






Test Report issued under the responsibility of:



<b>TEST REPORT</b> <b>IEC 60950-1</b> <b>Information technology equipment - Safety -</b> <b>Part 1: General requirements</b>	
<b>Report Number</b> .....	1506048-CB
<b>Date of issue</b> .....	2015-08-18
<b>Total number of pages</b> .....	63
<b>Applicant's name</b> .....	KAGA ELECTRONICS (USA) INC
<b>Address</b> .....	780 Montague Expy, Suite 403 San Jose, CA 95131 USA
<b>Test specification:</b>	
<b>Standard</b> .....	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
<b>Test procedure</b> .....	CB Scheme
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	IEC60950_1F
<b>Test Report Form(s) Originator</b> .....	SGS Fimko Ltd
<b>Master TRF</b> .....	Dated 2014-02
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<b>General disclaimer:</b>	
<p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.</p>	

<b>Test item description</b> .....	AC Adapter
Trade Mark .....	
Manufacturer .....	Same as applicant
Model/Type reference .....	KTPSxx-xxxxxDT-3P-VI (The first "xx" in the model name can be 36, 40, 45, 50 to denote output power. The last xxxxx in the model name can be 0940, 0950, 1233, 1242, 13537, 1533, 1827, 1926, 2421, 4811 to denote output rating.)
Ratings .....	I/P: 100-240V~, 50-60Hz, 1.2A MAX. O/P: 9Vdc, 4.0A, 36W (KTPS36-0940DT-3P-VI) 9Vdc, 5.0A, 45W (KTPS45-0950DT-3P-VI) 12Vdc, 3.3A, 39.6W (KTPS40-1233DT-3P-VI) 12Vdc, 4.2A, 50W (KTPS50-1242DT-3P-VI) 13.5Vdc, 3.71A, 50W (KTPS50-13537DT-3P-VI) 15Vdc, 3.34A, 50W (KTPS50-1533DT-3P-VI) 18Vdc, 2.78A, 50W (KTPS50-1827DT-3P-VI) 19Vdc, 2.64A, 50W (KTPS50-1926DT-3P-VI) 24Vdc, 2.10A, 50W (KTPS50-2421DT-3P-VI) 48Vdc, 1.05A, 50W (KTPS50-4811DT-3P-VI)

<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	
<b>Testing location/ address .....</b> :		Superior Product Consulting, Inc. / 3rd Fl, 10 Alley 6, Lane 235 Pao Chiao Rd, Hsin-Tien, Taipei, Taiwan
<input type="checkbox"/>	<b>Associated CB Testing Laboratory:</b>	
<b>Testing location/ address .....</b> :		
<b>Tested by (name + signature).....</b> :		Allen Huang 
<b>Approved by (name + signature).....</b> :		Tim Lu 
<hr/>		
<input type="checkbox"/>	<b>Testing procedure: TMP/CTF Stage 1:</b>	
<b>Testing location/ address .....</b> :		
<b>Tested by (name + signature).....</b> :		
<b>Approved by (name + signature).....</b> :		
<hr/>		
<input type="checkbox"/>	<b>Testing procedure: WMT/CTF Stage 2:</b>	
<b>Testing location/ address .....</b> :		
<b>Tested by (name + signature).....</b> :		
<b>Witnessed by (name + signature)....</b> :		
<b>Approved by (name + signature).....</b> :		
<hr/>		
<input type="checkbox"/>	<b>Testing procedure: SMT/CTF Stage 3 or 4:</b>	
<b>Testing location/ address .....</b> :		
<b>Tested by (name + signature).....</b> :		
<b>Witnessed by (name + signature)....</b> :		
<b>Approved by (name + signature).....</b> :		
<b>Supervised by (name + signature) ..</b> :		

**List of Attachments (including a total number of pages in each attachment):**  
 National Differences (46 pages)  
 Enclosures (13 pages)

**Summary Of Testing**

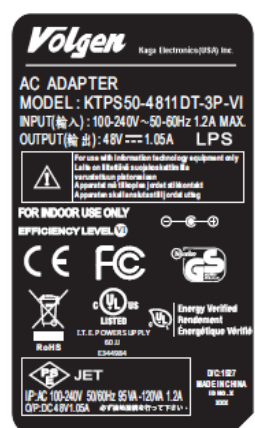
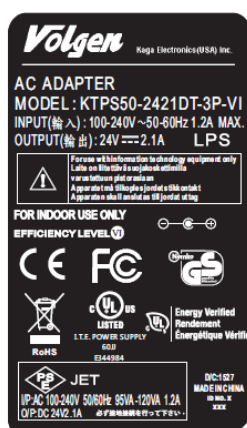
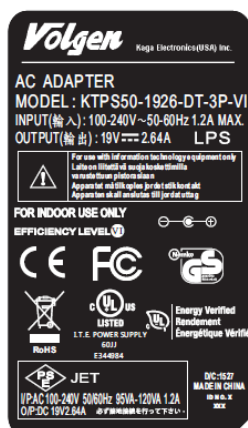
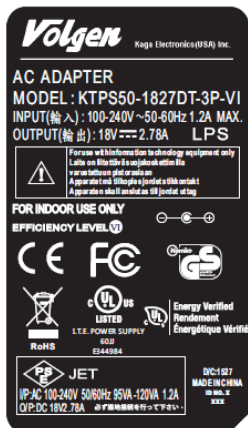
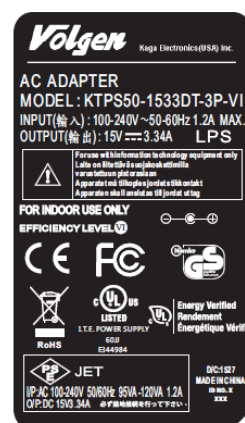
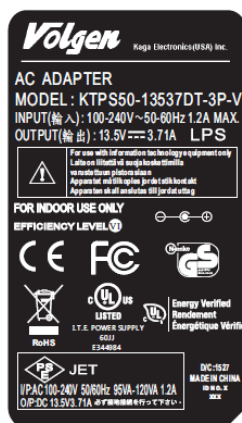
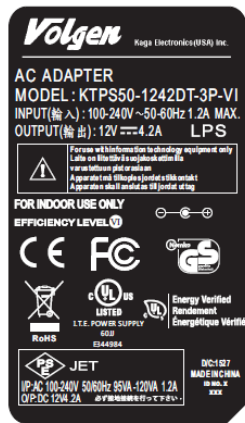
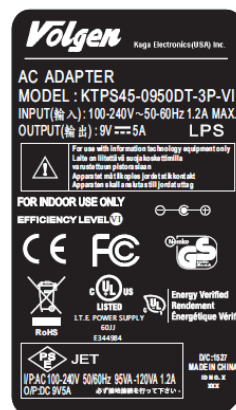
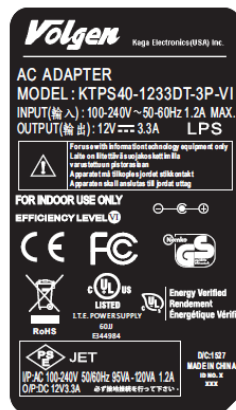
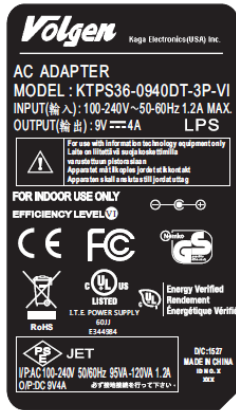
<b>Tests performed (name of test and test clause)</b>	<b>Testing location</b>
Input: Single-Phase (1.6.2) Durability of Marking Test (1.7.11) Energy Hazard Measurements (2.1.1.5, 2.1.2, 1.2.8.10) Capacitance Discharge (2.1.1.7) SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1) Limited Current Circuit Measurement (2.4.1, 2.4.2) Limited Power Source Measurements (2.5) Humidity (2.9.1, 2.9.2, 5.2.2) Determination of Working Voltage; Working Voltage Measurement (2.10.2) Thin Sheet Material (2.10.5.9, 2.10.5.10, 2.10.5.6) Transformer and Wire /Insulation Electric Strength (2.10.5.13) Steady Force (4.2.1 - 4.2.4) Impact (4.2.5, 4.2.1, Part 22 10.2) Drop (4.2.6, 4.2.1) Stress Relief (4.2.7, 4.2.1) Heating (4.5.1, 1.4.12, 1.4.13) Touch Current (Single-Phase; TN/TT System) (5.1, Annex D) Electric Strength (5.2.2) Component Failure (5.3.1, 5.3.4, 5.3.7) Transformer Abnormal Operation (5.3.3, 5.3.7b, Annex C.1) Power Supply Output Short-Circuit/Overload (5.3.7)	Unless otherwise indicated, all tests were conducted at Superior Product Consulting, Inc. 3rd Fl, 10 Alley 6, Lane 235 Pao Chiao Rd, Hsin-Tien, Taipei, Taiwan.

**Summary of Compliance with National Differences:**

Countries outside the CB Scheme membership may also accept this report.  
 List of countries addressed: AR, AT, AU, BE, BG, BY, CA, CH, CN, CS, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IN, IT, JP, KR, MY, NL, NO, NZ, PL, PT, RO, SA, SE, SG, SI, SK, UA, US, ZA  
 The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011 + A2:2014, EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013, UL 60950-1 2nd Ed. Revised 2014-10-14

Copy of marking plate

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



<b>Test item particulars :</b>	
Equipment mobility .....	Transportable, movable
Connection to the mains .....	pluggable A
Operating condition .....	continuous
Access location .....	operator accessible
Over voltage category (OVC) .....	OVC II
Mains supply tolerance (%) or absolute mains supply values .....	+10% and -10% of 100-240Vac
Tested for IT power systems .....	Yes
IT testing, phase-phase voltage (V) .....	230V for Norway
Class of equipment .....	Class I
Considered current rating of protective device as part of the building installation (A) .....	16 (20A for North America)
Pollution degree (PD) .....	PD 2
IP protection class .....	IP X0
Altitude during operation (m) .....	2000
Altitude of test laboratory (m) .....	less than 2000 meters
Mass of equipment (kg) .....	0.25
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N / A
- test object does meet the requirement .....	P(Pass)
- test object does not meet the requirement .....	F(Fail)
<b>Testing:</b>	
Date(s) of receipt of test item .....	2015-06-16
Date(s) of Performance of tests .....	2015-06-16 to 2015-08-18
<b>General remarks:</b>	
"(see Enclosure #)" refers to additional information appended to the report.	
"(see appended table)" refers to a table appended to the report.	
Throughout this report a point is used as the decimal separator.	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:</b>	
The application for obtaining a CB Test Certificate includes more than one factory 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 .....	Not Applicable
When differences exist, they shall be identified in the General Product Information section.	
<b>Name and address of Factory(ies):</b>	Boayang Electronics Co., Ltd. Di Feng Gong Yu Qu 2 Hao Xiasha Liuwu Village, Shipai Town Dong Guan City P. R. China

**GENERAL PRODUCT INFORMATION:**  
**Report Summary**

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

**Product Description**

The equipment for Class I, The equipment intended for use with Information Technology Equipment (ITE), there electronic components mounted on PWB, and housed in a thermoplastic enclosure by screw.

