
	Distance through insulation	Same as above.	N/A
	Number of insulation layers (pcs) :	Same as above.	N/A
2.10.7	Component external terminations	Not applicable.	N/A
2.10.8	Tests on coated printed boards and coated components	Not applicable.	N/A
2.10.8.1	Sample preparation and preliminary inspection	Same as above.	N/A
2.10.8.2	Thermal conditioning	Same as above.	N/A
2.10.8.3	Electric strength test	Same as above.	N/A
2.10.8.4	Abrasion resistance test	Same as above.	N/A
2.10.9	Thermal cycling	Not applicable.	N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	Not applicable.	N/A
2.10.11	Tests for semiconductor devices and cemented joints	Not applicable.	N/A
2.10.12	Enclosed and sealed parts	Not applicable.	N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	All internal wiring used in the distribution of protected against overcurrent and short circuit by suitably rated protective devices.	P
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	P
3.1.3	Securing of internal wiring	The wires are positioned in such a manner that prevents excessive strain, loosening of terminal connections and damage of conductor insulation.	P
3.1.4	Insulation of conductors	Uninsulated conductors have been adequately fixed to prevent, in normal use, any reduction of creepage or clearance distances below those prescribed by in 2.9.	P
3.1.5	Beads and ceramic insulators	The equipment does not have any beads or similar insulators.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.6	Screws for electrical contact pressure	No screws electrical connection used.	N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws	No spaced threads screws for electrical connections.	N/A
3.1.9	Termination of conductors	All conductors are reliable secured.	P
	10 N pull test	10 N pull test performed for all relevant conductors. No hazards caused hereby.	—
3.1.10	Sleeving on wiring	Not applicable.	N/A

3.2	Connection to a mains supply		P
3.2.1	Means of connection	The unit is provided with an appliance inlet.	P
3.2.1.1	Connection to an a.c. mains supply	The unit is provided with an appliance inlet for connection of a detachable power supply cord.	P
3.2.1.2	Connection to a d.c. mains supply	Mains from AC source only.	N/A
3.2.2	Multiple supply connections	Not multiple power sources provided.	N/A
3.2.3	Permanently connected equipment	The equipment is not permanently connected.	N/A
	Number of conductors, diameter of cable and conduits (mm) :	Same as above.	—
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320-1.	P
3.2.5	Power supply cords	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.5	AC power supply cords	Same as above.	N/A
	Type :	Same as above.	—
	Rated current (A), cross-sectional area (mm ²), AWG :	Same as above.	—
3.2.5.2	DC power supply cords	Mains from AC source only.	N/A
3.2.6	Cord anchorages and strain relief	The equipment does not use a non-detachable power supply cord.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Mass of equipment (kg), pull (N)	Same as above.	—
	Longitudinal displacement (mm)	Same as above.	—
3.2.7	Protection against mechanical damage	The equipment does not use a non-detachable power supply cord.	N/A
3.2.8	Cord guards	The equipment does not use a non-detachable power supply cord.	N/A
	Diameter or minor dimension D (mm); test mass (g)	Same as above.	—
	Radius of curvature of cord (mm)	Same as above.	—
3.2.9	Supply wiring space	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3.2	Connection of non-detachable power supply cords	Same as above.	N/A
3.3.3	Screw terminals	Same as above.	N/A
3.3.4	Conductor sizes to be connected	Same as above.	N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²).....	Same as above.	—
3.3.5	Wiring terminal sizes	Same as above.	N/A
	Rated current (A), type, nominal thread diameter (mm)	Same as above.	—
3.3.6	Wiring terminal design	Same as above.	N/A
3.3.7	Grouping of wiring terminals	Same as above.	N/A
3.3.8	Stranded wire	Same as above.	N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	See as below.	P
3.4.2	Disconnect devices	The appliance inlet is considered to be the disconnect device.	P
3.4.3	Permanently connected equipment	The unit is not permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.4	Parts which remain energized	No parts remained energy after disconnection of plug.	P
3.4.5	Switches in flexible cords	No switch provided.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment	Single-phase equipment.	N/A
3.4.8	Switches as disconnect devices	No switch or the switch is not a disconnect device.	N/A
3.4.9	Plugs as disconnect devices	Not used.	N/A
3.4.10	Interconnected equipment	Not interconnected equipment.	N/A
3.4.11	Multiple power sources	Not multiple power sources provided.	N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	See as below.	P
3.5.2	Types of interconnection circuits	Interconnection circuits are SELV CIRCUITS and LIMITED CURRENT CIRCUITS.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N/A
3.5.4	Data ports for additional equipment	Not applicable.	N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	Total mass do not exceed 7kg.	N/A
	Test force (N)	Equipment is not a floor standing unit.	N/A

4.2	Mechanical strength		P
4.2.1	General	See as below.	P
	Rack-mounted equipment.	Not rack-mounted equipment.	N/A
4.2.2	Steady force test, 10 N	10N applied to components and parts.	P
4.2.3	Steady force test, 30 N	No internal enclosure provided.	N/A
4.2.4	Steady force test, 250 N	Worst case selected: Model No.: MIT-09G-56D Result: No hazard as a result of the 250N test. Location:	P

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Clause	Requirement + Test	Result - Remark	Verdict
		1) Top 2) Bottom 3) Side Material used: (see appended tables 1.5.1)	
4.2.5	Impact test	Worst case selected: Model No. MIT-09G-56D No hazard as a result Location: 1) Top 2) Bottom 3) Side Material used: (see appended tables 1.5.1)	P
	Fall test	Same as above	P
	Swing test	Not applicable.	N/A
4.2.6	Drop test; height (mm) :	Not applicable.	N/A
4.2.7	Stress relief test	Worst case selected: Model No. MIT-09G-56D No indication of shrinkage or distortion on enclosures due to the stress relief test 86°C/7h. See enclosed test record. Material used: (see appended tables 1.5.1)	P
4.2.8	Cathode ray tubes	No cathode ray tube provided.	N/A
	Picture tube separately certified :	Same as above	—
4.2.9	High pressure lamps	No high pressure lamps provided.	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 judged to be sufficiently well rounded so as not to constitute a hazard.	P
4.3.2	Handles and manual controls; force (N) :	No handles or manual controls provided.	N/A
4.3.3	Adjustable controls	No control devices provided.	N/A
4.3.4	Securing of parts	No loosening of parts pairing creepage distances or	P

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Clause	Requirement + Test	Result - Remark	Verdict
		clearances over supplementary or reinforced insulation is likely to occur.	
4.3.5	Connection by plugs and sockets	No misconnection to mains is likely for output (SELV) connector. Connectors complying with IEC 60083 or IEC 60320-1 is not be used for SELV circuit output.	N/A
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque	Same as above.	—
	Compliance with the relevant mains plug standard	Same as above.	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	Same as above.	N/A
	- Unintentional charging of a non-rechargeable battery	Same as above.	N/A
	- Reverse charging of a rechargeable battery	Same as above.	N/A
	- Excessive discharging rate for any battery	Same as above.	N/A
4.3.9	Oil and grease	No oil or grease provided.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not product dust or employ powders, liquids or gases.	N/A
4.3.11	Containers for liquids or gases	The equipment does not contain liquid.	N/A
4.3.12	Flammable liquids	No flammable liquids in this unit.	N/A
	Quantity of liquid (l)	Same as above.	—
	Flash point (°C)	Same as above.	—
4.3.13	Radiation		P
4.3.13.1	General	See as below.	P
4.3.13.2	Ionizing radiation	No Ionizing radiation provided.	N/A
	Measured radiation (pA/kg)	Same as above.	—
	Measured high-voltage (kV)	Same as above.	—
	Measured focus voltage (kV)	Same as above.	—
	CRT markings	Same as above.	—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	No UV radiation provided.	N/A
	Part, property, retention after test, flammability classification	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.4	Human exposure to ultraviolet (UV) radiation :	No UV radiation provided.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	See as below.	P
4.3.13.5.1	Lasers (including laser diodes)	No lasers provided.	N/A
	Laser class :	Same as above.	—
4.3.13.5.2	Light emitting diodes (LEDs)	Indicating lights only, there is a low power LED.	P
4.3.13.6	Other types :	No other types provided.	N/A

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

4.5	Thermal requirements		P
4.5.1	General	See as below.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L :	Operated in the most unfavourable way of operation given in the operating instructions until steady conditions established.	—
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 materials used in Transformer (T1) which are acceptable without test.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.6	Openings in enclosures		P
4.6.1	Top and side openings	Openings are provided with louvers, baffles, etc., which preclude the entry of objects.	P
	Dimensions (mm) :	Do not exceed 1mm in width regardless of length.	—
4.6.2	Bottoms of fire enclosures	No opening provided.	P
	Construction of the bottom, dimensions (mm) .. :	Same as above.	—
4.6.3	Doors or covers in fire enclosures	No door or cover provided.	N/A
4.6.4	Openings in transportable equipment	Not transportable equipment.	N/A
4.6.4.1	Constructional design measures	Same as above.	N/A
	Dimensions (mm) :	Same as above.	—
4.6.4.2	Evaluation measures for larger openings	Same as above.	N/A
4.6.4.3	Use of metallized parts	Same as above.	N/A
4.6.5	Adhesives for constructional purposes	No barrier or screen secured with adhesive.	N/A
	Conditioning temperature (°C), time (weeks) :	Same as above.	—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	See as below.	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	Not applicable.	N/A
4.7.2	Conditions for a fire enclosure	See as below.	P
4.7.2.1	Parts requiring a fire enclosure	A fire enclosure covers all parts.	P
4.7.2.2	Parts not requiring a fire enclosure	Same as above.	N/A
4.7.3	Materials		P
4.7.3.1	General	Materials with the required flammability classes are used.	P
4.7.3.2	Materials for fire enclosures	Flammability rating minimum V-1. (see appended table 1.5.1)	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No components or parts outside fire enclosures.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated minimum 94V-2 or better or are	P

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Clause	Requirement + Test	Result - Remark	Verdict
		mounted on a PWB rated 94V-1 or better.	
4.7.3.5	Materials for air filter assemblies	No air filter assemblies.	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage component used.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)	See as below.	P
5.1.2.1	Single connection to an a.c. mains supply	EUT has only one mains connections.	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply	See 5.1.2.1	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	See 5.1.2.1	N/A
5.1.3	Test circuit	Equipment of figure 5A used.	P
5.1.4	Application of measuring instrument	Tests are conducted using one of the measuring instruments in annex D, or any other circuit giving the same results.	P
5.1.5	Test procedure	The touch current was measured from mains to output connector, protective earthing terminal and enclosure with foil.	P
5.1.6	Test measurements	See as below.	P
	Supply voltage (V)	(See appended table 5.1)	—
	Measured touch current (mA)	(See appended table 5.1)	—
	Max. allowed touch current (mA)	(See appended table 5.1)	—
	Measured protective conductor current (mA)	N/A	—
	Max. allowed protective conductor current (mA) ..	N/A	—
5.1.7	Equipment with touch current exceeding 3,5 mA	Touch current does not exceed 3.5mA	N/A
5.1.7.1	General	Same as above.	N/A
5.1.7.2	Simultaneous multiple connections to the supply	Same as above.	N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Only TNV-1 for output.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Supply voltage (V)	Same as above.	—
	Measured touch current (mA)	Same as above.	—
	Max. allowed touch current (mA)	Same as above.	—
5.1.8.2	Summation of touch currents from telecommunication networks	Same as above.	N/A
	a) EUT with earthed telecommunication ports	Same as above.	N/A
	b) EUT whose telecommunication ports have no reference to protective earth	Same as above.	N/A