**Model Differences**

Parts Models	Output Rated	Circuit	PCB	Transformer (T1)
KTPS36-0940DT-3P-VI	9Vdc, 4.0A, 36W	A	SR	R53S10-4190
KTPS45-0950DT-3P-VI	9Vdc, 5.0A, 45W	A	SR	R53S10-4190
KTPS40-1233DT-3P-VI	12Vdc, 3.3A, 39.6W	B	SR	R53S10-4200
KTPS50-1242DT-3P-VI	12Vdc, 4.2A, 50W	B	SR	R53S10-4200
KTPS50-13537DT-3P-VI	13.5Vdc, 3.71A, 50W	B	SR	R53S10-4200
KTPS50-1533DT-3P-VI	15Vdc, 3.34A, 50W	B	SR	R53S10-4200
KTPS50-1827DT-3P-VI	18Vdc, 2.78A, 50W	C	SBD	R53S10-4210
KTPS50-1926DT-3P-VI	19Vdc, 2.64A, 50W	C	SBD	R53S10-4210
KTPS50-2421DT-3P-VI	24Vdc, 2.10A, 50W	C	SBD	R53S10-4220
KTPS50-4811DT-3P-VI	48Vdc, 1.05A, 50W	C	SBD	R53S10-4230

**Technical Considerations**

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 40°C
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): all outputs

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

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

1	<b>GENERAL</b>		Pass
1.5	Components		Pass
1.5.1	General		Pass
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	Pass
1.5.2	Evaluation and testing of components	<p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this Standard.</p> <p>Components not certified are used in accordance with their ratings and they comply IEC60950-1 and the relevant component Standard.</p> <p>Components, for which no relevant IEC Standard exist, have been tested under the condition occurring in the equipment, using applicable parts of IEC60950-1.</p>	Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers	See Annex C.	Pass
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of this standard.	Pass
1.5.6	Capacitors bridging insulation	<p>1) Between lines: min. X2 capacitors according to IEC 60384-14 with 21 days damp heat test.</p> <p>2) Between primary and earth: capacitors are subclass Y1 or Y2 according to IEC 60384-14 with 21 days damp heat test.</p> <p>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.</p> <p>Accessible conductive parts separated from other parts by DOUBLE or REINFORCED INSULATION bridged by C14, C26 comply with the requirements for LIMITED CURRENT CIRCUITS of clause 2.4.</p> <p>(See appended tables 1.5.1)</p>	Pass




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

1.5.7	Resistors bridging insulation		Pass
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	The bleeder resistors (R10 and R11) are location after fuse (F1) and connected in series with the PWM IC (U1), there fuse treat as provided protective device which short circuit. Another resistors are functional insulation only.	Pass
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	No bridging resistor provided.	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No bridging resistor 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)	Pass
1.5.9	Surge suppressors		Pass
1.5.9.1	General	See Table Critical Component for details.	Pass
1.5.9.2	Protection of VDRs	A fuse connected in the line phase and in series with the VDR.	Pass
1.5.9.3	Bridging of functional insulation by a VDR	VDR provided and connected in L-N.	Pass
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	<b>Power interface</b>		Pass
1.6.1	AC power distribution systems	TN or IT	Pass
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under NORMAL LOAD.  (see appended table 1.6.2)	Pass
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor	Neutral conductor is insulated from the line conductor.	Pass

1.7	<b>Marking and instructions</b>		Pass
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Power rating and identification markings		Pass
1.7.1.1	Power rating mark		Pass
	Multiple mains supply connections .....		N/A
	Rated voltage(s) or voltage range(s) (V).....	100-240Vac	Pass
	Symbol for nature of supply, for d.c. only.....	AC mains supply.	N/A
	Rated frequency or rated frequency range (Hz) .....	50-60Hz	Pass
	Rated current (mA or A).....	1.2A Max.	Pass
1.7.1.2	Identification markings		Pass
	Manufacturer's name or trademark or identification mark .....		Pass
	Model identification or type reference .....	KTPSxx-xxxxxDT-3P-VI (The first "xx" in the model name can be 36, 40, 45, 50 to denote output power. The last xxxxx in the model name can be 0940, 0950, 1233, 1242, 13537, 1533, 1827, 1926, 2421, 4811 to denote output rating.)	Pass
	Symbol for Class II equipment only .....		N/A
	Other markings and symbols .....	Additional symbols may be provided when submitted for National Approval.	N/A
1.7.2	Safety instructions and marking	Safety instructions in English. Other languages will be provided when submitted for national approval.	Pass
1.7.2.1	General		Pass
1.7.2.2	Disconnect devices		N/A
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT Power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment.....	Equipment is auto-ranging.	N/A
	Method and means of adjustment; reference to installation instructions.....		N/A
1.7.5	Power outlets on the equipment .....		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference).....	Fuse used as current protective device and not located in Operator Access Areas. An unambiguous cross-reference marking, F1, T3.15A/250V provided.	Pass
1.7.7	Wiring terminals		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.7.1	Protective earthing and bonding terminals .....	Appliance inlet used.	Pass
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking.....:		N/A
1.7.8.2	Colours.....:		N/A
1.7.8.3	Symbols according to IEC 60417.....:		N/A
1.7.8.4	Markings using figures.....:		N/A
1.7.9	Isolation of multiple power sources.....:	Single AC mains supply.	N/A
1.7.10	Thermostats and other regulating devices.....:		N/A
1.7.11	Durability	Markings permanently laser marked or may be permanently ink-stamped, silk-screened or molded to plastic enclosure. Or UL Recognized Component labels suitable for Enclosure and withstanding durability test	Pass
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries .....		N/A
	Language(s).....:		-
1.7.14	Equipment for restricted access locations .....	Equipment not intended for installation in a RESTRICTED ACCESS LOCATION.	N/A

2	<b>PROTECTION FROM HAZARDS</b>		Pass
2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in operator access areas		Pass
2.1.1.1	Access to energized parts		Pass
	Test by inspection .....	No operator access to energized parts. No openings.	Pass
	Test with test finger (Figure 2A).....:	The test finger was unable to contact bare hazardous parts, basic insulation, or ELV circuits.	Pass
	Test with test pin (Figure 2B).....:	The test pin was unable to contact bare hazardous parts.	Pass
	Test with test probe (Figure 2C) .....	No TNV present.	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V <sub>peak</sub> or V <sub>rms</sub> ); minimum distance through insulation (mm).....:		-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards .....	The output of the power supply	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

		is not an energy hazard. See Table 2.1.1.5.											
2.1.1.6	Manual controls		N/A										
2.1.1.7	Discharge of capacitors in equipment	The capacitance of the input circuit is > 0.1 uF, measurements are required.	Pass										
	Measured voltage (V); time-constant (s).....:	Result: <table border="1"> <tr> <td>locati on</td> <td>Swit ch</td> <td>V (pk)</td> <td>37% (pk)</td> <td>V<sub>ic</sub> (pk)</td> </tr> <tr> <td>L-N</td> <td>N/A</td> <td>366</td> <td>132</td> <td>2</td> </tr> </table> Bleeder Resistor (R10, R11)= 7.5K ohm PWM IC (U1): Leadtrend Type LD5760 X-capacitor (C1)= 0.33uF max	locati on	Swit ch	V (pk)	37% (pk)	V <sub>ic</sub> (pk)	L-N	N/A	366	132	2	-
locati on	Swit ch	V (pk)	37% (pk)	V <sub>ic</sub> (pk)									
L-N	N/A	366	132	2									
2.1.1.8	Energy hazards - d.c. mains supply		N/A										
	a) Capacitor connected to the d.c. mains supply ...:		N/A										
	b) Internal battery connected to the mains supply ..:		N/A										
2.1.1.9	Audio amplifiers.....:		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		N/A										

2.2	<b>SELV circuits</b>		Pass
2.2.1	General requirements	SELV levels are maintained after single fault condition.	Pass
2.2.2	Voltages under normal conditions (V).....:	All accessible voltages are less than 42.4 Vp or 60 V dc and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V).....:	Under fault conditions voltages never exceed 71V peak and 120Vdc and do not exceed 42.4V peak or 60V dc for more than 0.2 sec.	Pass
2.2.4	Connection of SELV circuits to other circuits.....:	SELV circuits are only connected to other secondary circuits	Pass

2.3	<b>TNV circuits</b>		N/A
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2.4	<b>Limited current circuits</b>		Pass
2.4.1	General requirements	For bridging capacitor (C14 and	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

		C26) with 1000pF. Used measuring instrument of Figure D.1, the voltage, U <sub>2</sub> is measured and the current is calculated by dividing the measured voltage, U <sub>2</sub> by 500. The calculated value shall not exceed 0.7mA peak.	
2.4.2	Limit values	0.7 mA peak	Pass
	Frequency (Hz) .....	--	-
	Measured current (mA) .....	1) 0.16mA (C14) 2) 0.17mA (C26)	-
	Measured voltage (V).....	1) 80mV (C14) 2) 87mV (C26)	-
	Measured circuit capacitance (nF or uF) .....	0.001uF	-
2.4.3	Connection of limited current circuits to other circuits	SELV circuits.	Pass

2.5	<b>Limited power sources</b>		Pass
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	See Table 2.5 for details.	Pass
	d) Overcurrent protective device limited output	(See Annex CC)	N/A
	Use of integrated circuit (IC) current limiters		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....	See Table 2.5 for details.	-
	Current rating of overcurrent protective device (A):		-

2.6	<b>Provisions for earthing and bonding</b>		Pass
2.6.1	Protective earthing	Certified appliance inlet used.	Pass
2.6.2	Functional earthing	EMI shielding via PCB trace connected to secondary wire considered as secondary /function earthing. (see appended table 2.10.3 and 2.10.4)	Pass
	Use of symbol for functional earthing .....		N/A
2.6.3	Protective earthing and protective bonding conductors	Certified appliance inlet used, earth terminal considered for Protective earthing.	Pass
2.6.3.1	General		Pass
2.6.3.2	Size of protective earthing conductors	Certified appliance inlet used,	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

		earth terminal considered for Protective earthing.	
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....	--	-
2.6.3.3	Size of protective bonding conductors	See 2.6.2.	N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		-
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG.....		-
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (ohm), voltage drop (V), test current (A), duration (min).....		N/A
2.6.3.5	Colour of insulation .....		N/A
2.6.4	Terminals	Appliance inlet used.	Pass
2.6.4.1	General		Pass
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm) .....		-
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Appliance inlet used.	Pass
2.6.5	Integrity of protective earthing		Pass
2.6.5.1	Interconnection of equipment	See below for details.	Pass
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		Pass
2.6.5.3	Disconnection of protective earth	Disconnection of the protective earth removes connection of HAZARDOUS VOLTAGES at the same time.	Pass
2.6.5.4	Parts that can be removed by an operator	It is not possible to disconnect earth without disconnecting mains.	Pass
2.6.5.5	Parts removed during servicing	Connections to protective earthing cannot be removed unless hazardous voltage is removed from the part simultaneously.	Pass
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	<b>Overcurrent and earth fault protection in primary circuits</b>		Pass
2.7.1	Basic requirements	Protective devices are	Pass

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		integrated in the equipment.	
	Instructions when protection relies on building installation	Pluggable Type A.	N/A
2.7.2	Faults not covered in 5.3.7	Adequate fault protection provided.	Pass
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection.	Pass
2.7.4	Number and location of protective devices.....:	One protective device in the line phase.	Pass
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel .....		N/A

2.8	<b>Safety interlocks</b>		N/A
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2.9	<b>Electrical insulation</b>		Pass
2.9.1	Properties of insulating materials	Natural rubber, materials containing asbestos and hygroscopic materials are not used as insulation.	Pass
2.9.2	Humidity conditioning	Tested for 120hrs. (For unit, transformer, Optical Isolators devices)	Pass
	Relative humidity (%), temperature (°C).....:	93 %, 40 degree C	-
2.9.3	Grade of insulation	Double/Reinforced Insulation provided between Primary and SELV/Operator Accessible Area. Basic Insulation provided between Primary and protective earth conductors.	Pass
2.9.4	Separation from hazardous voltages		Pass
	Method(s) used .....	Method I used	-

2.10	<b>Clearances, creepage distances and distances through insulation</b>		Pass
2.10.1	General	Pollution degree 2 applicable.  For Functional Insulation, see 5.3.4.	Pass
2.10.1.1	Frequency .....	The insulation requirements given in 2.10 are for frequencies up to 30 kHz. It is permitted to use the same requirements for insulation operating at frequencies over	Pass

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		30 kHz until additional data is available.	
2.10.1.2	Pollution degrees .....	2	Pass
2.10.1.3	Reduced values for functional insulation	See Sub clause 5.3.4 for details.	Pass
2.10.1.4	Intervening unconnected conductive parts		Pass
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.2.1	General		Pass
2.10.2.2	RMS working voltage	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.2.3	Peak working voltage	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.3.1	General		Pass
2.10.3.2	Mains transient voltages	Overvoltage Category II; Mains transient voltage is 2500 V peak.	Pass
	a) AC mains supply .....	Less than 300 Vrms.	Pass
	b) Earthed d.c. mains supplies.....		N/A
	c) Unearthed d.c. mains supplies.....		N/A
	d) Battery operation.....		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.3.4	Clearances in secondary circuits	Functional insulation only. See 5.3.4.	Pass
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply .....	Secondary circuit transient considered to be 1500 V (one step lower than mains value)	Pass
2.10.3.7	Transients from d.c. mains supply .....		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply .....		N/A
	For a d.c. mains supply .....		N/A
	b) Transients from a telecommunication network		N/A
2.10.4	Creepage distances	(see appended table 2.10.3	Pass



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		and 2.10.4)	
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		Pass
	CTI tests.....:	Material group IIIb; 100 <= CTI < 175.	-
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.5	Solid insulation	Solid or laminated insulating materials having adequate thickness are provided.	Pass
2.10.5.1	General		Pass
2.10.5.2	Distances through insulation	See Table 1.5.1 and Table 2.10.5 for details.	Pass
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5	Cemented joints		N/A
2.10.5.6	Thin sheet material - General	See Table 1.5.1 for details.	Pass
2.10.5.7	Separable thin sheet material		Pass
	Number of layers (pcs).....:	Minimum 2 layers.	-
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material - standard test procedure		N/A
	Electric strength test.....:		-
2.10.5.10	Thin sheet material - alternative test procedure		Pass
	Electric strength test.....:	3000 Vac on one layer	-
2.10.5.11	Insulation in wound components		Pass
2.10.5.12	Wire in wound components	Wire that has multi-layer extruded or spirally wrapped insulation (where only the finished wire can be tested) and passes the tests of annex U. Triple insulated wire used for Transformer.	Pass
	Working voltage .....	(see appended table 2.10.3 and 2.10.4)	Pass
	a) Basic insulation not under stress .....		N/A
	b) Basic, supplementary, reinforced insulation .....	Reinforced	Pass
	c) Compliance with Annex U .....	The employed UL Recognized wiring meets the requirements of Annex U.	Pass
	Two wires in contact inside wound component; angle between 45° and 90° .....	Physical separation in the form of insulating sleeving provided to relieve mechanical stress at the crossover point.	Pass
2.10.5.13	Wire with solvent-based enamel in wound		N/A

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	components		
	Electric strength test.....:		-
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage .....		N/A
	- Basic insulation not under stress .....		N/A
	- Supplementary, reinforced insulation .....		N/A
2.10.6	Construction of printed boards		Pass
2.10.6.1	Uncoated printed boards		Pass
2.10.6.2	Coated printed boards	No coated printed wiring boards.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) .....		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	<b>WIRING, CONNECTIONS AND SUPPLY</b>		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection		Pass
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	Pass
3.1.3	Securing of internal wiring		Pass
3.1.4	Insulation of conductors	Insulation of the individual conductors is suitable for the application and the working voltage.	Pass

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3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	Pass
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

3.2	<b>Connection to mains supply</b>		Pass
3.2.1	Means of connection	The unit is provided with an appliance inlet.	Pass
3.2.1.1	Connection to an a.c. mains supply	The unit is provided with an appliance inlet.	Pass
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....		-
3.2.4	Appliance inlets		Pass
3.2.5	Power supply cords	No power supply cord provided, additional investigation to be considered when submitted for National Approval.	N/A
3.2.5.1	AC power supply cords		N/A
	Type .....		-
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG.....		-
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N).....		-
	Longitudinal displacement (mm) .....		-
3.2.7	Protection against mechanical damage	Output cord provided strain relief that adequate protect from mechanical damage.	N/A
3.2.8	Cord guards		N/A
	Diameter of minor dimension D (mm); test mass (g) .....		-
	Radius of curvature of cord (mm) .....		-
3.2.9	Supply wiring space		N/A

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3.3	<b>Wiring terminals for connection of external conductors</b>		N/A
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3.4	<b>Disconnection from the mains supply</b>		Pass
3.4.1	General requirement		Pass
3.4.2	Disconnect devices	The equipment is provided with an appliance inlet.	Pass
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Disconnect device disconnects all poles simultaneously.	Pass
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment	SELV interconnection to other devices by secondary output cable only.	N/A
3.4.11	Multiple power sources		N/A

3.5	<b>Interconnection of equipment</b>		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits.....:	Interconnection circuits are SELV CIRCUITS.	Pass
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A
3.5.4	Data ports for additional equipment		N/A

4	<b>PHYSICAL REQUIREMENTS</b>		Pass
4.1	Stability		N/A
	Angle of 10°	No overbalancing due to equipment design and mass less than 7kg (length and width by far exceeding the height).	N/A
	Test force (N) .....		N/A

4.2	<b>Mechanical strength</b>		Pass
4.2.1	General		Pass
	Rack-mounted equipment		N/A
4.2.2	Steady force test, 10 N	Steady Force Test (10N) applied to components and result complied with the	Pass

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		requirements of Sub clause 2.10.	
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	250N on top/flank sides/bottom of enclosure, enclosure near AC inlet, enclosure near output cable and no damaged. (Test with all mentioned sources in critical component table)	Pass
4.2.5	Impact test	See below	Pass
	Fall test	No hazard as a result from steel sphere ball impact test applied to top/flank sides/bottom of enclosure, enclosure near AC inlet, enclosure near output cable. (Test with all mentioned sources in critical component table)	Pass
	Swing test		N/A
4.2.6	Drop test; height (mm) .....	Dropped three times from a height of 1 meter on to a hardwood surface and no damaged. No access to hazardous parts. (Test with all mentioned sources in critical component table)	Pass
4.2.7	Stress relief test	No indication of shrinkage or distortion on enclosures due to the stress relief test 84°C/7h. See enclosed test record. Material used: Sabic type 940(f1)	Pass
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified.....		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N).....		N/A

4.3	<b>Design and construction</b>		Pass
4.3.1	Edges and corners	All edges and corners judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N) .....		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	All hazardous parts are fixed to retain position in event of	Pass

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		termination failure.	
4.3.5	Connection by plugs and sockets	No mismatching of connectors, plugs or sockets possible.	Pass
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque .....		N/A
	Compliance with the relevant mains plug standard:		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids .....		N/A
	Quantity of liquid (l) .....		N/A
	Flash point (°C) .....		N/A
4.3.13	Radiation		Pass
4.3.13.1	General	Low power LED indicator only.	Pass
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg).....		-
	Measured high-voltage (kV).....		-
	Measured focus voltage (kV) .....		-
	CRT markings .....		-
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification.....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	See below 4.3.13.5.2 for details.	Pass
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class .....		-
4.3.13.5.2	Light emitting diodes (LEDs)	This product contains only low power visible indicator LEDs (Class 1) operating in the range of 400 - 700 nm wavelength. No IEC62471 evaluation was deemed necessary.	Pass
4.3.13.6	Other types.....		N/A

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4.4	<b>Protection against hazardous moving parts</b>		N/A
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4.5	<b>Thermal requirements</b>		Pass
4.5.1	General		Pass
4.5.2	Temperature tests	(See appended table 4.5)	Pass
	Normal load condition per Annex L.....:	Maximum Normal Load is continuous operation at rated output load.	-
4.5.3	Temperature limits for materials	(See appended table 4.5)	Pass
4.5.4	Touch temperature limits	(See appended table 4.5)	Pass
4.5.5	Resistance to abnormal heat .....		N/A

4.6	<b>Openings in enclosures</b>		N/A
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4.7	<b>Resistance to fire</b>		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials which minimize the possibility of ignition and spread of flame.	Pass
	Method 1, selection and application of components wiring and materials		Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below for details.	Pass
4.7.2.1	Parts requiring a fire enclosure	A fire enclosure covers all parts.	Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	<b>Materials</b>		Pass
4.7.3.1	General		Pass
4.7.3.2	Materials for fire enclosures	V-1 minimum.	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	See appended table 1.5.1	Pass
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better.	Pass
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		Pass
5.1	Touch current and protective conductor current		Pass

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5.1.1	General		Pass
5.1.2	Configuration of equipment under test (EUT)	Equipment has only one mains connection.	Pass
5.1.2.1	Single connection to an a.c. mains supply		Pass
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Single phase equipment intended only for connection to star TN system.	Pass
5.1.4	Application of measuring instrument	Tested using D.1 measuring instrument.	Pass
5.1.5	Test procedure		Pass
5.1.6	Test measurements		Pass
	Supply voltage (V).....:	See Table 5.1.	-
	Measured touch current (mA) .....	See Table 5.1.	-
	Max. allowed touch current (mA) .....	See Table 5.1.	-
	Measured protective conductor current (mA) .....	See Table 5.1.	-
	Max. allowed protective conductor current (mA) ...:	See Table 5.1.	-
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No TNV circuit.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V).....:		-
	Measured touch current (mA) .....		-
	Max. allowed touch current (mA) .....		-
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	<b>Electric strength</b>		Pass
5.2.1	General	Based on the electric strength test the use of the insulating materials within the equipment is satisfactory.	Pass



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5.2.2	Test procedure	No insulation breakdown detected during the test. (See appended table 5.2)	Pass
<b>5.3</b>	<b>Abnormal operating and fault conditions</b>		Pass
5.3.1	Protection against overload and abnormal operation	(See appended table 5.3)	Pass
5.3.2	Motors	No motors.	N/A
5.3.3	Transformers	Transformers are constructed in accordance with the applicable Clause and Annex C.	Pass
5.3.4	Functional insulation .....	Functional insulation complies with the requirements c). Functional insulation between the phases before the fuse complies with method a).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE .....		N/A
5.3.7	Simulation of faults	(See appended table 5.3.)	Pass
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	See below	Pass
5.3.9.1	During the tests	No fire, emission of molten metal or deformation was noted during the tests.	Pass
5.3.9.2	After the tests	Electric Strength tests performed after abnormal and fault tests.	Pass
<b>6</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		N/A
6.2	<b>Protection of equipment users from overvoltages on telecommunication networks</b>		N/A
6.3	<b>Protection of the telecommunication wiring system from overheating</b>		N/A
<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		N/A
<b>A</b>	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		N/A

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B	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		N/A
C	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		Pass
	Position .....	Transformer located between primary and secondary circuit.	-
	Manufacturer .....	(see appended table 1.5.1)	-
	Type .....	Switching type	-
	Rated values .....	(see appended table 1.5.1)	-
	Method of protection .....	Protection by circuit design.	-
C.1	Overload test	(see appended table 5.3)	Pass
C.2	Insulation	See Critical Component Table, Table 2.10.3, and Table 5.2 for details.	Pass
	Protection from displacement of windings .....	Triple insulated wire used for secondary winding.	Pass
D	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		Pass
D.1	Measuring instrument		Pass
D.2	Alternative measuring instrument		N/A
E	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		N/A
F	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		Pass
G	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		N/A
H	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>		N/A
J	<b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b>		N/A
K	<b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>		N/A
L	<b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL</b>		Pass

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<b>BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>			
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	Maximum Normal Load is continuous operation at rated output load.	Pass

M	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		N/A
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N	<b>ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)</b>		N/A
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P	<b>ANNEX P, NORMATIVE REFERENCES</b>		Pass
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<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>			
	- Preferred climatic categories :	Certified VDRs used, See Table: Critical Components.	Pass
	- Maximum continuous voltage :	Component rating is at least 125% of the rated voltage of the equipment.	Pass
	- Combination pulse current :	Comply with the requirement of combination pulses of 6 kV / 3 kA, having a pulse shape of 1,2/50 us for voltage and 8/20 us for current.	Pass
	Body of the VDR Test according to IEC60695-11-5.....:	Certified VDRs used, See Table: Critical Components.	N/A
	Body of the VDR. Flammability class of material (min V-1).....:	Certified VDRs used, See Table: Critical Components.	Pass

R	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		N/A
---	-------------------------------------------------------------------------	--	-----

S	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
T	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		N/A
U	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		Pass
	.....:	Certified triple insulated wired used, see Table 1.5.1 for details.	-
V	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		Pass
V.1	Introduction		Pass
V.2	TN power distribution systems		Pass
W	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		N/A
X	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		N/A
Y	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		N/A
Z	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		Pass
AA	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		N/A
BB	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		Pass
CC	<b>ANNEX CC, EVALUATION OF INTEGRATED CIRCUIT (IC) CURRENT LIMITERS</b>		N/A
DD	<b>ANNEX DD, REQUIREMENTS FOR THE MOUNTING MEANS OF RACK-MOUNTED EQUIPMENT</b>		N/A
EE	<b>ANNEX EE, HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS</b>		N/A

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

1.5.1	TABLE: list of critical components					Pass
object/part or Description	manufacturer/ trademark	type/model	technical data	standard (Edition or year)	mark(s) of conformity <sup>1)</sup>	
01. Enclosure	Sabic Innovative Plastics Japan L L C	940(f1)	V-0, 120 degree C, min. 2.5 mm thick	UL 746	UL	
02. PCB	Interchangeable	Interchangeable	Min. V-1, Min. 105 degree C	UL 796	UL	
03. Appliance Inlet (CN1)	Tecx-Unions	TU-301-SP	10A, 250Vac (C14 type)	EN 60320-1, UL 498	VDE, UL	
(Alternate)	Inalways	0711	10A, 250Vac (C14 type)	EN 60320-1, UL 498	ENEC, UL	
(Alternate)	Solteam	ST-01	10A, 250Vac (C14 type)	EN 60320-1, UL 498	VDE, UL	
(Alternate)	HCR	SK01	10A, 250Vac (C14 type)	EN 60320-1, UL 498	VDE, UL	
(Alternate)	Tecx-Unions	TU-333	2.5A, 250Vac (C6 type)	EN 60320-1, UL 498	VDE, UL	
(Alternate)	Inalways	0724	2.5A, 250Vac (C6 type)	EN 60320-1, UL 498	ENEC, UL	
(Alternate)	Solteam	ST-03	2.5A, 250Vac (C6 type)	EN 60320-1, UL 498	VDE, UL	
(Alternate)	HCR	SK03	2.5A, 250Vac (C6 type)	EN 60320-1, UL 498	VDE, UL	
04. Fuse (F1)	Conquer	MST	T3.15A, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL	
(Alternate)	Ever Island	2010 series	T3.15A, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL	
05. Varistor (RV1) (optional)	Thinking	TVR10471, TVR10471-V, TVR10471-D	300Vac, 385Vdc, 85 degree C. (Flame class of body coating complied with V-1)	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL	
(Alternate)	Centra	CNR-10D471K	300Vac, 385Vdc, 85 degree C. (Flame class of body coating complied with V-	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
			1)		
(Alternate)	DongGuan Littelfuse	SAS-471KD10	300Vac, 385Vdc, 85 degree C. (Flame class of body coating complied with V-1)	IEC/EN 61051-1 IEC/EN 61051-2 UL 1449 (SPD type approved)	VDE, UL
06. Thermistor (NTH1) (optional)	Interchangeable	Interchangeable	3 ohm, 5A at 250C	--	--
07. X-Capacitor (C1) (optional)	Cheng Tung	CTX	Max. 0.33uF, min. 250Vac, 100 degree C	IEC/EN 60384-14:2005 UL 60384-14	VDE, UL
(Alternate)	Chiefcon	CKX	Max. 0.33uF, min. 250Vac, 100 degree C	IEC/EN 60384-14:2005 UL 60384-14	VDE, UL
(Alternate)	Iskra	KNB 1560	Max. 0.33uF, min. 250Vac, 125 degree C	IEC/EN 60384-14:2005 UL 60384-14	VDE, UL
(Alternate)	Okaya	RE-series	Max. 0.33uF, min. 250Vac, 100 degree C	IEC/EN 60384-14:2005 UL 60384-14	VDE, UL
08. Y-Capacitor (C2) (optional)	Murata	KH, KY	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384-14:2005 UL 60384-14	TUV, UL
(Alternate)	Walsin	AC, AH	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384-14:2005 UL 60384-14	TUV, UL
(Alternate)	Welson	KL, WD	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384-14:2005 UL 60384-14	TUV, UL
(Alternate)	TDK	CS, CD	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384-14:2005 UL 60384-14	TUV, UL
(Alternate)	Success	SE, SF	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384-14:2005 UL 60384-14	TUV, UL
09. Bleeder Resistor (R10, R11)	Interchangeable	Interchangeable	7.5K ohm, 1/4W	--	--
10. PWM IC (U1)	Leadtrend	LD5760	100-250Vac, 47-63Hz	IEC 60950-1 2nd+A1	CB by Nemko
11. Bridging	Interchangeable	Interchangeable	Min. 4A, 600V	--	--