5.2	Electric strength		P
5.2.1	General	Based on the electric strength test the use of the insulating materials within the equipment is satisfactory.	P
5.2.2	Test procedure	No insulation breakdown detected during the test. (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 motor provided.	N/A
5.3.3	Transformers	(see appended Annex C)	P
5.3.4	Functional insulation	Functional insulation complies with the requirements c). (see appended table 5.3)	P
5.3.5	Electromechanical components	No electromechanical components.	N/A
5.3.6	Audio amplifiers in ITE	No audio amplifiers provided.	N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment	None of them are used.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation was noted during the tests.	P
5.3.9.1	During the tests	Neither fire burns the equipment or molten metal.	P
5.3.9.2	After the tests	Electric strength test made.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		P
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Clause	Requirement + Test	Result - Remark	Verdict

6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No such earth provided	N/A
	Supply voltage (V)	Same as above.	—
	Current in the test circuit (mA)	Same as above.	—
6.1.2.2	Exclusions	Same as above.	N/A

6.2	Protection of equipment users from overvoltages on telecommunication networks		P
6.2.1	Separation requirements	Separation between TNV-1 circuit and access part is basic insulation.	P
6.2.2	Electric strength test procedure	See as below.	P
6.2.2.1	Impulse test	Tested with 1500V in case b, complies with 6.2.2.3.	P
6.2.2.2	Steady-state test	Tested with 1500V in case b, complies with 6.2.2.3.	P
6.2.2.3	Compliance criteria	No breakdown of insulation during above tests.	P

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	No TNV circuit provided.	—
	Current limiting method	Same as above.	—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		P
7.1	General	The output may connected to an outdoor antenna. Test with: Subjected to 50 discharges at a maximum rate of 12 per minute, from a 1 nF capacitor charged to 10 kV between the primary to SELV(TNV-1). Result: There was no indication of breakdown as a result of applying the test voltage to the indicated locations for 60 seconds.	P

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Clause	Requirement + Test	Result - Remark	Verdict
		The insulation resistance was greater than 2 MΩ. (9999MΩ.)	
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment	Complied check.	P
7.3	Protection of equipment users from overvoltages on the cable distribution system	Same as above.	P
7.4	Insulation between primary circuits and cable distribution systems	See as below.	P
7.4.1	General	See as below.	P
7.4.2	Voltage surge test	Test with: Subjected to 50 discharges at a maximum rate of 12 per minute, from a 1 nF capacitor charged to 10 kV between the primary to TNV-1 Result: There was no indication of breakdown as a result of applying the test voltage to the indicated locations for 60 seconds. The insulation resistance was greater than 2 MΩ. (9999MΩ.)	P
7.4.3	Impulse test	Test with: The Impulse Test was applied to the equipment between the supply terminals and the output terminal with 4kV Result: There was no indication of breakdown as a result of applying the test voltage to the indicated locations for 60 seconds.	P

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Clause	Requirement + Test	Result - Remark	Verdict
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)	Unit total mass not exceeding 18 kg.	N/A
A.1.1	Samples.....:	Same as above.	—
	Wall thickness (mm).....:	Same as above.	—
A.1.2	Conditioning of samples; temperature (°C).....:	Same as above.	N/A
A.1.3	Mounting of samples.....:	Same as above.	N/A
A.1.4	Test flame (see IEC 60695-11-3)	Same as above.	N/A
	Flame A, B, C or D.....:	Same as above.	—
A.1.5	Test procedure	Same as above.	N/A
A.1.6	Compliance criteria	Same as above.	N/A
	Sample 1 burning time (s).....:	Same as above.	—
	Sample 2 burning time (s).....:	Same as above.	—
	Sample 3 burning time (s).....:	Same as above.	—
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.....:	Approved material used. (see appended table 1.5.1)	—
	Wall thickness (mm).....:	Same as above.	—
A.2.2	Conditioning of samples; temperature (°C).....:	Same as above.	N/A
A.2.3	Mounting of samples.....:	Same as above.	N/A
A.2.4	Test flame (see IEC 60695-11-4)	Same as above.	N/A
	Flame A, B or C.....:	Same as above.	—
A.2.5	Test procedure	Same as above.	N/A
A.2.6	Compliance criteria	Same as above.	N/A
	Sample 1 burning time (s).....:	Same as above.	—
	Sample 2 burning time (s).....:	Same as above.	—
	Sample 3 burning time (s).....:	Same as above.	—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9	Same as above.	N/A
	Sample 1 burning time (s).....:	Same as above.	—
	Sample 2 burning time (s).....:	Same as above.	—
	Sample 3 burning time (s).....:	Same as above.	—
A.3	Hot flaming oil test (see 4.6.2)	see 4.6.2.	N/A

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

A.3.1	Mounting of samples	Same as above.	N/A
A.3.2	Test procedure	Same as above.	N/A
A.3.3	Compliance criterion	Same as above.	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	Same as above.	—
	Manufacturer	Same as above.	—
	Type	Same as above.	—
	Rated values	Same as above.	—
B.2	Test conditions	Same as above.	N/A
B.3	Maximum temperatures	Same as above.	N/A
B.4	Running overload test	Same as above.	N/A
B.5	Locked-rotor overload test	Same as above.	N/A
	Test duration (days)	Same as above.	—
	Electric strength test: test voltage (V)	Same as above.	—
B.6	Running overload test for d.c. motors in secondary circuits	Same as above.	N/A
B.6.1	General	Same as above.	N/A
B.6.2	Test procedure	Same as above.	N/A
B.6.3	Alternative test procedure	Same as above.	N/A
B.6.4	Electric strength test; test voltage (V)	Same as above.	N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits	Same as above.	N/A
B.7.1	General	Same as above.	N/A
B.7.2	Test procedure	Same as above.	N/A
B.7.3	Alternative test procedure	Same as above.	N/A
B.7.4	Electric strength test; test voltage (V)	Same as above.	N/A
B.8	Test for motors with capacitors	Same as above.	N/A
B.9	Test for three-phase motors	Same as above.	N/A
B.10	Test for series motors	Same as above.	N/A
	Operating voltage (V)	Same as above.	—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	(see appended table 1.5.1)	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
	Method of protection.....	By protection circuit.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables C2)	P
	Protection from displacement of windings	(see appended tables C2)	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	Figure D.1 used.	P
D.2	Alternative measuring instrument	Not applicable.	N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances	Not applicable.	N/A
G.1.1	General	Same as above.	N/A
G.1.2	Summary of the procedure for determining minimum clearances	Same as above.	N/A
G.2	Determination of mains transient voltage (V)	Same as above.	N/A
G.2.1	AC mains supply	Same as above.	N/A
G.2.2	Earthed d.c. mains supplies	Same as above.	N/A
G.2.3	Unearthed d.c. mains supplies	Same as above.	N/A
G.2.4	Battery operation	Same as above.	N/A
G.3	Determination of telecommunication network transient voltage (V)	Same as above.	N/A
G.4	Determination of required withstand voltage (V)	Same as above.	N/A
G.4.1	Mains transients and internal repetitive peaks	Same as above.	N/A
G.4.2	Transients from telecommunication networks	Same as above.	N/A
G.4.3	Combination of transients	Same as above.	N/A
G.4.4	Transients from cable distribution systems	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

G.5	Measurement of transient voltages (V)	Same as above.	N/A
	a) Transients from a mains supply	Same as above.	N/A
	For an a.c. mains supply	Same as above.	N/A
	For a d.c. mains supply	Same as above.	N/A
	b) Transients from a telecommunication network	Same as above.	N/A
G.6	Determination of minimum clearances	Same as above.	N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Metal ELECTROCHEMICAL POTENTIALS comply Table J.1	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity	No thermal controls provided.	N/A
K.2	Thermostat reliability; operating voltage (V)	Same as above.	N/A
K.3	Thermostat endurance test; operating voltage (V)	Same as above.	N/A
K.4	Temperature limiter endurance; operating voltage (V)	Same as above.	N/A
K.5	Thermal cut-out reliability	Same as above.	N/A
K.6	Stability of operation	Same as above.	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	Not such type.	N/A
L.2	Adding machines and cash registers	Not such type.	N/A
L.3	Erasers	Not such type.	N/A
L.4	Pencil sharpeners	Not such type.	N/A
L.5	Duplicators and copy machines	Not such type.	N/A
L.6	Motor-operated files	Not such type.	N/A
L.7	Other business equipment	Continuous operation at rated output load.	P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction	No telephone ringing signals provided	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

M.2	Method A	Same as above.	N/A
M.3	Method B	Same as above.	N/A
M.3.1	Ringing signal	Same as above.	N/A
M.3.1.1	Frequency (Hz)	Same as above.	—
M.3.1.2	Voltage (V)	Same as above.	—
M.3.1.3	Cadence; time (s), voltage (V)	Same as above.	—
M.3.1.4	Single fault current (mA)	Same as above.	—
M.3.2	Tripping device and monitoring voltage	Same as above.	N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage	Same as above.	N/A
M.3.2.2	Tripping device	Same as above.	N/A
M.3.2.3	Monitoring voltage (V)	Same as above.	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	Not used.	N/A
N.2	IEC 60065 impulse test generator	Same as above.	N/A

P	ANNEX P, NORMATIVE REFERENCES		—
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Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	- Preferred climatic categories	VDRs is certified component. (See appended table 1.5.1.)	P
	- Maximum continuous voltage	Same as above.	P
	- Combination pulse current	Same as above.	P
	Body of the VDR Test according to IEC60695-11-5	See as below.	N/A
	Body of the VDR. Flammability class of material (min V-1).....	Materials are rated minimum V-1 (See appended table 1.5.1.)	P

R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)	Not applicable.	N/A
R.2	Reduced clearances (see 2.10.3)	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment	Not applicable.	N/A
S.2	Test procedure	Same as above.	N/A
S.3	Examples of waveforms during impulse testing	Same as above.	N/A

T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
		Not applicable.	—

U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Certified source of triple insulated wire used in transformer (T1) (See appended table 1.5.1.)	—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	IT and TN	P
V.2	TN power distribution systems	230V for Norway	P

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits	Not applicable.	N/A
W.1.1	Floating circuits	Same as above.	N/A
W.1.2	Earthed circuits	Same as above.	N/A
W.2	Interconnection of several equipments	Same as above.	N/A
W.2.1	Isolation	Same as above.	N/A
W.2.2	Common return, isolated from earth	Same as above.	N/A
W.2.3	Common return, connected to protective earth	Same as above.	N/A

X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current	Not applicable.	N/A
X.2	Overload test procedure	Same as above	N/A

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus	Not applicable.	N/A
Y.2	Mounting of test samples	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.3	Carbon-arc light-exposure apparatus	Same as above.	N/A
Y.4	Xenon-arc light exposure apparatus	Same as above.	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	Not applicable.	N/A
CC.2	Test program 1.....	Same as above.	N/A
CC.3	Test program 2.....	Same as above.	N/A
CC.4	Test program 3.....	Same as above.	N/A
CC.5	Compliance.....	Same as above.	N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General	Not rack-mounted equipment.	N/A
DD.2	Mechanical strength test, variable N	Same as above.	N/A
DD.3	Mechanical strength test, 250N, including end stops.....	Same as above.	N/A
DD.4	Compliance.....	Same as above.	N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General	Not applicable.	N/A
EE.2	Markings and instructions	Same as above.	N/A
	Use of markings or symbols	Same as above.	N/A
	Information of user instructions, maintenance and/or servicing instructions	Same as above.	N/A
EE.3	Inadvertent reactivation test.....	Same as above.	N/A
EE.4	Disconnection of power to hazardous moving parts:	Same as above.	N/A
	Use of markings or symbols	Same as above.	N/A
EE.5	Protection against hazardous moving parts	Same as above.	N/A
	Test with test finger (Figure 2A).....	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test with wedge probe (Figure EE1 and EE2):	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
1) Enclosure	TEIJIN LIMITED RESIN AND PLASTIC	LN-1250G(#)(*)	V-0, 115°C, min. 1.5mm thick.	UL 746 UL 94	UL	
2) PCB	Interchangeable	Interchangeable	Min. V-1, Min. 130°C	UL 796	UL	
3) Appliance Inlet (JP3)	RICH BAY CO LTD	R-301SN	10A, 250V	UL 498 IEC/EN 60320-1	UL VDE	
(Alternate)	TECX-UNIONS TECHNOLOGY CORP	TU-301-SP	15A, 250V	UL 498 IEC/EN 60320-1	UL VDE	
4) Y-Capacitor (C4, C19, C2, C3) (Y2 or Y1 type) (optional)	MURATA MFG CO LTD	KX	Max. 3300pF, min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE, UL	
	WALSIN TECHNOLOGY CORP	AC AH	Max. 3300pF, min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE, UL	
	Welson Industrial Co., Ltd.	KL, WD	Max. 3300pF, min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE, UL	
	TDK-EPC Corporation, Capacitors Group	CS, CD	Max. 3300pF, min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE, UL	
5) Fuse (F1)	Littelfuse, Inc. Wickmann - Werke	392	T2A, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL	
(Alternate)	Conquer	MST-Series	T2A, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL	
(Alternate)	Bel	RST	T2A, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL	
(Alternate)	Ever Island Electric Co Ltd & Walter Electric	2010 series	T2A, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL	

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
6) Varistor (ZP1) (optional)	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR07471-D	300Vac, 385Vdc, 85°C (flame class of body coating complied with V- 0)	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL	
(Alternate)	CENTRA SCIENCE CORP	CNR-07D471K	300Vac, 385Vdc, 85°C (flame class of body coating complied with V- 0)	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL	
(Alternate)	DONGGUAN LITTELFUSE ELECTRONICS CO LTD	SAS-471KD14	300Vac, 385Vdc, 125°C (flame class of body coating complied with V- 0)	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL	
(Alternate)	DONGGUAN LITTELFUSE ELECTRONICS CO LTD	MOV-471KD07	300Vac, 385Vdc, 125°C (flame class of body coating complied with V- 0)	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL	
(Alternate)	JOYIN CO LTD	7N471K	300Vac, 385Vdc, 125°C (flame class of body coating complied with V- 0)	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL	
7) Bleeder Resistor (R1, R2)	Interchangeable	Interchangeable	0.75MΩ, 0.25W. SMD type,on rear PCB	--	--	
8) X-Capacitor (C1)	Arcotronics	R.46	Max. 0.47μF, 300Vac, 100°C	IEC/EN 60384- 14:2005 UL 60384-14	ENEC03 UL	
(Alternate)	Carli	MPX	Max. 0.47μF, 275Vac, 100°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
(Alternate)	Iskra	KNB 1530	Max. 0.47μF, 275Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹	
(Alternate)	Iskra	KNB 1560	Max. 0.47 μ F, 275Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
(Alternate)	Okaya	PA, RE-Series	Max. 0.47 μ F, 275Vac, 100°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
(Alternate)	Okaya	LE	Max. 0.47 μ F, 275Vac, 100°C	IEC/EN 60384- 14:2005 UL 60384-14	ENEC14,UL	
(Alternate)	Vishay	F1772-xxx- 2xxx(R)	Max. 0.47 μ F, 310Vac, 110°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
(Alternate)	Cheng Tung	CTX	Max. 0.47 μ F, 300Vac, 100°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
9) Bridging Rectifier (BR1)	Interchangeable	Interchangeable	Min. 4A, min. 600V	--	--	
10) Storage Capacitor (C5)	Interchangeable	Interchangeable	68 μ F, min. 400V, 105°C	--	--	
11) Thermistor (NTC1) (Optional)	Interchangeable	Interchangeable	4A, 5 Ω	--	--	
12) Transistor (Q1)	Interchangeable	Interchangeable	Min.8A, min. 600V	--	--	
13) Bridge Capacitor (C11) (Optional)	Murata	KX	Max. 2200pF min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
(Alternate)	Vishay	WKP, VKP, VY1	Max. 2200pF min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
(Alternate)	TDK	CD	Max. 2200pF min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	
(Alternate)	Matsushita (Panasonic)	NS-A	Max. 2200pF min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE,UL	

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹	
14) Photo Coupler (PL1)	Lite-On	LTV-817	Dti = 0.8 mm, Int. dcr=5.2 mm, Ext. dcr=7.8mm, 100°C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL	
(Alternate)	NEC	PS2761B-1	Dti=0.4mm, Ext. dcr=5mm, thermal cycle test, 100°C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL	
(Alternate)	Sharp	PC817	Dti=0.7mm, Int. dcr=5.0mm, Ext. dcr=8.0mm, thermal cycling test, 110°C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL	
(Alternate)	Everlight	EL817	Dti=0.5mm, Int. dcr=6.0mm, Ext. dcr=7.7mm, Thermal cycling test, 110°C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL	
(Alternate)	Welson	WD	Max. 2200pF, min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE, UL	
(Alternate)	TDK	CD	Max. 2200pF, min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE, UL	
(Alternate)	Success	SE	Max. 2200pF, min. 250Vac, 125°C	IEC/EN 60384- 14:2005 UL 60384-14	VDE, UL	
15) Choke (L1)	Jai Mei Technology	EE25 (8045)	130°C	--	--	
16) Choke (L4, L5)	Jai Mei Technology	T50-26B	130°C	--	--	
17) Transformer (T1)	Jai Mei Technology Inc.	PQ2625	Class B	--	--	
- Bobbin	Sumitomo Bakelite	PM-9820	V-0, 155°C	UL 94, UL 746C	UL	
- Tape	3M Company	1350-1	130°C	UL 510	UL	
- Triple insulation wire	Furukawa	TEX-E	130°C	IEC 60950-1 EN 60950- 1:2006+A11+A1 +A12	VDE, UL	

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
				UL 2353		
18) Insulation tape for Heat Sink	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1	Min. V-2, min. 105°C, 2 layers.	UL 510	UL	
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.						

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

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : (See appended tables 1.5.1) Type..... : (See appended tables 1.5.1) Separately tested..... : (See appended tables 1.5.1) Bridging insulation : (See appended tables 1.5.1) External creepage distance : (See appended tables 1.5.1) Internal creepage distance..... : (See appended tables 1.5.1) Distance through insulation..... : (See appended tables 1.5.1) Tested under the following conditions : (See appended tables 1.5.1) Input..... : (See appended tables 1.5.1) Output : (See appended tables 1.5.1)		
supplementary information		

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
--	--	--	--	--	--	Model No.: MIT-09-56	
90/ 50Hz	1.10	--	60	F1	1.10	56V $\overline{\text{---}}$ 0.9A	
100/ 50Hz	1.00	1.02	60	F1	1.00	56V $\overline{\text{---}}$ 0.9A	
240/ 50Hz	0.53	1.02	57	F1	0.53	56V $\overline{\text{---}}$ 0.9A	
254/ 50Hz	0.52	--	57	F1	0.52	56V $\overline{\text{---}}$ 0.9A	
264/ 50Hz	0.48	--	53	F1	0.48	56V $\overline{\text{---}}$ 0.9A	
90/ 60Hz	1.12	--	60	F1	1.12	56V $\overline{\text{---}}$ 0.9A	
100/ 60Hz	1.02	1.02	60	F1	1.02	56V $\overline{\text{---}}$ 0.9A	
240/ 60Hz	0.55	1.02	58	F1	0.55	56V $\overline{\text{---}}$ 0.9A	
254/ 60Hz	0.52	--	58	F1	0.52	56V $\overline{\text{---}}$ 0.9A	
264/ 60Hz	0.48	--	54a	F1	0.48	56V $\overline{\text{---}}$ 0.9A	
--	--	--	--	--	--	Model No.: MIT-09G-56	
90/ 50Hz	1.11	--	61	F1	1.11	56V $\overline{\text{---}}$ 0.9A	
100/ 50Hz	1.00	1.02	60	F1	1.00	56V $\overline{\text{---}}$ 0.9A	
240/ 50Hz	0.55	1.02	58	F1	0.55	56V $\overline{\text{---}}$ 0.9A	
254/ 50Hz	0.50	--	58	F1	0.50	56V $\overline{\text{---}}$ 0.9A	
264/ 50Hz	0.49	--	58	F1	0.49	56V $\overline{\text{---}}$ 0.9A	
90/ 60Hz	1.12	--	61	F1	1.12	56V $\overline{\text{---}}$ 0.9A	
100/ 60Hz	1.02	1.02	60	F1	1.02	56V $\overline{\text{---}}$ 0.9A	

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
240/ 60Hz	0.57	1.02	58	F1	0.57	56V $\overline{\text{---}}$ 0.9A
254/ 60Hz	0.50	--	58	F1	0.50	56V $\overline{\text{---}}$ 0.9A
264/ 60Hz	0.49	--	58	F1	0.49	56V $\overline{\text{---}}$ 0.9A
--	--	--	--	--	--	Model No.: MIT-09-56D
90/ 50Hz	0.80	--	42	F1	0.80	56V $\overline{\text{---}}$ 0.63A
100/ 50Hz	0.73	1.02	42	F1	0.73	56V $\overline{\text{---}}$ 0.63A
240/ 50Hz	0.39	1.02	41	F1	0.39	56V $\overline{\text{---}}$ 0.63A
254/ 50Hz	0.37	--	41	F1	0.37	56V $\overline{\text{---}}$ 0.63A
264/ 50Hz	0.36	--	41	F1	0.36	56V $\overline{\text{---}}$ 0.63A
90/ 60Hz	0.81	--	42	F1	0.81	56V $\overline{\text{---}}$ 0.63A
100/ 60Hz	0.75	1.02	42	F1	0.75	56V $\overline{\text{---}}$ 0.63A
240/ 60Hz	0.39	1.02	41	F1	0.39	56V $\overline{\text{---}}$ 0.63A
254/ 60Hz	0.37	--	41	F1	0.37	56V $\overline{\text{---}}$ 0.63A
264/ 60Hz	0.36	--	41	F1	0.36	56V $\overline{\text{---}}$ 0.63A
--	--	--	--	--	--	Model No.: MIT-09G-56D
90/ 50Hz	0.78	--	42	F1	0.78	56V $\overline{\text{---}}$ 0.63A
100/ 50Hz	0.72	1.02	41	F1	0.72	56V $\overline{\text{---}}$ 0.63A
240/ 50Hz	0.38	1.02	40	F1	0.38	56V $\overline{\text{---}}$ 0.63A
254/ 50Hz	0.37	--	40	F1	0.37	56V $\overline{\text{---}}$ 0.63A
264/ 50Hz	0.36	--	40	F1	0.36	56V $\overline{\text{---}}$ 0.63A
90/ 60Hz	0.79	--	42	F1	0.79	56V $\overline{\text{---}}$ 0.63A
100/ 60Hz	0.74	1.02	41	F1	0.74	56V $\overline{\text{---}}$ 0.63A
240/ 60Hz	0.38	1.02	40	F1	0.38	56V $\overline{\text{---}}$ 0.63A
254/ 60Hz	0.37	--	40	F1	0.37	56V $\overline{\text{---}}$ 0.63A
264/ 60Hz	0.36	--	40	F1	0.36	56V $\overline{\text{---}}$ 0.63A
supplementary information						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Model No.: MIT-09G-56	--	--	--	--	
56	0.9	56.5	1.12	62.6	
supplementary information					

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Clause	Requirement + Test	Result - Remark	Verdict

Input Condition: 240Vac, 60Hz

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

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
Model No.: MIT-09G-56		--	--	--
T1 (1-7,8,9)		166	--	--
D3 – RTN		70	--	--
L2 – RTN		67	--	--
--		--	56	L3A
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Model No.: MIT-09G-56		--		
L3A short		0Vdc		
supplementary information				
Input Condition: 240Vac, 60Hz				

2.5	TABLE: Limited power sources					P
Circuit output tested: Model No.: MIT-09G-56						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Normal	--	56.5	1.12	≤2.65	62.6	≤100
PL1A (1-2)	Sc	0	0	≤2.65	0	≤100