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Rectifier (BD1)					
12. Storage Capacitor (C4)	Interchangeable	Interchangeable	100uF, min. 400V, 105 degree C	--	--
13. Transistor (Q1)	Interchangeable	Interchangeable	Min. 7A, min. 600V	--	--
14. Photo Coupler (U2)	Sharp	PC123	Dti=0.4mm, Ext. dcr=8.0mm, thermal cycle test, 110 degree C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL
(Alternate)	Lite-On	LTV-817	Dti=0.6mm, Ext. dcr=7.63mm, thermal cycle test, 110 degree C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL
(Alternate)	Everlight	EL817	Dti=0.5mm, Ext. dcr=7.7mm, thermal cycle test, 100 degree C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL
(Alternate)	Renesas	PS2561-1, PS2561L-1, PS2561A-1, PS2561AL-1, PS2561L1-1, PS2561AL1-1, PS2561AL2-2	Dti=0.4mm, Ext. dcr=7.0mm, thermal cycle test, 100 degree C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL
(Alternate)	Cosmo	K1010	Dti=0.7mm, Ext. dcr=8.0mm, thermal cycle test, 100 degree C	IEC/EN 60950-1 EN 60747-5-2 UL 1557	VDE, Fimko, UL
15. Bridge Capacitors (C14, C26) (Y1 type)	Murata	KX	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384- 14:2005 UL 60384-14	TUV, UL
(Alternate)	Walsin	AH	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384- 14:2005 UL 60384-14	TUV, UL
(Alternate)	Welson	WD	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384- 14:2005 UL 60384-14	TUV, UL
(Alternate)	TDK	CD	Max. 1000pF, min. 250Vac, 125 degree C	IEC/EN 60384- 14:2005 UL 60384-14	TUV, UL
(Alternate)	Success	SE	Max. 1000pF, min. 250Vac,	IEC/EN 60384- 14:2005	TUV, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
			1250C	UL 60384-14	
16. Choke (L1) (optional)	Mao Hsin	R55MH6-451B-1	130 degree C	--	--
(Alternate)	Dongguanshi PuHang	R55MH6-451B-1	130 degree C	--	--
(Alternate)	Newline	R55MH6-451B-1	130 degree C	--	--
17. Choke (L2)	Mao Hsin	R55MR6-153B-3	130 degree C	--	--
(Alternate)	Newline	R55MR6-153B-3	130 degree C	--	--
18. Transformer (T1) (for KTPS36-0940DT-3P-VI and KTPS45-0950DT-3P-VI)	Mao Hsin	R53S10-4190	Class B	--	--
(Alternate)	Dong Guan Readore	R53S10-4190	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-4190	Class B	--	--
(Alternate)	Newline	R53S10-4190	Class B	--	--
(for KTPS40-1233DT-3P-VI, KTPS50-1242DT-3P-VI, KTPS50-13537DT-3P-VI 5 and KTPS50-1533DT-3P-VI)	Mao Hsin	R53S10-4200	Class B	--	--
(Alternate)	Dong Guan Readore	R53S10-4200	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-4200	Class B	--	--
(Alternate)	Newline	R53S10-4200	Class B	--	--
(for KTPS50-1827DT-3P-VI and KTPS50-1926DT-3P-VI)	Mao Hsin	R53S10-4210	Class B	--	--
(Alternate)	Dong Guan Readore	R53S10-4210	Class B	--	--
(Alternate)	Dongguanshi	R53S10-4210	Class B	--	--



IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	PuHang				
(Alternate)	Newline	R53S10-4210	Class B	--	--
(for KTPS50-2421DT-3P-VI)	Mao Hsin	R53S10-4220	Class B	--	--
(Alternate)	Dong Guan Readore	R53S10-4220	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-4220	Class B	--	--
(Alternate)	Newline	R53S10-4220	Class B	--	--
(for KTPS50-4811DT-3P-VI)	Mao Hsin	R53S10-4230	Class B	--	--
(Alternate)	Dong Guan Readore	R53S10-4230	Class B	--	--
(Alternate)	Dongguanshi PuHang	R53S10-4230	Class B	--	--
(Alternate)	Newline	R53S10-4230	Class B	--	--
- Bobbin (for Mao Hsin)	Sumitomo Bakelite	PM-9630	V-0, 155 degree C	UL 94, UL 746C	UL
(for Dong Guan Readore and Dongguanshi PuHang)	Sumitomo Bakelite	PM-9820	V-0, 155 degree C	UL 94, UL 746C	UL
(for Newline)	Chang Chun	T375J	V-0, 155 degree C	UL 94, UL 746C	UL
- Tape (for Mao Hsin and Dongguanshi PuHang)	3M Company	1350F-1	130 degree C	UL 510	UL
(for Mao Hsin, Dong Guan Readore and Newline)	Jingjiang Yahua	CT	130 degree C	UL 510	UL
(for Dong Guan Readore)	Symbio	35660Y	130 degree C	UL 510	UL
- Triple insulation wire (for Mao Hsin and Newline)	Great Leoflon	TRW-B	130 degree C	IEC 60950-1 EN 60950-1/A12:2011 UL 2353	VDE, UL
(for Dong Guan Readore and Dongguanshi PuHang)	Furukawa	TEX-E	130 degree C	IEC 60950-1 EN 60950-1:2006+A11+A1+A12 UL 2353	VDE, UL

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

(for Dongguans hi PuHang)	Totoku	TIW-2	130 degree C	IEC 60950-1 EN 60950-1:2006+A11+A1+A12 UL 2353	TUV, UL
19. Mylar Sheet (between PCB trace and U sharp Heat Sink)	Interchangeable	Interchangeable	Min. V-2, min. 105 degree C, min. 0.4mm thickness	UL 94	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	<b>TABLE: Opto Electronic Devices</b>			Pass
Manufacturer.....:				
Type.....:				
Separately tested.....:				
Bridging insulation.....:				
External creepage distance.....:				
Internal creepage distance.....:				
Distance through insulation.....:				
Tested under following conditions.....:				
Input.....:				
Output.....:				
supplementary information:				
Additional devices may be described in Enclosure - Miscellaneous				

1.6.2	<b>TABLE: electrical data (in normal conditions)</b>						Pass
U (V)	I (A)	I rated (A)	P (W)	Fuse #	I fuse (A)	condition/status	
Test on Model KTPS45-0950DT-3P-VI							
90	1.01	--	51.8	F1	1.01	9Vdc, 5.0A, 45W/50Hz	
100	0.94	1.2	51.5	F1	0.94	9Vdc, 5.0A, 45W/50Hz	
240	0.53	1.2	51.0	F1	0.53	9Vdc, 5.0A, 45W/50Hz	
254	0.52	--	51.0	F1	0.52	9Vdc, 5.0A, 45W/50Hz	
264	0.50	--	51.0	F1	0.50	9Vdc, 5.0A, 45W/50Hz	
90	1.05	--	51.8	F1	1.05	9Vdc, 5.0A, 45W/60Hz	
100	0.97	1.2	51.5	F1	0.97	9Vdc, 5.0A, 45W/60Hz	
240	0.53	1.2	51.0	F1	0.53	9Vdc, 5.0A, 45W/60Hz	
254	0.52	--	51.0	F1	0.52	9Vdc, 5.0A, 45W/60Hz	
264	0.50	--	51.0	F1	0.50	9Vdc, 5.0A, 45W/60Hz	
Test on Model KTPS50-1533DT-3P-VI							
90	1.13	--	57.5	F1	1.13	15Vdc, 3.34A, 50W/50Hz	
100	1.05	1.2	57.1	F1	1.05	15Vdc, 3.34A, 50W/50Hz	
240	0.57	1.2	54.0	F1	0.57	15Vdc, 3.34A, 50W/50Hz	
254	0.55	--	55.0	F1	0.55	15Vdc, 3.34A, 50W/50Hz	

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
264	0.54	--	55.0	F1	0.54	15Vdc, 3.34A, 50W/50Hz
90	1.17	--	57.5	F1	1.17	15Vdc, 3.34A, 50W/60Hz
100	1.08	1.2	57.1	F1	1.08	15Vdc, 3.34A, 50W/60Hz
240	0.57	1.2	55.0	F1	0.57	15Vdc, 3.34A, 50W/60Hz
254	0.55	--	55.0	F1	0.55	15Vdc, 3.34A, 50W/60Hz
264	0.54	--	55.0	F1	0.54	15Vdc, 3.34A, 50W/60Hz
Test on Model KTPS50-1926DT-3P-VI						
90	1.08	--	58.2	F1	1.08	19Vdc, 2.64A, 50W/50Hz
100	1.00	1.2	57.5	F1	1.00	19Vdc, 2.64A, 50W/50Hz
240	0.49	1.2	51.7	F1	0.49	19Vdc, 2.64A, 50W/50Hz
254	0.48	--	52.2	F1	0.48	19Vdc, 2.64A, 50W/50Hz
264	0.46	--	52.6	F1	0.46	19Vdc, 2.64A, 50W/50Hz
90	1.10	--	58.2	F1	1.10	19Vdc, 2.64A, 50W/60Hz
100	1.02	1.2	57.5	F1	1.02	19Vdc, 2.64A, 50W/60Hz
240	0.49	1.2	51.7	F1	0.49	19Vdc, 2.64A, 50W/60Hz
254	0.48	--	53.1	F1	0.48	19Vdc, 2.64A, 50W/60Hz
264	0.46	--	52.6	F1	0.46	19Vdc, 2.64A, 50W/60Hz
Test on Model KTPS50-2421DT-3P-VI						
90	1.11	--	56.8	F1	1.11	24Vdc, 2.10A, 50W/50Hz
100	1.03	1.2	56.3	F1	1.03	24Vdc, 2.10A, 50W/50Hz
240	0.57	1.2	55.0	F1	0.57	24Vdc, 2.10A, 50W/50Hz
254	0.56	--	56.0	F1	0.56	24Vdc, 2.10A, 50W/50Hz
264	0.54	--	56.0	F1	0.54	24Vdc, 2.10A, 50W/50Hz
90	1.15	--	56.8	F1	1.15	24Vdc, 2.10A, 50W/60Hz
100	1.07	1.2	56.4	F1	1.07	24Vdc, 2.10A, 50W/60Hz
240	0.57	1.2	55.0	F1	0.57	24Vdc, 2.10A, 50W/60Hz
254	0.56	--	56.0	F1	0.56	24Vdc, 2.10A, 50W/60Hz
264	0.54	--	56.0	F1	0.54	24Vdc, 2.10A, 50W/60Hz
Test on Model KTPS50-4811DT-3P-VI						
90	1.11	--	57.1	F1	1.11	48Vdc, 1.05A, 50W/50Hz
100	1.03	1.2	56.8	F1	1.03	48Vdc, 1.05A, 50W/50Hz
240	0.59	1.2	56.0	F1	0.59	48Vdc, 1.05A, 50W/50Hz
254	0.56	--	56.0	F1	0.56	48Vdc, 1.05A, 50W/50Hz
264	0.54	--	56.0	F1	0.54	48Vdc, 1.05A, 50W/50Hz
90	1.15	--	57.1	F1	1.15	48Vdc, 1.05A, 50W/60Hz

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
100	1.06	1.2	56.8	F1	1.06	48Vdc, 1.05A, 50W/60Hz
240	0.59	1.2	56.0	F1	0.59	48Vdc, 1.05A, 50W/60Hz
254	0.56	--	56.0	F1	0.56	48Vdc, 1.05A, 50W/60Hz
264	0.54	--	56.0	F1	0.54	48Vdc, 1.05A, 50W/60Hz
supplementary information:						
--						