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Clause	Requirement + Test			Result - Remark		Verdict
PL1A (1)	Oc	56.5	1.24	≤ 2.65	70	≤ 100
R11	Sc	0	0	≤ 2.65	0	≤ 100
R10	Oc	0	0	≤ 2.65	0	≤ 100
ZD1	Oc	0	0	≤ 2.65	0	≤ 100
ZD3	Oc	56.5	1.1	≤ 2.65	62	≤ 100
supplementary information						
Input Condition: 264Vac, 60Hz						
Sc=Short circuit, Oc=Open circuit						

2.10.2	Table: working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
Model No.: MIT-09G-56		--	--	--
T1 (1-7,8,9)		222	412	--
T1 (1-10,11,RTN)		<u>248</u>	444	Max r.m.s.
T1 (3-7,8,9)		224	<u>516</u>	Max Vpk
T1 (3-10,11,RTN)		202	348	--
T1 (5-7,8,9)		211	412	--
T1 (5-10,11,RTN)		204	348	--
T1 (6-7,8,9)		204	404	--
T1 (6-10,11,RTN)		205	388	--
PL1(3-1)		222	372	--
PL1(3-2)		222	372	--
PL1(4-1)		220	372	--
PL1(4-2)		220	372	--
C11(Pri-Sec.)		204	348	--
Supplementary information				
Input Condition: 240Vac, 60Hz				

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
Trace under L/N (with 1.6mm hole)	420	250	1.5	3.1	2.5	3.1
Trace under fuse (F1) (with 1.6mm hole)	420	250	1.5	1.6	2.5	3.9
Basic/supplementary:						
L5 (with tube) → G/Y wires (with 10N)	420	250	2.0	4.8	2.5	4.8
NTC1 (with tube) → G/Y wires	420	250	2.0	12.0	2.5	12.0
Between C19 trace	420	250	2.0	4.5	2.5	4.5
Between C4 trace (with 1.6mm hole)	420	250	2.0	3.4	2.5	5.8
R1 → Earth	420	250	2.0	3.6	2.5	3.6
H1 H.S. → Earth	420	250	2.0	3.8	2.5	6.2
Reinforced:						
Between PL1	420	250	4.0	5.1	5.0	5.1
T1 Core → Secondary component (L3) (with polyester tape)	516	250	4.4	8.2	5.0	14.0
H1 H.S. (with polyester tape around 3 layers) → Secondary component	420	250	4.0	7.6	5.0	7.6
H1 H.S. (with polyester tape around 3 layers) → Surface of enclosure	420	250	4.0	5.2	5.0	5.2
Under C11 trace (with 4.2mm hole)	420	250	4.0	7.1	5.0	8.6
Under PL1 trace	420	250	4.0	6.2	5.0	6.2
Under T1 trace	516	250	4.4	6.2	5.0	6.2
supplementary information Model: MIT-09G-56						

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)
PL1 (see appended tables 1.5.1)		420	250	3000Vac	0.4	¹⁾
Insulation tape for Heat Sink: 1350F-1		420	250	3000Vac	2 layers	2 layers
Insulation tape for T1 outside: 1350-1		516	248	3000Vac	2 layers	2 layers
supplementary information ¹⁾ (see appended tables 1.5.1)						

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

--

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

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

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

supplementary information

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

4.5	TABLE: Thermal requirements						P
	Supply voltage (V)	90/ 60Hz	90/ 60Hz	264/ 60Hz	264/ 60Hz	--	—
	Ambient Tmin (°C)	--	--	--	--	--	—
	Ambient Tmax (°C)	--	--	--	--	--	—
Maximum measured temperature T of part/at.. :		T (°C)					Allowed T _{max} (°C)
Model No.: MIT-09G-56D Location		Label on top	Label on bottom	Label on top	Label on bottom	--	--
Inlet pin		54.2	53.8	49.8	48.4	--	65
C4 body		60.0	59.8	54.9	52.5	--	125
C1 body		66.2	65.5	57.7	55.1	--	100
L4 coil		64.3	63.6	55.5	53.6	--	130
C2 body		71.8	71.6	62.8	59.5	--	125
PCB under NTC1		79.2	80.0	67.2	66.3	--	130
L5 coil		80.0	78.5	66.6	64.4	--	130
ZP1 body (Varistor)		67.2	68.0	60.4	57.8	--	85
C19 body		70.9	71.8	63.4	63.0	--	125
PCB under BR1		96.5	95.1	86.9	84.5	--	130
C5 body		88.8	87.4	75.7	73.5	--	105
HS body of Q1		84.1	83.3	80.3	78.5	--	105
L1 coil		73.3	71.9	62.1	60.6	--	130
PL1 body (Photo couple)		84.2	83.8	84.0	82.3	--	100

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
T1 Primary side coil	88.0	87.6	89.9	87.3	--	110
T1 Secondary side coil	83.9	83.3	87.2	84.4	--	110
T1 core	82.8	82.7	86.2	84.0	--	110
C11 body (Bridge Cap.)	74.9	75.6	75.1	74.2	--	125
L3 coil	74.9	75.6	75.8	75.0	--	105
L2 coil	66.0	66.3	67.5	66.2	--	105
HS body of D3 near C13	68.2	66.2	69.7	66.2	--	130
T2 body	55.9	56.4	56.7	56.3	--	105
Inside of enclosure	73.3	74.7	75.9	75.0	--	115
Surface of enclosure	56.1	59.8	56.3	59.0	--	95
Ambient air	40.0	40.0	40.0	40.0	--	--
Model No.: MIT-09G-56 Location	Label on top	Label on bottom	Label on top	Label on bottom	--	--
Inlet pin	53.3	54.7	51.7	50.6	--	65
C4 body	57.6	57.5	54.7	54.2	--	125
C1 body	60.7	60.0	56.4	56.1	--	100
L4 coil	65.5	54.7	58.6	58.8	--	130
C2 body	70.8	73.9	65.0	62.6	--	125
PCB under NTC1	66.3	77.3	67.6	61.5	--	130
L5 coil	75.6	80.5	68.8	65.6	--	130
ZP1 body (Varistor)	77.5	72.5	67.6	67.7	--	85
C19 body	62.0	70.9	62.3	59.8	--	125
PCB under BR1	86.6	101.0	86.6	78.7	--	130
C5 body	78.8	85.8	72.8	67.7	--	105
HS body of Q1	71.5	88.6	75.4	67.7	--	105
L1 coil	91.9	89.8	73.3	71.9	--	130
PL1 body (Photo couple)	68.4	84.5	76.3	70.6	--	100
T1 Primary side coil	81.7	88.8	90.6	84.5	--	110
T1 Secondary side coil	79.8	89.6	91.3	84.3	--	110
T1 core	71.0	84.2	82.1	74.9	--	110
C11 body (Bridge Cap.)	72.4	71.9	77.0	73.0	--	125
L3 coil	72.2	84.5	77.3	73.0	--	105
L2 coil	63.4	69.6	60.7	59.1	--	105
HS body of D3 near C13	63.8	68.1	62.0	59.1	--	130
T2 body	85.4	95.2	89.8	87.1	--	105

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Clause	Requirement + Test			Result - Remark			Verdict
Inside of enclosure	56.4	69.3	63.1	59.4	--		115
Surface of enclosure	52.6	58.3	55.3	57.5	--		95
Ambient air	40.0	40.0	40.0	40.0	--		--
Model No.: MIT-09-56 Location	Label on top	Label on bottom	--	--	--		--
ZP1 body (Varistor)	82.6	75.0	--	--	--		85
Ambient air	40.0	40.0	--	--	--		--
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				

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
(see appended tables 1.5.1)	--	--	--	--	--	
supplementary information						

5.1	TABLE: touch current measurement			P			
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions			
Output (-)		0.14	0.25	"e" – C; P1 – N;			

IEC 60950-1			
Clause	Requirement + Test		Verdict
Output (-)	0.14	0.25	"e" – C; P1 – R;
Enclosure with foil	0.01	0.25	"e" – C; P1 – N;
Enclosure with foil	0.01	0.25	"e" – C; P1 – R;
Earth pin of inlet	0.7	3.5	"e" – O; P1 – N;
Earth pin of inlet	0.7	3.5	"e" – O; P1 – R;
supplementary information Input Condition: 264Vac, 60Hz Test Model No.: MIT-09G-56			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
Unit: Primary to Earth		DC	2506	No
Reinforced:				
Unit: Primary to SELV(TNV1)		DC	4242	No
Unit: Primary to Enclosure with foil		DC	4242	No
supplementary information - All testing including after Humidity required of clause 2.9, there are including unit, transformer and all material of transformer, see appended tables 1.5.1 - Test Model No. MIT-09G-56, MIT-09G-56D				

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)		25°C, if no further indicated			—
	Power source for EUT: Manufacturer, model/type, output rating		--			—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
--	--	--	--	--	--	Model No.: MIT-09G-56
BR1 (L- +)	Short	240Vac	1sec	F1	2	IP(F1), NT, NB, NC, RF I/P: 0A

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
C5	Short	240Vac	1sec	F1	2	IP(F1), NT, NB, NC, RF I/P: 0A
Q1(G-D)	Short	240Vac	1sec	F1	2	IP(F1), CD(Q1), NT, NB, NC, RF I/P: 0A
Q1(D-S)	Short	240Vac	1sec	F1	2	IP(F1), CD(Q1), NT, NB, NC, RF I/P: 0A
Q1(G-S)	Short	240Vac	30mins	F1	2	After 1sec unit shutdown, NT, NB, NC I/P: 0.04A
PL1(1-2)	Short	240Vac	30mins	F1	2	After 1sec unit shutdown, NT, NB, NC I/P: 0.04A
PL1(1)	Short	240Vac	1h:35m	F1	2	Unit normal operation, NT, NB, NC, T1=80.4°C, Amb=20.6°C I/P: 0.48A
PL1(3-4)	Short	240Vac	30mins	F1	2	After 1sec unit shutdown, NT, NB, NC I/P: 0.04A
T1 (8,9-10,11)	Short	240Vac	30mins	F1	2	After 1sec unit shutdown, NT, NB, NC I/P: 0.04A
T1(5-6)	Short	240Vac	30mins	F1	2	After 1sec unit cycle protection, NT, NB, NC I/P: 0.04~0.22A
Ventilation openings	Blocked	240Vac	5h:47m	F1	2	Unit normal operation, NT, NC, NB, T1=95.2°C, Amb=25.3°C I/P: 0.53 A,
T1	Transformer overload after D3 for +56V/0.9A	240Vac	12hr	F1	2	CT at 0.2 A, (output load 0.9 A, total load :1.1A), increased to 0.4 A, unit cycle protection, increased to 0.5 A, unit shutdown, NT, NB, NC, T1=120°C, Amb=20.8°C I/P: 0.56A
+56V	Overload	240Vac	12h:19m	F1	2	CT at 1.2A, increased to 1.3A, unit shutdown, NT, NC, NB, T1=116°C, Amb=20.8°C, I/P: 0.62A
+56V-RTN	Short	240Vac	30mins	F1	2	After 1sec unit cycle protection, NT, NB, NC I/P: 0.04~0.22A
supplementary information						

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

Comments Key:

NB: No indication of dielectric breakdown

YB: Dielectric breakdown (indicate time and location)

NC: Cheesecloth remained intact

YC: Cheesecloth charred or flamed

NT: Tissue paper remained intact

YT: Tissue paper charred or flamed

CD - Components damaged (list damaged components)

CT: Constant temperatures were obtained

I/P: Input current

IP: Internal protection operated (list component)