2.1.1.5 c) 1)	TABLE: Max. V, A, VA test					Pass
Voltage(rated) (V)	Current(rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)		
Test on Model KTPS45-0950DT-3P-VI						
9	5	9.21	6.40	53.49		
Test on Model KTPS50-1533DT-3P-VI						
15	3.34	15.47	4.60	60.65		
Test on Model KTPS50-2421DT-3P-VI						
24	2.1	24.11	2.90	60.77		
Test on Model KTPS50-4811DT-3P-VI						
48	1.05	48.90	1.40	59.23		
supplementary information:						
--						

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

2.2	TABLE: Evaluation of voltage limiting components in SELV circuits			Pass
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V Peak	V d.c.		
Test on Model KTPS45-0950DT-3P-VI				
T1 (B-RTN)	54	--		
	52	--	After R26	
	--	24	After C17	

IEC 60950-1				
Clause	Requirement + Test	Result - Remark	Verdict	
		--	18.4	After U4 (6)
		--	0	After Q3
T1 (W-RTN)		11.6	--	
T1 (R-RTN)		26.4	--	
Test on Model KTPS50-1533DT-3P-VI				
T1 (B-RTN)		83.6	--	
		74.0	--	After R26
		--	31	After C17
		--	18	After U4 (6)
		--	0	After Q3
T1 (W-RTN)		--	18	
Test on Model KTPS50-2421DT-3P-VI				
T1 (W-RTN)		109	--	
		57	--	After C15
		--	27	After R20
		--	27	After D6
Test on Model KTPS50-4811DT-3P-VI				
T1 (W-RTN)		302	--	
		105	--	After C15
		--	51	After R20
		--	51	After D6
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Test on Model KTPS45-0950DT-3P-VI				
U4 (4-6) short		0V (unit shutdown)		
C17 short		0V (unit shutdown)		
Q3 (D-S) short		0V (unit shutdown)		
Test on Model KTPS50-1533DT-3P-VI				
U4 (4-6) short		0V (unit shutdown)		
C17 short		0V (unit shutdown)		
Q3 (D-S) short		0V (unit shutdown)		
Test on Model KTPS50-2421DT-3P-VI				
D6 short		0V (unit shutdown)		
R20 short		0V (unit shutdown)		
Test on Model KTPS50-4811DT-3P-VI				

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

D6 short	0V (unit shutdown)		
R20 short	0V (unit shutdown)		
supplementary information:			
--			

2.5	<b>TABLE: limited power sources</b>	Pass
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Circuit output tested:

Note: Measured Uoc (V) with all load circuits disconnected:

Components	Test condition (single fault)	Uoc (V)	I <sub>sc</sub> (A)		VA	
			Meas.	Limit	Meas.	Limit
Test on Model KTPS45-0950DT-3P-VI (9Vdc, 5.0A, 45W)						
Normal Condition	Normal	9.21	6.40	8	53.49	100
Single Faule: U2 (1-2)	Sc	0	0	8	0	100
Single Faule: U3 (2-3)	Sc	1.72	0	8	0	100
Single Faule: R6	Sc	9.13	6.89	8	60.97	100
Single Faule: R7	Oc	0	0	8	0	100
Single Faule: R8	Sc	0	0	8	0	100
Test on Model KTPS50-1533DT-3P-VI (15Vdc, 3.34A, 50W)						
Normal Condition	Normal	15.47	4.60	8	60.82	100
Single Faule: U2 (1-2)	Sc	0	0	8	0	100
Single Faule: U3 (2-3)	Sc	1.72	0	8	0	100
Single Faule: R6	Sc	15.28	4.38	8	65.65	100
Single Faule: R7	Oc	0	0	8	0	100
Single Faule: R8	Sc	0	0	8	0	100
Test on Model KTPS50-2421DT-3P-VI (24Vdc, 2.10A, 50W)						

IEC 60950-1						
Clause	Requirement + Test	Result - Remark				Verdict
Normal Condition	Normal	24.11	2.90	8	60.77	100
Single Faule: U2 (1-2)	Sc	0	0	8	0	100
Single Faule: U3 (2-3)	Sc	1.72	0	8	0	100
Single Faule: R6	Sc	24.16	3.08	8	73.62	100
Single Faule: R7	Oc	0	0	8	0	100
Single Faule: R8	Sc	0	0	8	0	100
Test on Model KTPS50-4811DT-3P-VI (48Vdc, 1.05A, 50W)						
Normal Condition	Normal	48.90	1.40	8	59.23	100
Single Faule: U2 (1-2)	Sc	0	0	8	0	100
Single Faule: U3 (2-3)	Sc	1.72	0	8	0	100
Single Faule: R6	Sc	48.63	1.52	8	73.31	100
Single Faule: R7	Oc	0	0	8	0	100
Single Faule: R8	Sc	0	0	8	0	100
supplementary information: Input Condition: 264Vac, 60Hz Sc=Short circuit, Oc=Open circuit						

2.10.2	TABLE: working voltage measurement			Pass
Location	RMS Voltage (V)	Peak voltage (V)	Comments	
Test on Model KTPS45-0950DT-3P-VI				
T1 (1-B)	285	532	Max. RMS & Peak	
T1 (1-RTN)	280	532		
T1 (1-W)	273	524		
T1 (1-R)	264	512		
T1 (3-B)	219	392		



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Clause	Requirement + Test	Result - Remark	Verdict
T1 (3-RTN)	210	348	
T1 (3-W)	217	360	
T1 (3-R)	218	364	
T1 (4-B)	225	476	
T1 (4-RTN)	214	428	
T1 (4-W)	220	432	
T1 (4-R)	218	400	
T1 (6-B)	219	360	
T1 (6-RTN)	226	360	
T1 (6-W)	219	356	
T1 (6-R)	219	384	
Test on Model KTPS50-1533DT-3P-VI			
T1 (1-B)	295	508	Max. RMS & Peak
T1 (1-W)	275	492	
T1 (1-RTN)	285	508	
T1 (3-B)	224	416	
T1 (3-W)	222	364	
T1 (3-RTN)	210	350	
T1 (4-B)	234	508	
T1 (4-W)	226	440	
T1 (4-RTN)	214	424	
T1 (6-B)	216	360	
T1 (6-W)	214	348	
T1 (6-RTN)	226	364	
T1 (3)-R17	227	372	
Test on Model KTPS50-2421DT-3P-VI			
T1 (1-B,RTN)	281	496	Max. RMS & Peak
T1 (1-W)	254	472	
T1 (3-B,RTN)	220	360	
T1 (3-W)	224	384	
T1 (4-B,RTN)	223	432	
T1 (4-W)	220	364	
T1 (6-B, RTN)	217	348	
T1 (6-W)	221	452	
Test on Model KTPS50-4811DT-3P-VI			

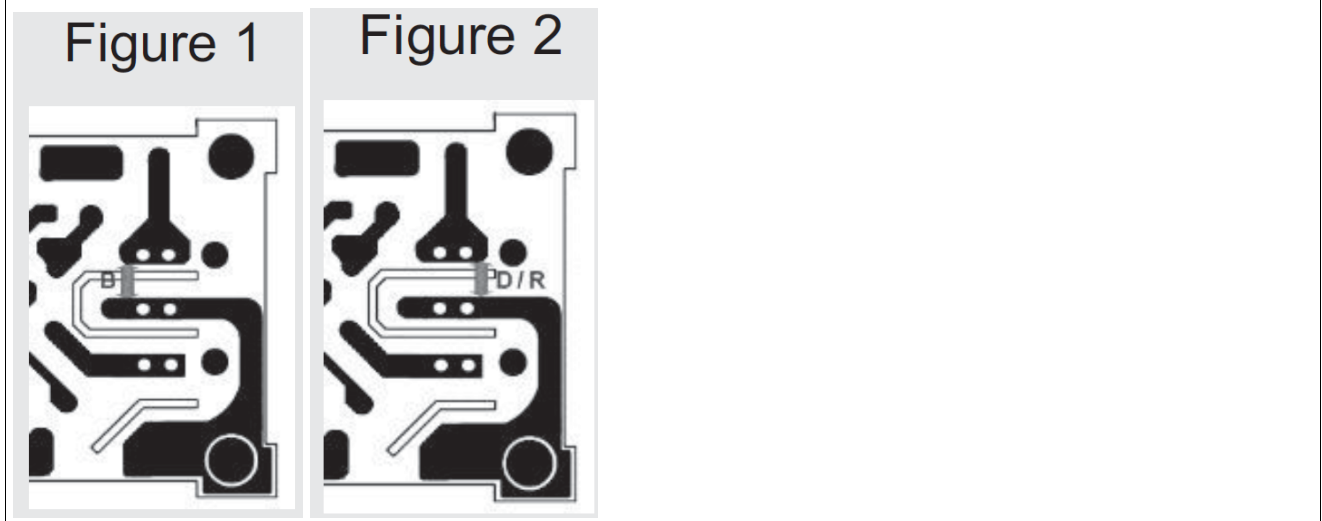
IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
T1 (1-B, RTN)	277	436	Max. RMS
T1 (1-W)	228	432	
T1 (3-B, RTN)	218	360	
T1 (3-W)	237	408	
T1 (4-B, RTN)	222	452	
T1 (4-W)	225	400	
T1 (6-B, RTN)	215	348	
T1 (6-W)	235	628	Max. Peak
U2 (3-1)	234	380	
U2 (3-2)	233	380	
U2 (4-1)	231	380	
U2 (4-2)	231	380	
C14 (primary-secondary)	219	364	
T1 (3)-ZD2(+)	235	380	
T1 (3)-ZD2(-)	256	408	
supplementary information: Input Condition: 240Vac, 60Hz			

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements						Pass
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Test on Model KTPS45-0950DT-3P-VI with PCB type SR							
Functional:							
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
L trace (Before fuse) C2 trace	340	240	1.5	3.5	2.4	3.5	
Between the ends of fuse (F1)	340	240	1.5	2.9	2.4	2.9	
Basic/supplementary:							
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)	
Primary trace Earth trace	340	240	2.0	See below	2.4	See below	
Line trace Earth trace near C2 (with groove) (see Figure 1)	340	240	2.0	4.0	2.4	5.1	
Reinforced:							
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)	
Primary components (with 10N) secondary components (with 10N)	340	240	4.0	See below	4.8	See below	

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Clause	Requirement + Test			Result - Remark		Verdict

Q1 HS (with 0.4mm silicone rubber)	340	240	4.0	9.0	5.0	9.0
R8 HS (with 0.4mm silicone rubber)	340	240	4.0	11.9	5.0	11.9
T1 core C18	628	295	4.6	4.8	5.9	8.0
T1 core C19	628	295	4.6	4.8	5.9	8.0
Primary trace Secondary trace	340	240	4.0	See below	4.8	See below
Line trace Earth trace (not reliable) near screw (with groove) (see Figure 2)	340	240	4.0	4.0	4.8	5.1
Neutral trace Earth trace (not reliable) near screw (with groove)	340	240	4.0	4.2	4.8	4.8
Under U2 trace	380	240	4.0	6.5	5.0	6.5
T1(3) trace R17 trace	420	250	4.0	5.8	5.0	5.8
Under C26 trace (with groove)	364	240	4.0	6.5	4.8	8.5
Under C14 trace	364	240	4.0	7.6	4.8	7.6
F1 trace HS (with 0.4mm mylar sheet)	340	240	4.0	5.8	5.0	5.8
Test on Model KTPS50-4811DT-3P-VI with PCB type SBD						
Primary trace Secondary trace	340	240	4.0	See below	4.8	See below
Under U2 trace	380	240	4.0	6.5	5.0	6.5
T1(3) trace ZD2(-) trace	408	256	4.0	5.8	5.2	5.8
T1(3) trace ZD2(+) trace	380	240	4.0	7.2	5.0	7.2
Under C14 trace	364	240	4.0	7.6	4.8	7.6

supplementary information:



2.10.5	TABLE: distance through insulation measurements					Pass
Distance through insulation (DTI) at/of:	U peak (V)	Urms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Photo Coupler (U2) (reinforced insulation) (manufacturer/type, see the table 1.5.1)	420	250	AC 3000	0.4	1)	
Enclosure (reinforced insulation)	420	250	AC 3000	0.4	1)	

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Clause	Requirement + Test	Result - Remark	Verdict

(manufacturer/type, see the table 1.5.1)					
Mylar Sheet (between PCB and U sharp Heat Sink)	420	250	AC 3000	0.4	0.4
1 layer of Insulation tape for T1 (manufacturer/type, see the table 1.5.1)	628	295	AC 3000	2 layers	2 layers
supplementary information:					
1) For details refer to table 1.5.1.					