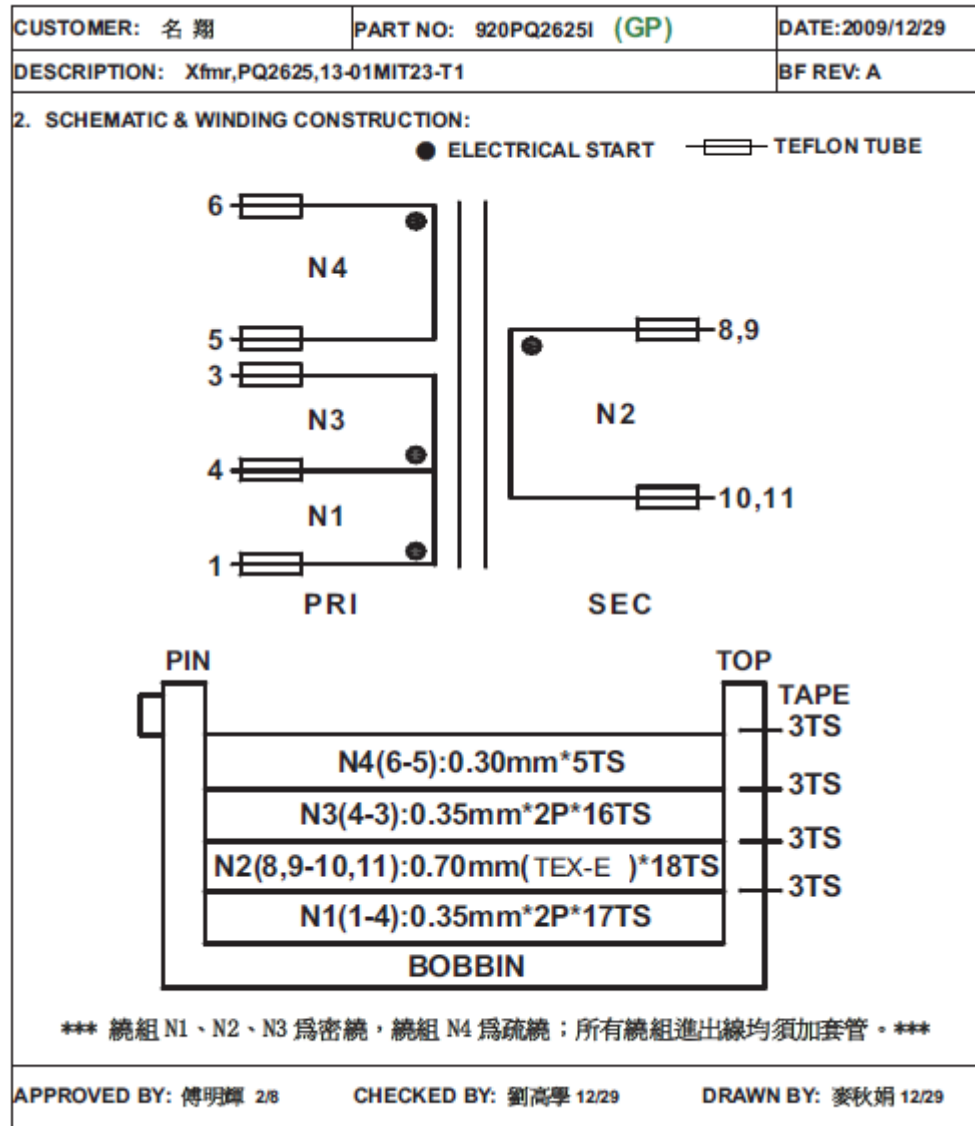
RF: Repeat all fuse, results were the same (see appended tables 1.5.1)

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

C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
T1	Primary to Secondary (Reinforced)	516	250	AC 3000	4.4	5.0	0.4mm / 2 layers
T1	Secondary to Core (Reinforced)	516	250	AC 3000	4.4	5.0	0.4mm / 2 layers
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T1	Primary to Secondary (Reinforced)			AC 3000	4.4	5.0	Triple wire
T1	Secondary to Core (Reinforced)			AC 3000	4.4	5.0	Triple wire
supplementary information							
All testing Including after Humidity required of clause 2.9, there are including unit, transformer and all material of transformer, see appended tables 1.5.1							

C.2	TABLE: transformers	P
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict



3 OF 5

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date

Note: No necessary to list all test equipment with CBTL procedure.

IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013
Attachment Form No. :	EU_GD_IEC60950_1F
Attachment Originator..... :	SGS Fimko Ltd
Master Attachment :	Date 2014-02
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

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

IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013

General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		P
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		N/A
1.2.3 (A1:2010)	Add the following definition: 1.2.3.Z1 PORTABLE SOUND SYSTEM small battery powered audio equipment: – whose prime purpose is to listen to recorded or broadcasted sound; and – that uses headphones or earphones that can be worn in or on or around the ears; and – that allows the user to walk around NOTE Examples are mini-disk or CD players; MP3 audio players or similar equipment.		N/A
1.3.Z1	Add the following subclause: 1.3.Z1Exposure 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.	Not PORTABLE SOUND SYSTEM.	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	Deleted.	—

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Clause	Requirement + Test	Result - Remark	Verdict

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	/A1:2010		
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *	Added	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.	Not PORTABLE SOUND SYSTEM.	N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Not PORTABLE SOUND SYSTEM.	N/A
	Zx Protection against excessive sound pressure from personal music players		N/A
	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.	Not PORTABLE SOUND SYSTEM.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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	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. - 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.		
	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	Not PORTABLE SOUND SYSTEM.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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	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 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		
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IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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	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.		
	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.	Not PORTABLE SOUND SYSTEM.	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.	Not PORTABLE SOUND SYSTEM.	N/A
	Zx.4.2 Wired listening devices with digital input	Not PORTABLE SOUND	N/A

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	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.	SYSTEM.	
	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.	Not PORTABLE SOUND SYSTEM.	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.	Not PORTABLE SOUND SYSTEM.	N/A
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)	Replaced.	P

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Clause	Requirement + Test	Result - Remark	Verdict

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	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; 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.		
2.7.2	This subclause has been declared 'void'.	--	—
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	The equipment is not permanently connected.	N/A
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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.5.1 (A2:2013)	NOTE Z1The harmonised code designations corresponding to the IEC cord types are given in Annex ZD	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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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	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation). Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.	No other types provided.	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.	No ionizing radiation provided.	N/A
Bibliography	Additional EN standards.	Complied check.	—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	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.	Not applicable.	N/A
1.5.7.1	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE	No such resistors provided.	N/A

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(A11:2009)	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.		
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).	Y-Capacitors are all rated min. 230V and complied with IEC 60384-14, and others component in such condition has suitable voltage rating. (see appended table 1.5.1)	P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	No such VDR provided.	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).” 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	The requirements have to be checked during national approval.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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	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.”		
1.7.2.1 (A2:2013)	In Denmark, 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 Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.” In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: “Apparatet må tilkoples jordet stikkontakt” In Sweden: “Apparaten skall anslutas till jordat uttag”	The requirements have to be checked during national approval.	N/A
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.	No socket-outlets provided.	N/A
1.7.5	In Denmark , socket-outlets for providing power to	No socket-outlets provided.	N/A

IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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(A2:2013)	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		
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	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.	Not applicable.	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.	Not applicable.	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.	Complied check.	P
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Not direct plug-in equipment.	N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	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	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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	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		
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	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	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.1.1	In Spain , supply cords of single-phase equipment	Power supply cord suitable for	N/A

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	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.	application and subject to country's national code and regulations to be provided by the manufacturer.	
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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	The appliance inlet complies with IEC 60320-1.	P
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.3.4	In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm² to 1,5 mm² nominal cross-sectional	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A

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	area.		
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	Not direct plug-in equipment.	N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not direct plug-in equipment.	N/A
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.	Touch current does not exceed 3.5mA.	N/A
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	Not applicable.	N/A

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	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. 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.		
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.	Not applicable.	N/A
7.2	In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	N/A

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	The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		
7.3 (A11:2009)	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.	The requirements have to be checked during national approval.	N/A

**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

Country	Sweden
IECEE Member NCB	Intertek Semko AB
IEC Standard.....	IEC 60950-1(ed.2);am1;am2
Corresponding National Standard	SS-EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011
Regulatory Requirements	N/A

Various	Please see the EN version of the standard where the Swedish National and Special	P
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	National Deviations are stated.	
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ATTACHMENT TO TEST REPORT IEC 60950-1 with A1:2009 and A2:2013

U.S.A. NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to..... :	UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014
Attachment Form No. :	US_ND_IEC60950_1F
Attachment Originator..... :	UL
Master Attachment	Date 2014-07
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	Special national conditions		P
1.1.1	All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2	Complied check.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75	Same as above.	P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors	Not applicable.	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A	Complied check.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the /NEC	The requirements have to be checked during national approval.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings	The requirements have to be checked during national approval.	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking	Only single-phase equipment.	N/A

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	format for electrical ratings		
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and	Same as above.	N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"	Same as above.	N/A
	Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions"	Same as above.	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent	Not applicable.	N/A
	- Marking is located adjacent to the terminals	Same as above.	N/A
	- Marking is visible during wiring	Same as above.	N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable	Not applicable.	N/A
2.6	Equipment with isolated ground (earthing) receptacles is in compliance with NEC 250.146(D) and CEC 10-112 and 10-906(8)	Not applicable.	N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	Complied check.	P
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection	Complied check.	P
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains	Mains from AC source only.	N/A

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	input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements		
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs	The equipment is not permanently connected.	N/A
3.2.5	Power supply cords are no longer than 4.5 m in length	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement	Same as above.	N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC	Same as above.	N/A
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm ²)	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
	- rated 125 per cent of the equipment rating, and	Same as above.	N/A
	- are specially marked when specified (1.7.7)	Same as above.	N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration"	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,	Not applicable.	N/A

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	- or if the motor has a nominal voltage rating greater than 120 V	Same as above.	N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)	Same as above.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position	Not applicable.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit	Not applicable.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30	No flammable liquids in this unit.	N/A
4.3.13.5.1	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No laser provided.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge	Not applicable.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less	Not applicable.	N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less	Same as above.	N/A
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043	Not applicable.	N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370)	No ionizing radiation provided.	N/A

	Other National Differences		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance	Complied check.	P

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	with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cut-offs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables		
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply	Mains from AC source only.	N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment	Same as above.	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions	Not applicable.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts	Not applicable.	N/A
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)	Not applicable.	N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional	Not applicable.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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	limited short circuit test conditions specified		
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT	No cathode ray tubes provided.	N/A
4.3.2	Equipment with handles complies with special loading tests	No handles or manual controls provided.	N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements	No batteries provided.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests	Only TNV-1 for output.	N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded	Not applicable.	N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary	Same as above.	N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC	Only TNV-1 for output.	N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger	Not applicable.	N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions	No ringing signals provided.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements	Not applicable.	N/A

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1:2009 and A2:2013

CANADA NATIONAL DIFFERENCES

Information technology equipment – Safety – Part 1: General requirements

Attachment Form No.	CA_ND_IEC60950_1F
Attachment Originator	CSA
Master Attachment	Date (2015-05)

IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013

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SPECIAL NATIONAL CONDITIONS

The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part I and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations

1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Complied check.	P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not applicable.	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A:	Complied check.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC/NEC are required to have special construction features and identification markings.	The requirements have to be checked during national approval.	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating	Only single-phase equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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	Conditions."		
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.	Not applicable.	N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	Not applicable.	N/A
2.6	Equipment with isolated ground (earthing) receptacles are required to comply with NEC 250.146(D) and CEC 10-112 and 10-906(8).	Not applicable.	N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	Complied check.	P
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	Mains from AC source only.	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	The equipment is not permanently connected.	N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by	N/A

IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013

	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.	the manufacturer.	
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for US/Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3.5	First column of Table 3E revised to require "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	Not applicable.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	Not applicable.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not applicable.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquids in this unit.	N/A

IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013

4.3.13.5.1	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No laser provided.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not applicable.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Not applicable.	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	No ionizing radiation provided.	N/A

OTHER DIFFERENCES

The following key national differences are based on requirements other than national regulatory requirements.

1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer)	Complied check.	P
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IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013

	transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.		
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	Mains from AC source only.	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	Not applicable.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	Not applicable.	N/A
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092).	Not applicable.	N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	Not applicable.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No cathode ray tubes provided.	N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	No handles or manual controls provided.	N/A
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.	No batteries provided.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	Only TNV-1 for output.	N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded.	Not applicable.	N/A

IEC 60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009 + Am 2: 2013			
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	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	Only TNV-1 for output.	N/A
Annex EE	UL articulated accessibility probe (Fig EE.3) required for assessing accessibility to document/media shredders instead of the Figure 2A test finger.	Not applicable.	N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No ringing signals provided.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	Not applicable.	N/A

IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009

ATTACHMENT TO TEST REPORT IEC 60950-1 FINLAND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	EN 60950-1:2006/A11:2009/A1:2010
Attachment Form No. :	FI_ND_IEC60950_1C
Attachment Originator..... :	SGS Fimko Ltd
Master Attachment :	Date (2010-04)
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS

General	See also Group Differences (EN 60950-1:2006/A11/A1)		
1.5.7.1	In Finland 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.	No such resistors provided.	N/A
1.5.9.4	In Finland , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	No such VDR provided.	N/A
1.7.2.1	In Finland , CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in in Finland shall be as follows: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"	The requirements have to be checked during national approval.	N/A
2.3.2	In Finland , there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	N/A
2.10.5.13	In Finland , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	N/A
5.1.7.1	In Finland , TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only	Touch current does not exceed 3.5mA	N/A

IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009

	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.		
6.1.2.1 (A1:2010)	In Finland, 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 requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - 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. 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-	Not applicable.	N/A

IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009

	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 60384-14:2005 which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14:2005, in the sequence of tests as described in EN 60384-14:2005.		
6.1.2.2	In Finland , 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.	Not applicable.	N/A
7.2	In Finland , 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.	Not applicable.	N/A

ATTACHMENT TO TEST REPORT IEC 60950-1

Germany NATIONAL DIFFERENCES

Information technology equipment – Safety –

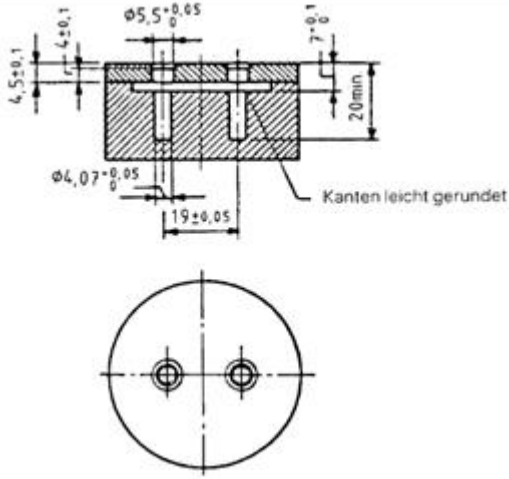
Part 1: General requirements

Differences according to..... :	VDE 0805-1:2011-01
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1.5	Bei Steckernetzteilen wird der angeformte Stecker als Komponente betrachtet und in Deutschland generell nach DIN VDE 0620-1:2010 bzw. DIN VDE 0620-1:2013 und DIN VDE 0620-2-1:2013 beurteilt. Nach der Prüfung gemäß DIN VDE 0620-2-1:2013, Abschnitt 24.2 muss der Stecker noch die Prüfung entsprechend DIN VDE 0620-101:1992 Abschnitt 7	The requirements have to be checked during national approval.	N/A
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IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009

	Bild 2 „Lehre für die Auswechselbarkeit“ bestehen. Es muss möglich sein, die Stecker in die Lehre ohne übermäßige Kraft so einzuführen, dass ihre Stirnfläche die Oberfläche der Lehre berührt. The moulded plug of plug-in power supplies will be considered as component and will be generally evaluated in Germany according to DIN VDE 0620-1:2010 respectively DIN VDE 0620-1:2013 and DIN VDE 0620-2-1:2013 After the test according to DIN VDE 0620-2-1:2013, sub-clause 24.2, the plug be shall still pass the test according to DIN VDE 0620-101:1992 clause 7, figure 2 “Gauge for interchangeability” It should be possible to insert the plug without applying an excessive force such that the end surface touches the surface of the gauge 		
Annex ZC, cl. 1.7.2.1	According to ProdSG, section 2, clause 4: If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation.	The requirements have to be checked during national approval.	N/A

IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009

ATTACHMENT TO TEST REPORT IEC 60950-1 Republic of Korea NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	K 60950-1 Part 1

1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Not estimate.	N/A
8	EMC The apparatus shall comply with the relevant CISPR standards	The requirements have to be checked during national approval.	N/A

ATTACHMENT TO TEST REPORT IEC 60950-1 Slovenia NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	SIST EN 60950:2006+A1:2010

N/A	N/A	N/A	N/A
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ATTACHMENT TO TEST REPORT IEC 60950 - 1, ed2, amd1 ISRAEL NATIONAL DIFFERENCES (INFORMATION TECHNOLOGY EQUIPMENT – SAFETY: GENERAL REQUIREMENTS)	
Differences according to..... :	National standard SI 60950 - 1, ed2, amd1.
Attachment Form No. :	IL_ND_IEC60950_1C
Attachment Originator..... :	Standards Institution of Israel
Master Attachment :	Date 2015-12
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National Differences			
1.6	Power interface The clause is applicable with the following addition:		N/A
1.6.1	AC Power distribution systems	The requirements have to be	N/A

IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009			
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		checked during national approval.	
	At the end of the clause, the following note shall be added: Note: In Israel, the clause is subject to the Electricity Law, 1954, its Regulations and updates.		N/A
1.7	Marking and instructions The clause is applicable with the following additions:		N/A
1.7.1	Power rating	See as below.	N/A
	Subclause 1.7.201 shall be added after the clause, as follows:		
1.7.201	Marking in the Hebrew language	See as below.	N/A
	The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following items shall be marked in the Hebrew language: Name of the apparatus and its commercial designation; Manufacturer's name and his address; if the equipment is imported, the importer's name and his address; Manufacturer's registered trademark, if any; Name of the model and serial number, if any; Country of manufacture. The items shall be marked on the apparatus or on its packaging, or on a label well attached to the apparatus or its packaging, by bonding or sewing, such that the label cannot be easily removed.	The requirements have to be checked during national approval.	N/A
1.7.2	Safety instructions and marking	See as below.	N/A
1.7.2.1	General The following shall be added at the end of the clause: All the instruction and all the warnings related to safety shall also be written in the Hebrew language.	The requirements have to be checked during national approval.	N/A
At the end of clause 1, clause 1.201 shall be added as follows:			
1.201	Power consumption in standby mode The equipment shall comply with the requirements of the Energy Sources Regulations (Maximum electrical power in standby mode for domestic and office electrical appliances), 2011, with a permitted	The requirements have to be checked during national approval.	N/A

IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009			
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	deviation of up to 10 %.		
2	Protection from hazards The clause is applicable with the following additions:	See as below.	P
2.9.4	Separation from hazardous voltages The following shall be added at the beginning of the clause: According to the Electricity Law, 1954, and the Electricity Regulations (Earthing and protection means from electricity at voltages up to 1,000 V), 1991, in Israel, seven means of protection from electricity are permitted, as follows: 1) Network system earthing - (TN-C-S, TN-S); 2) Network system earthing - (TT); 3) Network Insulation Terre - (IT); 4) Isolated transformer; 5) Safety extra low voltage; 6) Residual current circuit breaker; 7) Reinforced insulation; Double insulation	Added.	P
Clause 2.201 shall be added at the end of clause 2, as follows:			
2.201	Prevention of electromagnetic interference The device shall meet the requirements of the relevant part of the Israeli Standard series, SI 961. If the device contains components for prevention of electromagnetic interference, the devices shall not lower the safety level of the device, as required by this Standard.	Added.	--
3	Wiring, connections and supply The clause is applicable with the following additions:	See as below.	N/A
3.2	Connection to a mains supply	See as below.	N/A
3.2.1	Means of connection	See as below.	N/A
3.2.1.1	Connection to an a.c. mains supply After the Note, the following note shall be added: Note: In Israel, the supply plug shall comply with the requirements in Israeli Standard, SI 32 Part 1.1.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.2.1.2	Connection to a d.c. mains supply After the first paragraph, the following note shall be added: Note: As of the date of publication of this Standard, there	Mains from AC source only.	N/A

IEC 60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition) + Am 1: 2009			
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	is no Israeli Standard for connection accessories to d.c.		
Special national conditions (if any)			
	ANNEX P Normative references	Complied check.	P
	The annex is applicable with the following modifications and additions: In place of some of the International Standards cited in the Standard and noted in this annex, the following Israeli Standards shall apply:	Complied check.	P

IEC 60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition)			
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ATTACHMENT TO TEST REPORT IEC 60950-1 AUSTRALIA NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to	AS/NZS 60950.1:2011

1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12	Not applicable.	N/A
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.	Not applicable.	N/A
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand	Added.	P

IEC 60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition)			
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	Standard.’ 2. In NOTE 1, add the following after the word ‘standard’: ‘or an Australian/New Zealand Standard’																					
1.5.2	Add the following to the end of the first and third dash items: ‘or the relevant Australian/New Zealand Standard’	Added.	P																			
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following: <table><tr><th rowspan="3">RATED CURRENT of equipment A</th><th colspan="2">Minimum conductor sizes</th></tr><tr><th>Nominal cross-sectional area</th><th>AWG or kcmil [cross-sectional area in mm²]</th></tr><tr><th>mm²</th><th>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</td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0) ^c</td><td>14 [2]</td></tr></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 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).	RATED CURRENT of equipment A	Minimum conductor sizes		Nominal cross-sectional area	AWG or kcmil [cross-sectional area in mm ²]	mm ²	see Note 2	Over 0.2 up to and including 3	0,5 ^a	18 [0,8]	Over 3 up to and including 7.5	0,75	16 [1,3]	Over 7.5 up to and including 10	(0,75) ^b	16 [1,3]	Over 10 up to and including 16	(1,0) ^c	14 [2]	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
RATED CURRENT of equipment A	Minimum conductor sizes																					
	Nominal cross-sectional area		AWG or kcmil [cross-sectional area in mm ²]																			
	mm ²	see Note 2																				
Over 0.2 up to and including 3	0,5 ^a	18 [0,8]																				
Over 3 up to and including 7.5	0,75	16 [1,3]																				
Over 7.5 up to and including 10	(0,75) ^b	16 [1,3]																				
Over 10 up to and including 16	(1,0) ^c	14 [2]																				
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.	Not applicable.	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.	Not direct plug-in equipment.	N/A																			

IEC 60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

National Difference of IEC 60950-1:2005 (Second Edition)			
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4.3.16.5	Add the following to the end of the first paragraph: 'or AS/NZS 2211.1'	Added.	—
4.7	Add the following new paragraph to the end of the clause: 'For alternate tests refer to Clause 4.7.201.'	Added.	—
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	Not applicable.	N/A
4.7.201.1	4.7.201.1 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. 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.	Not applicable.	N/A
4.7.201.2	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	Not applicable.	N/A

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	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.												
4.7.201.3	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 of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: <table><tr><th>Clause of AS/NZS 60695.11.5</th><th>Change</th></tr><tr><td>9 Test procedure</td><td></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 (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. </td></tr></table> The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle flame	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.	9.3 Number of test specimens	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.	11 Evaluation of test results	Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.	Not applicable.	N/A
Clause of AS/NZS 60695.11.5	Change												
9 Test procedure													
9.2 Application of needle flame	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.												
9.3 Number of test specimens	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.												
11 Evaluation of test results	Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.												