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 operation									
Test results:									
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Verdict									
supplementary information:									

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Clause	Requirement + Test	Result - Remark	Verdict

4.3.8	<b>TABLE: Batteries</b>			N/A
Battery Category (Lithium, NiMh, NiCad, Lithium ion, etc.).....:				
Manufacturer.....:				
Type/Model.....:				
Voltage.....:				
Capacity (mAh).....:				
Tested and Certified by (incl. Ref. No.).....:				
Circuit protection diagram (Refer indicated supplement of Enclosure-Miscellaneous).....:				
<b>MARKINGS AND INSTRUCTIONS (1.7.13)</b>				
Location of replaceable battery.....:				
Language(s).....:				
Close to the battery.....:				
In the servicing instructions.....:				
In the operating instructions.....:				
supplementary information:				
Additional devices may be described in Enclosure - Miscellaneous				

4.5	<b>TABLE: Thermal requirements</b>					Pass
Supply voltage (V).....:	--	--	--	--	--	—
Ambient Tmin (°C).....:	--	--	--	--	--	—
Ambient Tmax (°C).....:	--	--	--	--	--	—
Maximum measured temperature T of part/at:	T (°C)					allowed Tmax (°C)
Test on Model KTPS45-0950DT-3P-VI	90V / 60Hz / Top	90V / 60Hz / Bottom	264V / 60Hz / Top	264V / 60Hz / Bottom	--	--
Inlet body	61.4	62.2	55.4	55.6	--	65
C2 body	87.8	89.2	69.9	70.7	--	125
C26 body	76.8	78.1	66.2	66.8	--	125
PCB body under BD1	88.5	88.0	72.7	72.9	--	105
L2 coil	97.1	97.1	72.7	73.5	--	130
C1 body	85.5	86.5	71.6	72.2	--	100
L1 coil near NFH1	84.6	85.6	70.9	71.3	--	130

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Clause	Requirement + Test			Result - Remark		Verdict
C4 body	89.7	90.0	76.8	77.7	--	105
H.S body near Q1	70.4	70.2	67.1	66.9	--	105
C14 body	82.0	81.5	80.0	79.5	--	125
T1 primary-side coil	90.8	91.6	89.9	90.5	--	110
T1 core	91.3	91.8	90.4	91.5	--	110
T1 secondary-side coil	94.8	96.2	95.1	96.7	--	110
U2 body	84.5	85.2	80.9	82.2	--	100
L3 coil	75.1	76.5	72.9	75.5	--	105
RV1 body	79.0	80.4	68.6	68.9	--	85
output wire body	74.4	74.6	72.3	73.4	--	80
Inside of enclosure near T1	67.8	71.7	67.0	70.7	--	120
Surface of enclosure near T1	56.5	64.8	56.1	63.9	--	95
Ambient Air	40.0	40.2	40.3	40.0	--	--
Test on Model KTPS50-1533DT-3P-VI	--	--	--	--	--	--
Inlet body	60.3	60.7	51.9	52.3	--	65
C2 body	85.8	87.2	63.6	64.4	--	125
C26 body	73.4	75.9	60.2	60.9	--	125
PCB body under BD1	81.3	82.7	65.0	65.0	--	105
L2 coil	96.5	96.6	67.8	68.7	--	130
C1 body	81.5	83.4	65.1	66.5	--	100
L1 coil near NFH1	84.1	85.7	66.6	67.1	--	130
C4 body	83.1	85.7	66.9	68.9	--	105
H.S body near Q1	65.1	65.9	59.7	59.9	--	105
C14 body	76.5	77.2	72.8	73.0	--	125
T1 primary-side coil	84.2	85.3	81.8	82.1	--	110
T1 core	81.5	82.2	80.1	80.9	--	110
T1 secondary-side coil	89.1	91.3	88.9	90.4	--	110
U2 body	76.1	76.3	70.4	70.5	--	100
L3 coil	67.0	68.4	64.1	65.9	--	105
RV1 body	78.0	79.3	63.2	63.3	--	85
output wire body	64.3	65.7	61.4	62.9	--	80
Inside of enclosure near T1	58.2	63.8	57.2	62.0	--	120
Surface of enclosure near T1	48.7	59.3	47.8	57.5	--	95
Ambient Air	40.1	40.3	40.0	40.3	--	--
Test on Model KTPS50-2421DT-3P-VI	--	--	--	--	--	--
Inlet body	62.7	63.6	54.6	54.7	--	65
C2 body	91.1	91.6	69.6	70.2	--	125
C26 body	79.3	81.1	65.4	66.1	--	125
PCB body under BD1	90.8	92.9	72.0	72.4	--	105
L2 coil	102.2	101.9	74.2	74.6	--	130
C1 body	83.9	84.7	68.9	69.6	--	100
L1 coil near NFH1	83.8	85.1	68.2	68.9	--	130
C4 body	91.5	93.3	75.7	76.5	--	105
H.S body near Q1	70.2	71.2	64.4	64.5	--	105
C14 body	82.3	83.7	79.6	80.0	--	125
T1 primary-side coil	89.4	91.5	88.3	89.2	--	110
T1 core	82.9	84.9	82.8	83.6	--	110
T1 secondary-side coil	86.8	89.6	86.5	87.4	--	110
U2 body	81.4	82.8	76.3	77.0	--	100
L3 coil	67.0	69.0	66.0	66.3	--	105
RV1 body	80.7	81.9	66.7	67.3	--	85

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Clause	Requirement + Test				Result - Remark	Verdict	
output wire body	65.7	67.1	63.7	63.7	--	80	
Inside of enclosure near T1	61.7	66.5	61.4	64.0	--	120	
Surface of enclosure near T1	51.9	59.0	52.1	57.2	--	95	
Ambient Air	40.0	40.6	40.3	40.3	--	--	
Test on Model KTPS50-4811DT-3P-VI	--	--	--	--	--	--	
Inlet body	58.2	59.2	53.4	53.1	--	65	
C2 body	86.1	87.6	68.7	69.0	--	125	
C26 body	79.9	81.1	68.2	67.9	--	125	
PCB body under BD1	95.8	96.6	77.9	77.9	--	105	
L2 coil	93.1	92.5	71.3	71.7	--	130	
C1 body	82.2	84.5	70.8	71.3	--	100	
L1 coil near NFH1	81.1	82.8	70.0	69.9	--	130	
C4 body	87.1	88.9	75.9	76.8	--	105	
H.S body near Q1	64.0	65.8	62.9	63.6	--	105	
C14 body	78.1	78.3	78.9	78.2	--	125	
T1 primary-side coil	83.0	85.4	80.1	85.8	--	110	
T1 core	83.5	84.4	88.8	88.8	--	110	
T1 secondary-side coil	93.8	95.6	101.0	102.1	--	110	
U2 body	80.5	80.2	81.2	80.8	--	100	
L3 coil	54.8	61.2	58.7	62.7	--	105	
RV1 body	78.3	79.9	67.7	67.7	--	85	
output wire body	63.4	65.0	63.9	65.2	--	80	
Inside of enclosure near T1	62.1	70.6	64.5	73.1	--	120	
Surface of enclosure near T1	50.8	63.9	53.2	65.5	--	95	
Ambient Air	40.3	40.6	40.3	40.3	--	--	
temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	allowed T <sub>max</sub> (°C)	insulation class
--	--	--	--	--	--	--	--
--							

4.5.5	<b>TABLE: Ball pressure test of thermoplastic parts</b>			N/A
	allowed impression diameter (mm) .....	less than or equal to 2.0		—
part		test temperature (°C)	impression diameter (mm)	
supplementary information:				
--				

4.7	<b>TABLE: resistance to fire</b>				Pass
part	manufacturer of material	type of material	thickness (mm)	flammability class	Evidence
(see appended tables 1.5.1)	--	--	--	--	--
supplementary information:					
--					

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Clause	Requirement + Test	Result - Remark	Verdict

5.1	<b>TABLE: touch current measurement</b>			Pass
Measured between:		Measured (mA)	Limit (mA)	Comments/Conditions
Test on Model KTPS50-4811DT-3P-VI		--	--	--
Plastic enclosure with foil		0.01	0.25	"e" – O; P1 – N
Plastic enclosure with foil		0.01	0.25	"e" – O; P1 – R
Output (-)(+)		0.189	0.25	"e" – O; P1 – N
Output (-)(+)		0.189	0.25	"e" – O; P1 – R
supplementary information: Test voltage: 264V, 60Hz				

5.2	<b>TABLE: electric strength tests, impulse tests and voltage surge tests</b>			Pass
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
--		--	--	--
Basic/supplementary:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
--		--	--	--
Reinforced:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Test on Model KTPS45-0950DT-3P-VI, KTPS50-1533DT-3P-VI, KTPS50-2421DT-3P-VI and KTPS50-4811DT-3P-VI		--	--	--
Unit Primary to secondary		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				

5.3	<b>TABLE: fault condition tests</b>		Pass
ambient temperature ( ° C) .....		: 25°C, if no other specified	—



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Clause	Requirement + Test	Result - Remark	Verdict

		Power source for EUT: Manufacturer, model/type, output rating..... :			--		—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Test on Model KTPS50-4811DT-3P-VI							
BD1 (1-2)	Short	240Vac	1sec	F1	3.15	IP (F1 opened) NT, NB, NC, Repeat all fuse result were same I/P: 0A	
C4 (+ ~ -)	Short	240Vac	1sec	F1	3.15	IP (F1 opened) NT, NB, NC, Repeat all fuse result were same I/P: 0A	
Q1 (G-S)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC I/P: 0.03A	
Q1 (G-D)	Short	240Vac	1sec	F1	3.15	IP (F1 opened) , CD (Q1, R8 damaged), NT, NB, NC, Repeat all fuse result were same I/P: 0A	
Q1 (D-S)	Short	240Vac	1sec	F1	3.15	IP (F1 opened) , CD (Q1, R8 damaged), NT, NB, NC, Repeat all fuse result were same I/P: 0A	
U2 (1-2)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC I/P: 0.03A	
U2 (3-4)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC I/P: 0.03A	
U2 (1)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC I/P: 0.03A	
U1 (8-2)	Short	240Vac	30min	F1	3.15	CD (Q1 damaged) , Repeat 2 times result was same, NT, NB , NC I/P: 0.03A	
T1 (3-4)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC I/P: 0.03A to 0.15A	
T1 (B-W)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC	

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Clause	Requirement + Test			Result - Remark	Verdict	
T1 (W) (After D6)	Overload	240Vac	6h:19m	F1	3.15	CT at 0.3A (Output load: 1.05A, total: 1.35A), increased to 0.4A, Unit shutdown, NT, NB, NC, T1 coil=114°C, U2=94°C, Ambient air=24.4°C. I/P: 0.648A
+48V-RTN	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
+48V	Overload	240Vac	7h:45m	F1	3.15	CT at 1.3A, Increased to 1.4A, Unit Shutdown, NT, NC, NB. T1 coil=121°C, U2=96°C, Ambient air=25.0°C. I/P: 0.687A
Test on Model KTPS45-0950DT-3P-VI						
T1 (3-4)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC. I/P: 0.03A to 0.15A
T1 (W-B)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC. I/P: 0.03A to 0.15A
T1 (R-W)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
T1 (R) (After D6)	Overload	240Vac	Overload	F1	3.15	CT at 0.1A (Output load:5A, total: 5.1A), increased to 0.2A, Unit shutdown, NT, NB, NC, T1 coil=108°C, U2=96°C, Ambient air=25.7°C. I/P: 0.565A,
+9V-RTN	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
+9V	Overload	240Vac	10h:52m	F1	3.15	CT at 6.3A, Increased to 6.4A,. Unit Shutdown, NT, NC, NB. T1 coil=100°C, U2=85°C, Ambient air=24.5°C. I/P: 0.657A,
Test on Model KTPS50-1533DT-3P-VI						

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Clause	Requirement + Test				Result - Remark	Verdict
T1 (3-4)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC. I/P: 0.03A to 0.23A
T1 (B-W)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC. I/P: 0.03A to 0.23A
T1 (W) (After D6)	Overload	240Vac	8h:47m	F1	3.15	CT at 0.9 A (Output load:3.34A, total:4.24A), increased to 1.3A, Unit shutdown, NT, NB, NC, T1 coil=128°C, U2=101°C, Ambient air=23.7°C. I/P: 0.705A
+15V-RTN	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
+15V	Overload	240Vac	6h: 50m	F1	3.15	CT at 4.5A, Increased to 4.6A, Unit Shutdown, NT, NC, NB. T1 coil=112°C, U2=86°C, Ambient air=23.5°C. I/P: 0.7A
Test on Model KTPS50-2421DT-3P-VI						
T1 (3-4)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC. I/P: 0.03A to 0.15A
T1 (B-W)	Short	240Vac	30min	F1	3.15	After 1sec, unit cycle Protection, IP (U1), NT, NB, NC. I/P: 0.03A to 0.15A
BD1 (1-2)	Short	240Vac	30min	F1	3.15	IP (F1 opened) NT, NB, NC, Repeat all fuse result were same. I/P: 0A
C4 (+ ~ -)	Short	240Vac	30min	F1	3.15	IP (F1 opened) NT, NB, NC, Repeat all fuse result were same. I/P: 0A
Q1 (G-S)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A

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

Q1 (G-D)	Short	240Vac	30min	F1	3.15	IP (F1 opened), CD (Q1, R8 damaged), NT, NB, NC, Repeat all fuse result were same. I/P: 0A
Q1 (D-S)	Short	240Vac	30min	F1	3.15	IP (F1 opened) , CD (Q1, R8 damaged), NT, NB, NC, Repeat all fuse result were same. I/P: 0A
U2 (1-2)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
U2 (3-4)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1),. NT, NB, NC. I/P: 0.03A
U2 (1)	Open	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
U1 (8-2)	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
T1 (W) (After D6)	Overload	240Vac	7h:22m	F1	3.15	CT at 0.6A (Output load:2.1A, total: 2.7A), increased to 0.8A, Unit shutdown, NT, NB, NC, T1 coil=109°C, U2=86°C, Ambient air=23.3°C. I/P: 0.701A
+24V-RTN	Short	240Vac	30min	F1	3.15	After 1sec, unit Shutdown, IP (U1), NT, NB, NC. I/P: 0.03A
+24V	Overload	240Vac	9h:01m	F1	3.15	CT at 2.7A, Increased to 2.88A, Unit Shutdown, NT, NC, NB. T1 coil=110°C, U2=87°C, Ambient air=24.3°C. I/P: 0.634A

supplementary information:

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
- A: Circuit measures 10 KS or more series impedance
- B: Circuit measures 0 Voltage
- C: Other. Please explain.