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	to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.		
4.7.201.4	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 glowwire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. 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.	Not applicable.	N/A
4.7.201.5	4.7.201.5 Testing of printed boards 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	Not applicable.	N/A

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	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.		
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.	Complied check.	P
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, U_c, 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.	Complied check.	P
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 low frequency induced voltages from the power supply distribution system.	Complied check.	P
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	The requirements have to be checked during national approval.	N/A

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	video ports and analogue or data ports not intended to be used for telecommunications purposes.		
Annex P	Normative references (List of relevant Australia/New Zealand Standards that have been inserted in place of some of the International Standards)	Complied check.	P

ATTACHMENT TO TEST REPORT IEC 60950-1 China NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	GB4943.1-2011

1.1.2	Revise the third dashed paragraph as: —equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;	Only up to 2000m.	N/A
1.4.5	At the end of the third dashed paragraph ,added following paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. Delete the contents which behind the first dash.	Complied check.	P
1.4.12.1	Tma in clause 1.4.12.1 amended as: Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. And note 1: for equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: for equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are considered.	40°C	P
1.5.2	Add a note behind the first dash : A component used shall comply with related	Only up to 2000m.	P

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	requirements corresponding altitude of 5000m.		
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	The requirements have to be checked during national approval.	N/A
1.7.1	Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V(three-phases)when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.	Complied check.	P
1.7.2.1	Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions: For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  If only symbol used, the explanation of the symbol shall be contained in the instruction manual. For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only symbol used, the explanation of the symbol shall be contained in the instruction manual. The above statements shall be given in a language acceptable to the regions where the apparatus is	The requirements have to be checked during national approval.	N/A

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	intended to be used.		
2.7.1	Amended as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.	Complied check.	P
2.9	Humidity conditioning This section applies for equipment to be operated at tropical climatic conditions, humidity conditioning dealt with tropical climatic conditions. For equipment not to be operated at tropical climatic conditions, its humidity conditioning complies with rules of CTL 624/07	Complied check.	P
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature $40\pm 2^{\circ}\text{C}$ and a relative humidity of $(93\pm 3)\%$. During this conditioning the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of $(93\pm 3)\%$. The temperature of the air, at all places where samples can be located, is maintained within 2°C of any convenient value t between 20°C and 30°C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.		
2.10.3.1	Change the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m	Only up to 2000m.	N/A

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	above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T 16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T 16935.1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T 16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T 16935.1. Add "(apply for up to 2000m)" in header of Table 2K 、 2L and 2M.	Only up to 2000m.	N/A
3.2.1.1	Add on paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.	No cathode ray tubes provided.	N/A
Annex E	Last section amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.	Not applicable.	N/A
G.6	Change the second section of Clause G.6 to be: for equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding	Not applicable.	N/A

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	altitude of 5000m given in Table A.2 of GB/T 16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T 16935.1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment. A component that has been demonstrated to comply with National 、 Industry standards or the relevant national standard shall be subjected to the applicable tests of this standard as part of the equipment.		
Annex BB	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.	Complied check.	P
Annex DD	Added annex DD: Instructions of the new safety warning labels.	The requirements have to be checked during national approval.	N/A
Other amendments	In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.	Complied check.	P
Quoting standards and reference documents	The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows: If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments. For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the	Complied check.	P

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	principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies; - The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. When quoting several chapters or clauses of the international standard, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005.		
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ATTACHMENT TO TEST REPORT IEC 60950-1 Ireland NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to	EN 60950-1

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	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
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	Adaptors for Domestic Use) Regulations 1997		
4.3.6	In Ireland, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not direct plug-in equipment.	N/A

ATTACHMENT TO TEST REPORT IEC 60950-1 Norway NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	EN 60950-1

1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.	No such resistors provided.	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).	Y-Capacitors are all rated min. 230V and complied with IEC 60384-14, and others component in such condition has suitable voltage rating. (see appended table 1.5.1)	P
1.5.9.4	In Finland, Norway and Sweden, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	No such VDR provided.	N/A
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 requirements have to be checked during national approval.	N/A
	The marking text in the applicable countries shall be as follows:	Same as above.	N/A
	In Finland: "Laitte on liitettävä suojausoitoituskoskettimilla varustettuun pistorasiaan"	Same as above.	N/A
	In Norway: "Apparatet må tilkoples jordet stikkontakt"	Same as above.	N/A

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	In Sweden: "Apparaten skall anslutas till jordat uttag"	Same as above.	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.	Not applicable.	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.	Not applicable.	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.	Not applicable.	N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	Not applicable.	N/A
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.	Touch current does not exceed 3.5mA.	N/A
6.1.2.1	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. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the	Not applicable.	N/A

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	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. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: -the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; -the additional testing shall be performed on all the test specimens as described in EN 132400; -the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	Not applicable.	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.	Not applicable.	N/A
7.3	In Norway and Sweden, there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building	Complied check.	P

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	installation.		
7.3	In Norway , for installation conditions see EN 60728-11:2005.	The requirements have to be checked during national approval.	N/A

ATTACHMENT TO TEST REPORT IEC 60950-1 Spain NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	UNE EN 60950-1

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.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
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ATTACHMENT TO TEST REPORT IEC 60950-1 Switzerland NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	SN EN 60950-1:2006

1.5.1	Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury. Switches containing mercury such as thermostats, relays and level controllers are not allowed.	No such switch provided.	N/A
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1.7.13	Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries Annex 2.15 of SR 814.81 applies for batteries containing cadmium and mercury. Note: Ordinance relating to environmentally hazardous substances, SR 814.013 of 1986-06-09 is not longer in force and superseded by SR 814.81 of 2009-02-01 (ChemRRV).	No battery provided.	N/A
3.2	Supply cords of portable electrical appliances having a rated current not exceeding 10 A shall be provided with a plug complying with IEC 60884-1(3.ed.) + am1, SEV 1011 and one of the following dimension sheets: - SEV 6533-2:2009 Plug type 11, L + N, 250V 10A - SEV 6534-2:2009 Plug type 12, L + N + PE, 250V 10A - SEV 6532-2:2009 Plug type 15, 3L + N + PE, 250/400V 10A Supply cords of portable electrical appliances having a rated current not exceeding 16 A shall be provided with a plug complying with IEC 60884-1(3.ed.) + am1, SEV 1011 and one of the following dimension sheets: - SEV 5933-2:2009 Plug type 21 L + N, 250 V, 16A - SEV 5934-2:2009 Plug type 23 L + N + PE, 250 V, 16A - SEV 5932-2:2009 Plug type 25 3L + N + PE, 250/400V 16A NOTE 16 A plugs are not often used in Swiss domestic installation system. See TRF template regulatory requirements Switzerland on IECEE Website R.R. TRF templates.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A

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ATTACHMENT TO TEST REPORT IEC 60950-1 Japan NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to..... :	J60950-1 (H22)

1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.	Not applicable.	N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation. circuit.	Not applicable.	N/A
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.	Not applicable.	N/A
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component	Complied check.	P

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	standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1. Replace Note 1 with the following: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.		
1.5.2	Replace first sentence in the first dashed paragraph with the following: a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. Add a note after the first dashed paragraph as follows: Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A. Replace first sentence in the third dashed paragraph as follows: where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.	Complied check.	P
1.7.1	Replace fifth dashed paragraph with the following: - manufacturer's or responsible company's name or trade-mark or identification mark;	The requirements have to be checked during national approval.	N/A
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated	No socket-outlets provided.	N/A

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	current is over 10A, the following instruction or equivalent shall be described in the user instruction. “ Use only designated cord set attached in this equipment”		
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese..	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	N/A
1.7.17A	Add the following new clause. after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: “Provide an earthing connection” Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”	Not applicable.	N/A
2.6.3.2	Add the following after 1st paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.	Not applicable.	N/A
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.	Complied check.	P
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	An appliance coupler used.	P
2.6.5.8A	Add the following new clause. after 2.6.5.8A	Not applicable.	N/A

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	2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.		
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.	The equipment is not permanently connected.	N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Delete 1) in Table 3B.	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer.	N/A
3.3.4	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.	The equipment is not permanently connected or provided with a non-detachable power supply cord.	N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.	Complied check.	P
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is	Not applicable.	N/A

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	conducted using the test circuit from IEC 60990, figure 13.																														
5.1.6	Replace Table 5A. as follows <table> <tr> <th>Type of equipment</th><th>Terminal A of measuring instrument connected to:</th><th>Maximum TOUCH CURRENT mA(rms.1)</th><th>Maximum PROTECTIVE CONDUCTOR CURRENT</th></tr> <tr> <td>ALL equipment</td><td>ALL equipment Accessible parts and circuits not connected to protective earth</td><td>0,25</td><td>-</td></tr> <tr> <td>HAND-HELD</td><td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td><td>0,75</td><td>-</td></tr> <tr> <td>MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT</td><td>3,5</td><td>-</td></tr> <tr> <td>STATIONARY, PLUGGABLE TYPE A</td><td>3,5</td><td>-</td></tr> <tr> <td>ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td><td>3,5 -</td><td>- 5% of input current</td></tr> <tr> <td>HAND-HELD</td><td rowspan="2">Equipment main protective earthing terminal (if any) CLASS II EQUIPMENT</td><td>0,5</td><td>-</td></tr> <tr> <td>Others</td><td>1,0</td><td>-</td></tr> </table> 1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA(rms.1)	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0,25	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT	3,5	-	STATIONARY, PLUGGABLE TYPE A	3,5	-	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	3,5 -	- 5% of input current	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS II EQUIPMENT	0,5	-	Others	1,0	-	Complied check.	P
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA(rms.1)	Maximum PROTECTIVE CONDUCTOR CURRENT																												
ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0,25	-																												
HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-																												
MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT		3,5	-																												
STATIONARY, PLUGGABLE TYPE A		3,5	-																												
ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7		3,5 -	- 5% of input current																												
HAND-HELD	Equipment main protective earthing terminal (if any) CLASS II EQUIPMENT	0,5	-																												
Others		1,0	-																												
7.2	Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply: – the circuit under consideration is a TNV-1 CIRCUIT; and – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV,	Complied check.	P																												

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	accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and – the screen of the coaxial cable is intended to be connected to earth in the building installation.		
W.1	Replace second and third sentence in the first paragraph with the following: This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.	Not applicable.	N/A
Annex JA	Add a new annex JA with the following contents. Annex JA (normative) Document shredding machines Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more. JA.1 Markings and instructions The symbol  (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. JA.2 Inadvertent reactivation Any safety interlock that can be operated by	Not applicable.	N/A

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	means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1 JA.3 Disconnection from the mains supply Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection JA.4 Protection against hazardous moving parts Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.		
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Clause	Requirement + Test	Result - Remark	Verdict
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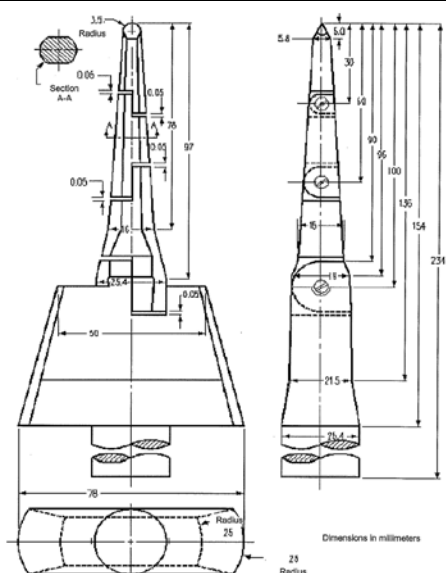


Figure JA.1 Test finger

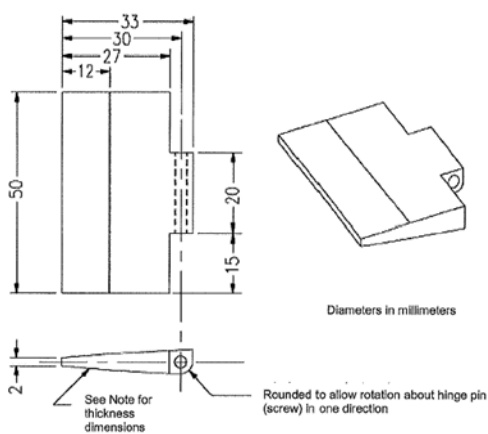


Figure JA.2 Wedge-probe

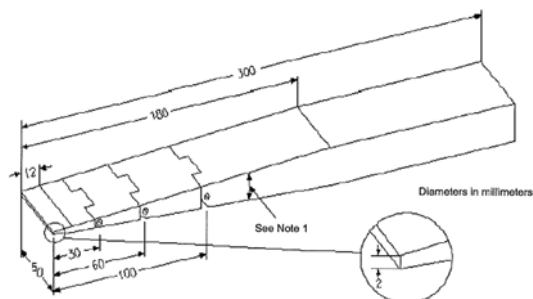


Figure JA.2 Wedge-probe
(Details of the tip of wedge)

Distance from the tip (mm)	Thickness of probe (mm)
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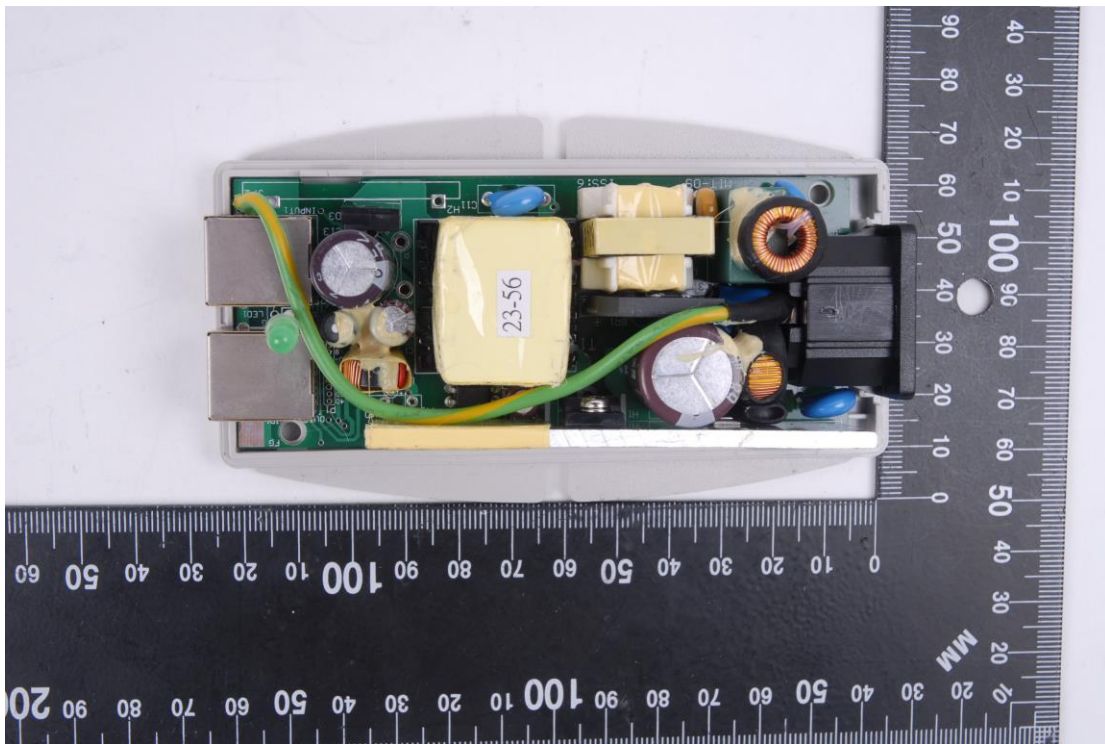
	0	2			
	12	4			
	180	24			
	Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table. Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.				

PHOTO

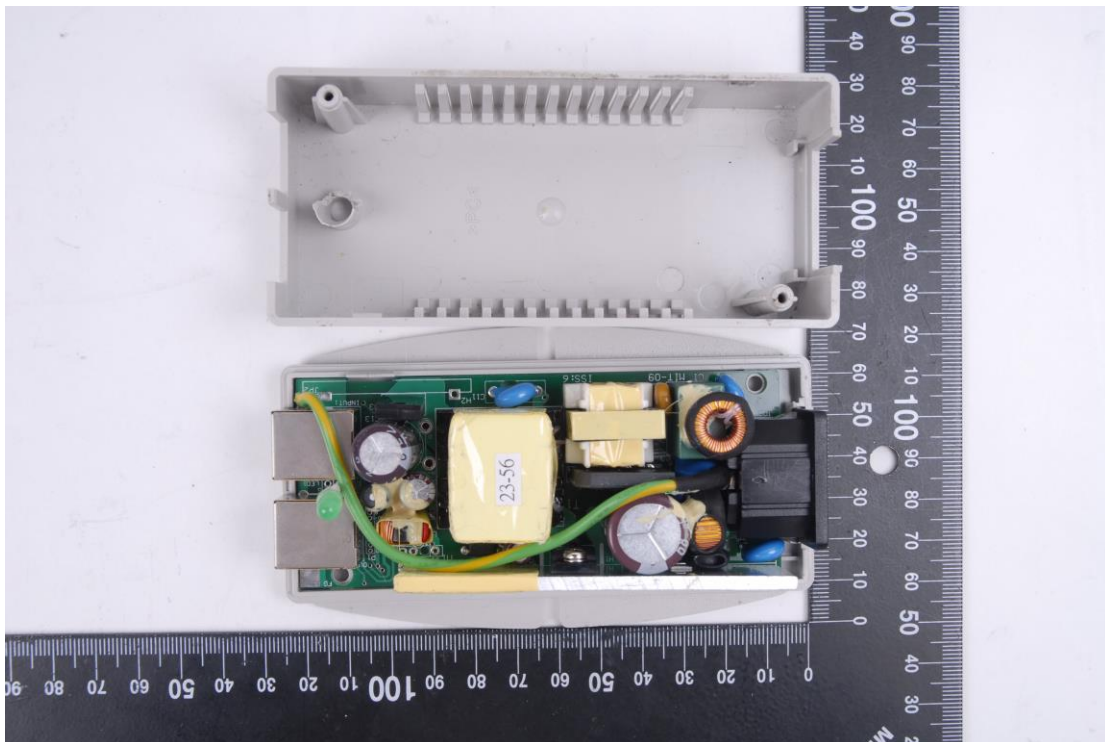


Overall view

PHOTO

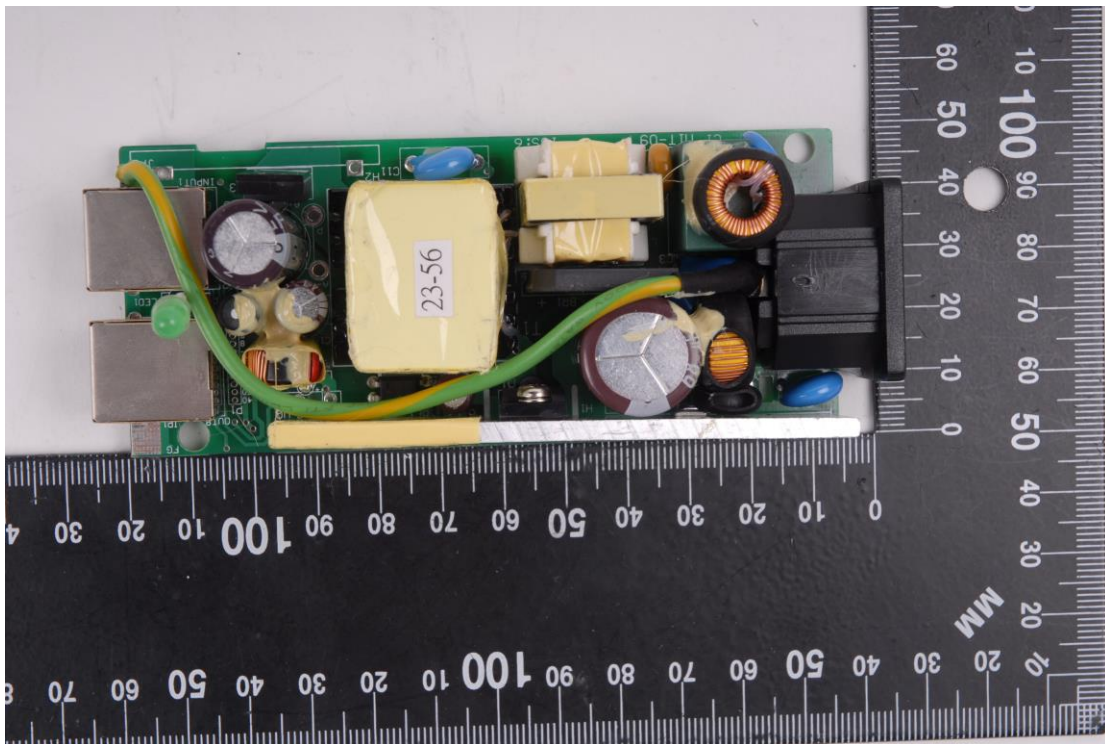


Internal view

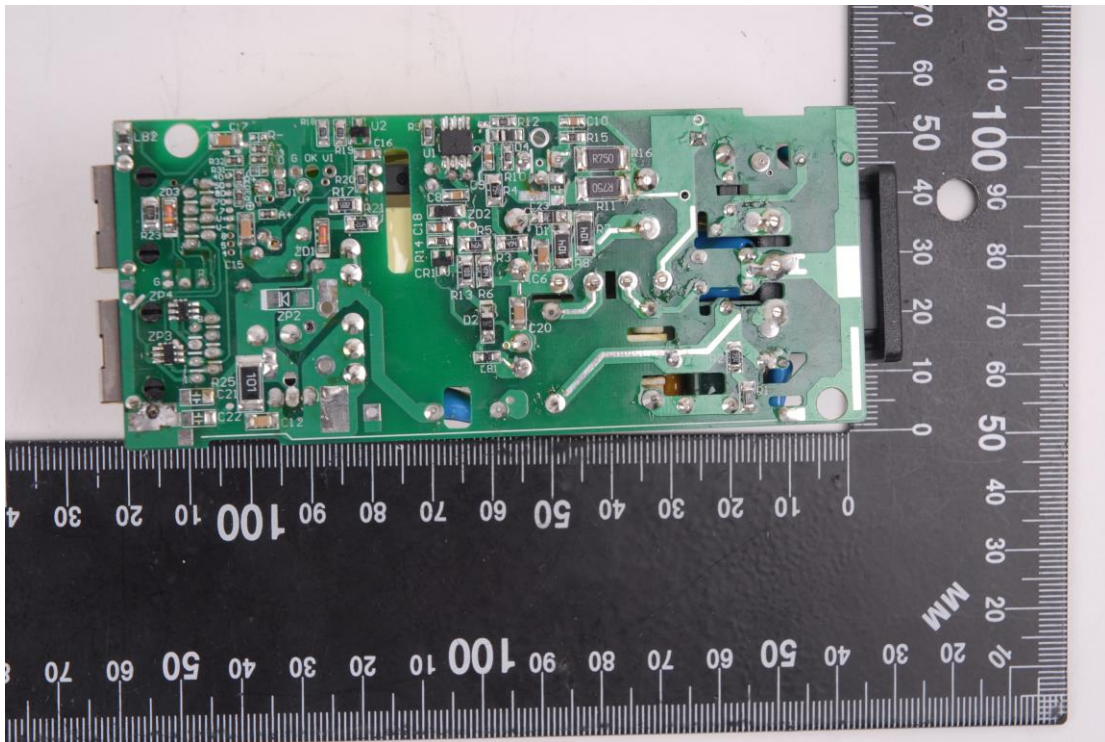


Internal view (component side + top enclosure)

PHOTO

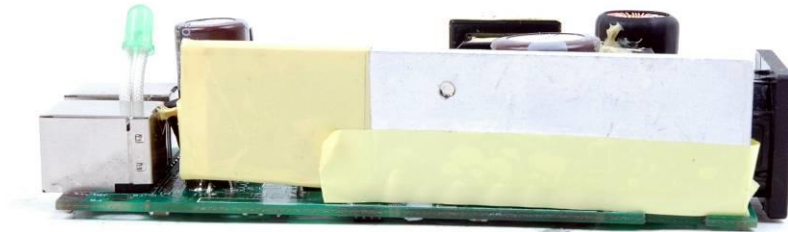


Internal view (components side)



Internal view (solder side)

PHOTO



Internal view (H.S. side with polyester tape)