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

I/P: Input current  
 IP: Internal protection operated (list component)

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)	628	295	AC 3000	4.6	5.9	0.4
T1	Secondary to Core (Reinforced)	628	295	AC 3000	4.6	5.9	0.4
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	15.1	15.1	Triple wire used.
T1	Secondary to Core (Reinforced)			AC 3000	15.1	15.1	Triple wire used.
Transformer type number				Enclosure - Miscellaneous ID			
See critical component list				--			
supplementary information:							
T1 type R53S10-4190 (Represent all manufacturer Mao Hsin, Dong Guan Readore, Dongguanshi PuHang and Newline)							

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

1.Outline Dim. Dwg. (Unit: m/m) 外型尺寸圖

標籤:  
R53510-4190  
GH-130 E182305  
MH XXXXX  
XXX XXX  
年 週期

Note:

- Pin 5 Cut Off, Pin 2 Cut Off 2/3.
- 繞線方向: 底視反時針.
- Core Tape 2Ts.
- 鐵心組合後, 沿線包處, 包 Tape 2Ts, 加矽膠銅箔(0.025x8wx1T), 引線加套管, 接 Pin 3, 焊點接合於 Pin (1,3) 側 ~ 無 Pin 側 鐵心上, 在於頂部 Pin (1-3) 側, 貼二塊 Tape (0.025x1.5wx33mm) 多餘部份往下折, 如上視圖示, 最後線包外圍包 Tape 2Ts 固定.
- W, B & R 為飛線出線方式及長度如下:  
(1) W 線 一 由 Bobbin 無 Pin 端, 頂部中間凹槽處, 出線, 加透明套管, (W 線三條需扭線再焊錫).  
(2) B 線 一 由 Bobbin 無 Pin 端, 頂部中間凹槽出線, 加黑色套管, (B 線二條需扭線再焊錫).  
(3) R 線 一 由 Bobbin 無 Pin 端, 頂部中間凹槽出線, 加黑色套管.  
(長度由 Bobbin 頂部量起 30±2, 不含焊錫 3±1).
- W & B 線 一 長度由 Bobbin 頂部量起約 25 Ref, 不含焊錫 11±1.
- 產品完成後須組裝外殼, 再將 W & B 線穿過外殼固定, 如上圖所示.
- 產品須點膠固定, (点在 Pin1 腳頂部與斜對角兩点) 如左圖一示.
- 產品須使用環保材料.

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

2. Schematic: (線路圖)

3. Winding: (剖面圖)

4. Winding Table: (繞線結構)

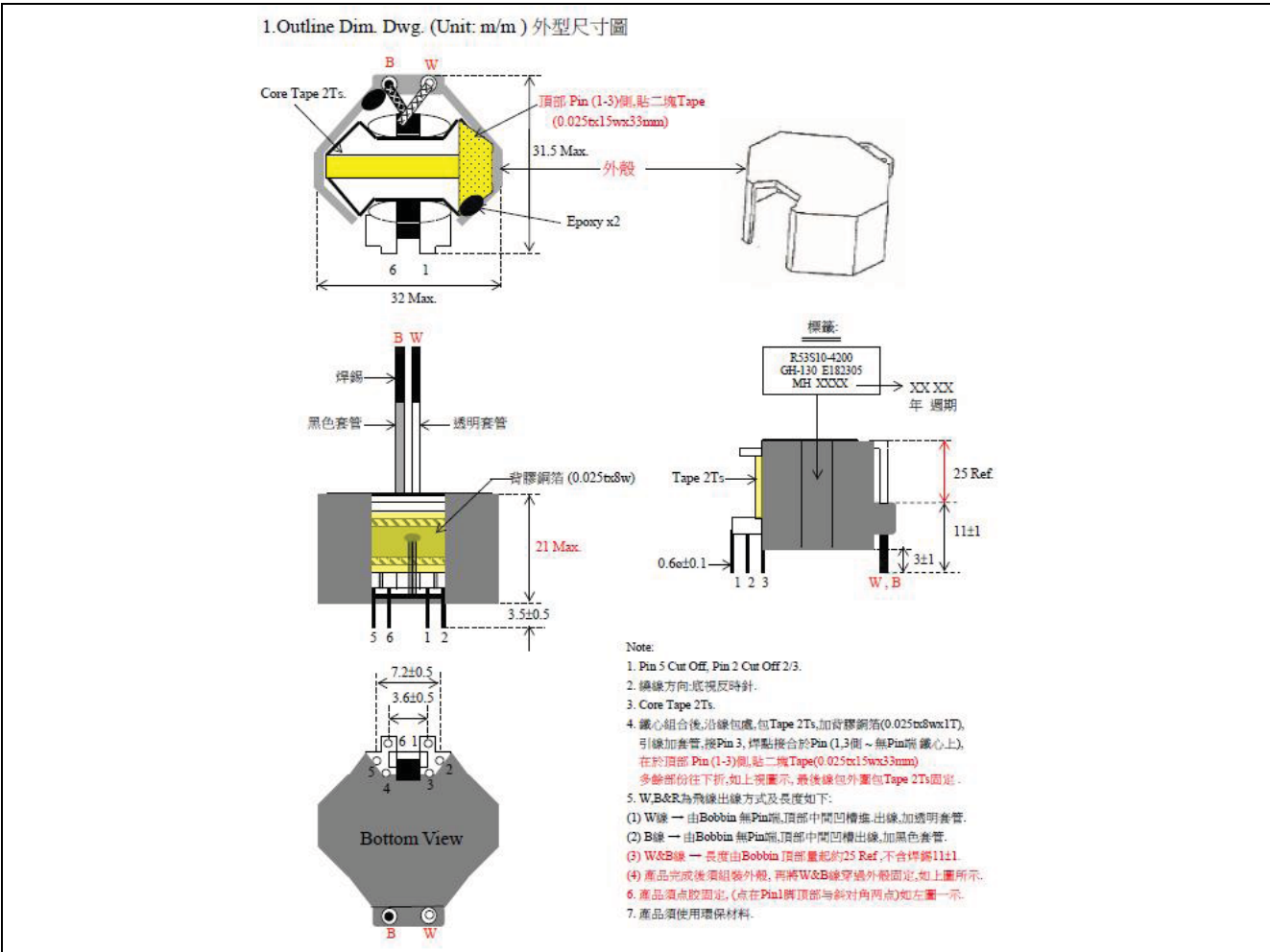
Step	Symbol	Winding Detail				Margin Tape		Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns	M	Pin Side / Top Side	
1	N1	1	2	0.4 $\phi$	21	密繞	0	1
2	E1	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
3	N2	W	B	0.65 $\phi$ x2 (TRW-B)	5	密繞	0	1
4	N3	W	B	0.65 $\phi$ x2 (TRW-B)	5	密繞	0	2
5	N4	4	3	0.3 $\phi$ x2	10	密下	0	0
6	N5	R	W	0.2 $\phi$ (TRW-B)	4	密上	0	2
7	E2	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
8	N6	2	6	0.4 $\phi$	21	密繞	0	1
9	B 線四條加黑色套管,折向頂部中間凹槽出線							
9	E3	3	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:

- 繞線方向:底視反時針.
- Pin 加 Teflon Tube.
- 繞線需平整,同層不可疊繞
- N2,N3,N5 使用三層絕緣線,繞線方式:
  - W線 → 由Bobbin 無Pin端,頂部中間凹槽進出線,加透明套管.
  - B線 → 由Bobbin 無Pin端,底部中間凹槽出線.先不加套管,待N6繞線完成後,加黑色套管,折至頂部中間凹槽出線,包Tape 2Ts.
  - R線 → 由Bobbin 無Pin端,頂部中間凹槽進線.加黑色套管.
- N4,N5同層密繞,N5繞於N4剩餘處.
- E1,E2&E3 使用背膠銅箔,繞制時,E1背膠朝上,E2背膠朝下.

T1 type R53S10-4200 (Represent all manufacturer Mao Hsin, Dong Guan Readore, Dongguanshi PuHang and Newline)

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





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

**2. Schematic: (線路圖)**

**3. Winding: (剖面圖)**

**4. Winding Table: (繞線結構)**

Step	Symbol	Winding Detail				Margin Tape Pin Side / Top Side	Mylar Tape	
		Start Pin	Finish Pin	Wire m/m	Turns			
1	N1	1	2	0.4φ	21	密繞	0	1
2	E1	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
3	N2	W	B	0.9φ (TRW-B)	7	密繞	0	2
4	N3	4	3	0.25φx3	10	密繞	0	2
5	E2	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
6	N4	2	6	0.4φ	21	密繞	0	1
7	B 線一條加黑色套管,折向頂部中間凹槽出線							2
8	E3	3	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

**Note:**

- 繞線方向:底視反時針.
- Pin 加 Teflon Tube.
- 繞線需平整,同層不可疊繞
- N2 使用三層絕緣線,繞線方式:  
 (1) W線 → 由Bobbin 無Pin端,頂部中間凹槽入線,加透明套管.  
 (2) B線 → 由Bobbin 無Pin端,底部中間凹槽出線,先不加套管,待N5繞線完成後,加黑色套管.  
 反折至頂部中間凹槽出線,包Tape 2Ts.
- E1, E2&E3 使用背膠銅箔,繞制時,E1背膠朝上,E2背膠朝下.

T1 type R53S10-4210 (Represent all manufacturer Mao Hsin, Dong Guan Readore, Dongguanshi PuHang and Newline)

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

1.Outline Dim. Dwg. (Unit: m/m) 外型尺寸圖

The drawing includes the following details:

- Top View:** Shows a hexagonal core with dimensions  $W$  and  $B$ . Labels include "Core Tape 2Ts", "頂部 Pin (1-3) 側, 貼二塊 Tape (0.025x1.5wx33mm)", "31.5 Max.", "外殼", and "Epoxy x2". Dimensions  $6$  and  $1$  are shown, with a total width of  $32$  Max.
- Side View:** Shows the assembly with labels "抽線, 焊錫", "透明套管", "黑色套管", "背膠銅箔 (0.025x0.8w)", and "21 Max.". Dimensions  $5$ ,  $6$ ,  $1$ , and  $2$  are shown, with a total height of  $3.5 \pm 0.5$ .
- Bottom View:** Shows the core with dimensions  $7.2 \pm 0.5$  and  $3.6 \pm 0.5$ . Labels include "Bottom View", "W", and "B".
- Detail View:** Shows a cross-section of the tape with labels "標識: R53510-4210 GH-130 E182305 MH XXXXX", "Tape 2Ts", "25 Ref", "11±1", "0.6±0.1", "1 2 3", and "B, W".

**Note:**

- Pin 5 Cut Off, Pin 2 Cut Off 2/3.
- 繞線方向: 底視反時針.
- Core Tape 2Ts.
- 鐵心組合後, 沿線包裹, 包Tape 2Ts, 加背膠銅箔(0.025x0.8wx1T), 引線加套管, 排Pin 3, 焊點接合於Pin (1,3)側 ~ 無Pin端 鐵心上, 在於頂部 Pin (1-3)側, 貼二塊Tape (0.025x1.5wx33mm) 多餘部份往下折, 如上視圖示, 最後線包外圍包Tape 2Ts固定.
- W,B&R為飛線出線方式及長度如下:
  - W線 一 由Bobbin 無Pin端, 頂部中間凹槽處 出線, 加透明套管, (W線二條需扭線再焊錫).
  - B線 一 由Bobbin 無Pin端, 頂部中間凹槽出線, 加黑色套管, (B線二條需扭線再焊錫).
  - W&B線 一 長度由Bobbin 頂部量起約25 Ref, 不含焊錫11±1.
- 產品完成後須組裝外殼, 再將W&B線穿過外殼固定, 如上圖所示.
- 產品須點膠固定, (點在Pin1腳頂部與斜對角兩點) 如上圖一示.
- 產品須使用環保材料.

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

2. Schematic: (線路圖)

3. Winding: (剖面圖)

4. Winding Table: (繞線結構)

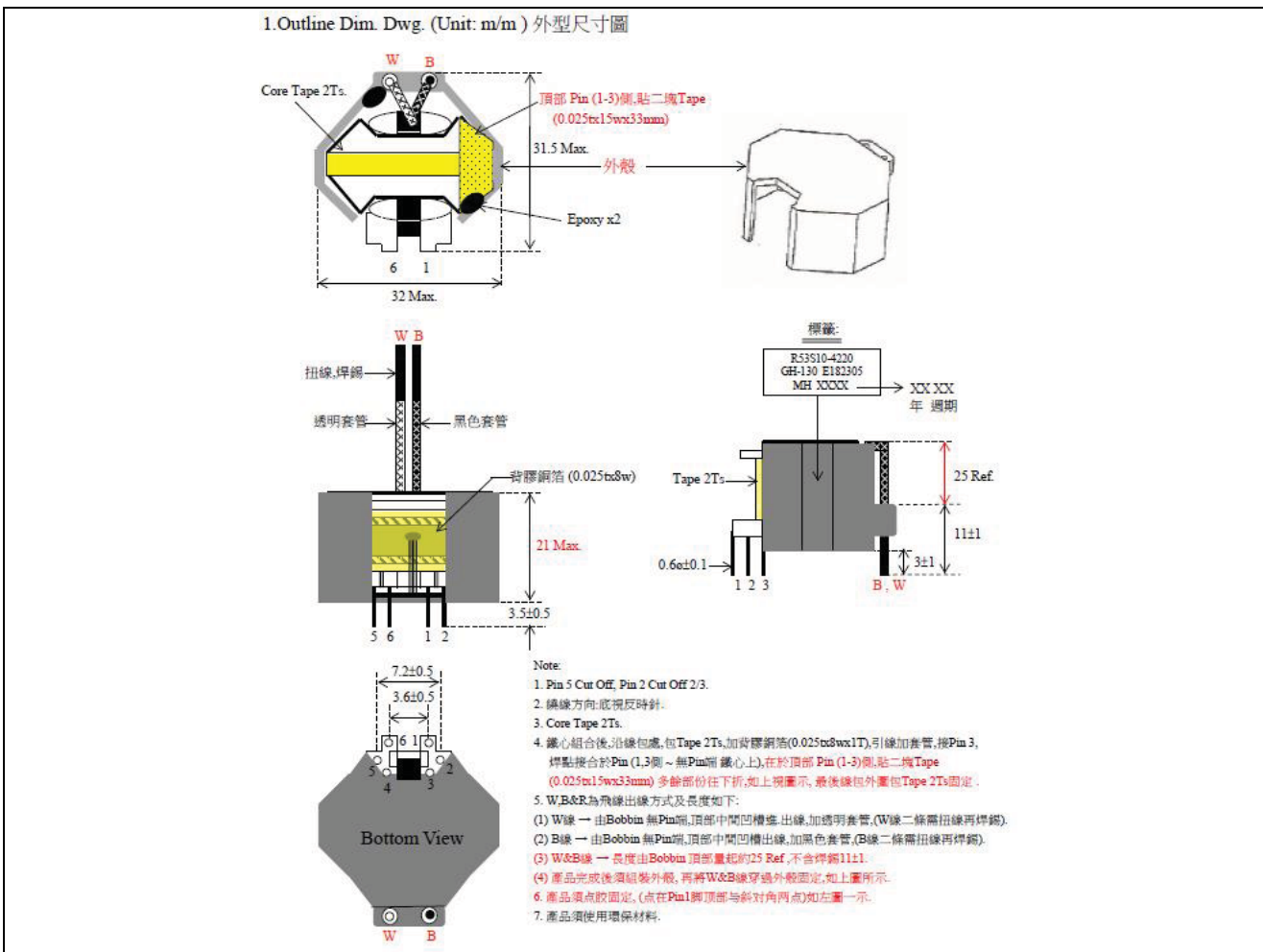
Step	Symbol	Winding Detail				Margin Tape Pin Side / Top Side	Mylar Tape	
		Start Pin	Finish Pin	Wire m/m	Turns			
1	N1	1	2	0.4 $\phi$	21	密繞	0	1
2	E1	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
3	N2	W	B	0.7 $\phi$ (TRW-B)	10	密繞	0	1
4	N3	W	B	0.7 $\phi$ (TRW-B)	10	密繞	0	2
5	N4	4	3	0.25 $\phi$ x3	10	密繞	0	2
6	E2	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
7	N5	2	6	0.4 $\phi$	21	密繞	0	1
8	B 線兩條加黑色套管,折向頂部中間凹槽出線							2
9	E3	3	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

Note:

- 繞線方向:底視反時針.
- Pin 加 Teflon Tube.
- 繞線需平整,同層不可疊繞
- N2,N3 使用三層硬線線,繞線方式:  
 (1) W線 → 由Bobbin 無Pin端,頂部中間凹槽入線,加透明套管.  
 (2) B線 → 由Bobbin 無Pin端,底部中間凹槽出線,先不加套管,待N5繞線完成後,加黑色套管,反折至頂部中間凹槽出線,包Tape 2Ts.
- E1,E2&E3 使用背膠銅箔,繞制時,E1背膠朝上,E2背膠朝下.

T1 type R53S10-4220 (Represent all manufacturer Mao Hsin, Dong Guan Readore, Dongguanshi PuHang and Newline)

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



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

2. Schematic: (線路圖)

3. Winding: (剖面圖)

4. Winding Table: (繞線結構)

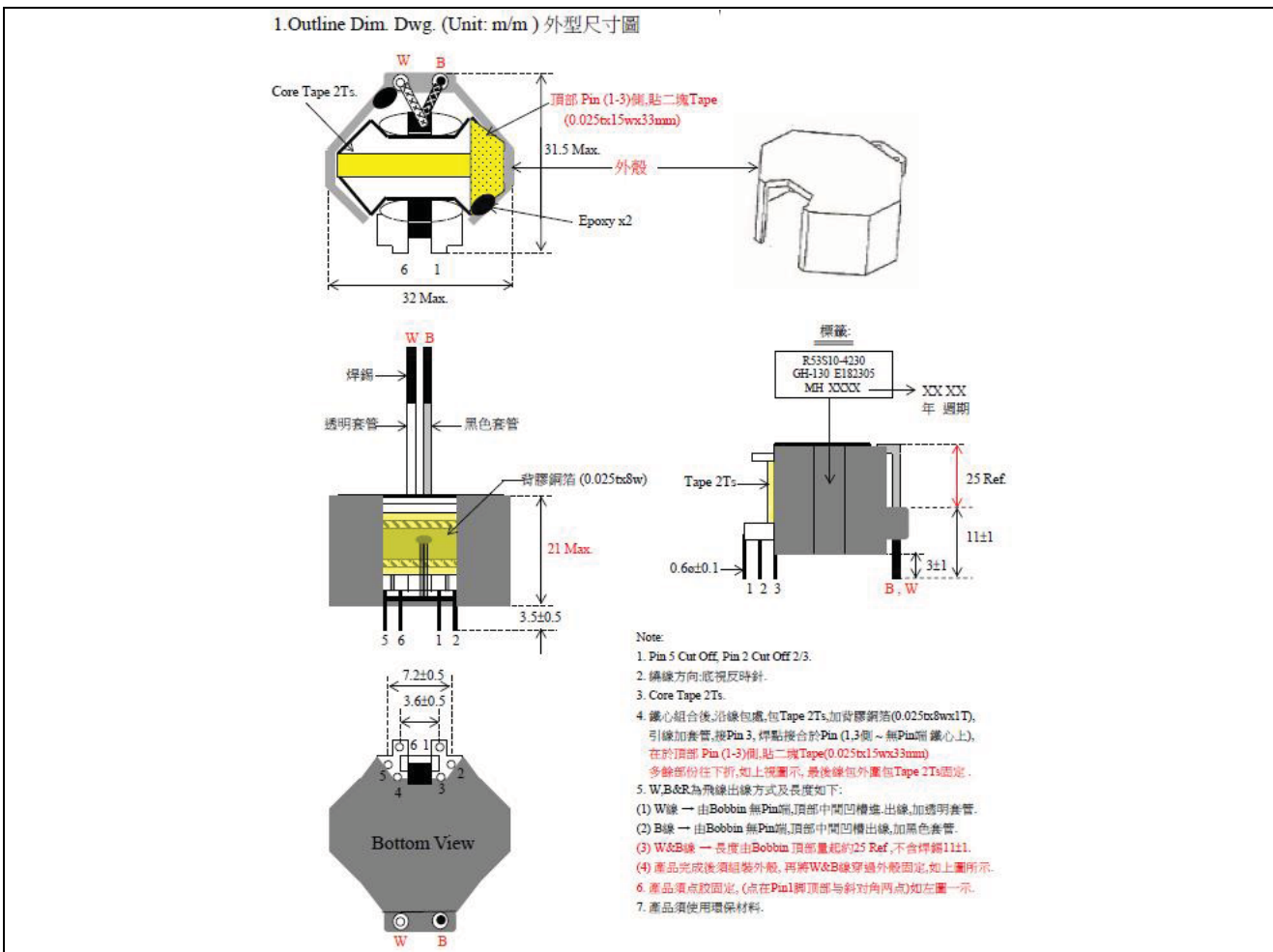
Step	Symbol	Winding Detail				Margin Tape Pin Side / Top Side	Mylar Tape		
		Start Pin	Finish Pin	Wire m/m	Turns				
1	N1	1	2	0.4ø	21	密繞	0	1	
2	E1	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2	
3	N2	W	B	0.6ø (TRW-B)	11	密繞	0	1	
4	N3	W	B	0.6ø (TRW-B)	11	密繞	0	2	
5	N4	4	3	0.25øx3	9	密繞	0	2	
6	E2	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2	
7	N5	2	6	0.4ø	21	密繞	0	1	
8	B 線兩條加黑色套管,折向頂部中間凹槽出線							0	2
9	E3	3	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2	

Note:

- 繞線方向:底視反時針.
- Pin 加 Teflon Tube.
- 繞線需平整,同層不可疊繞
- N2,N3 使用三層絕緣線,繞線方式:  
(1) W線 → 由Bobbin 無Pin端,頂部中間凹槽入線,加透明套管.  
(2) B線 → 由Bobbin 無Pin端,底部中間凹槽出線.先不加套管,待N5繞線完成後,加黑色套管,反折至頂部中間凹槽出線,包Tape 2Ts.
- E1,E2&E3 使用背膠銅箔,繞制時,E1背膠朝上,E2背膠朝下.

T1 type R53S10-4230 (Represent all manufacturer Mao Hsin, Dong Guan Readore, Dongguanshi PuHang and Newline)

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



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

**2. Schematic: (線路圖)**

**3. Winding: (剖面圖)**

**4. Winding Table: (繞線結構)**

Step	Symbol	Winding Detail				M	Margin Tape Pin Side / Top Side	Mylar Tape
		Start Pin	Finish Pin	Wire m/m	Turns			
1	N1	1	2	0.4 $\phi$	21	密繞	0	1
2	E1	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
3	N2	W	B	0.55 $\phi$ (TRW-B)	24	密繞	0	2
4	N3	4	3	0.25x3	10	密繞	0	2
5	E2	3	-	Copper Foil (0.025t x 8w)	1	背膠	0	2
6	N4	2	6	0.4 $\phi$	21	密繞	0	3
7	E3	3	-	Copper Foil (0.025t x 8w)	1	背膠	沿成品外圍線包處	2

**Note:**

- 繞線方向: 底視反時針.
- Pin 加 Teflon Tube.
- 繞線需平整, 同層不可疊繞.
- N2 使用三層絕緣線, 繞線的三層, 層與層之間須層間絕緣 1T, 繞線方式:  
 (1) W線 → 由 Bobbin 無 Pin 端, 頂部中間凹槽入線, 加透明套管.  
 (2) B線 → 由 Bobbin 無 Pin 端, 頂部中間凹槽出線, 加黑色套管.
- E1, E2 & E3 使用背膠銅箔, 繞制時, E1 背膠朝上, E2 背膠朝下.

## **Enclosure**

### **National Differences**

**Argentina**

**Australia / New Zealand**

**Austria\*\***

**Belarus\***

**Belgium\*\***

**Bulgaria\*\***

**China**

**Czech Republic\*\***

**Denmark**

**Finland**

**France\*\***

**Germany**

**Greece\*\***

**Group**

**Hungary\*\***

**India\***

**Ireland**

**Israel**

**Italy\*\***

**Japan**

**Korea**

**Malaysia\***

**Netherlands\*\***

**Norway**

**Poland\*\***

**Portugal\*\***

**Romania\*\***

**Saudi Arabia\***

**Serbia\*\***

**Singapore\***

**Slovakia\*\***

**Slovenia\*\***

**South Africa\***

**Spain**

**Sweden**

**Switzerland**



**USA / Canada**  
**Ukraine\***  
**United Kingdom**

\* No National Differences  
Declared

\*\* Only Group Differences

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<b>Argentina - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
General	Argentina has national differences declared to 60950-1:2005 + A1:2009.		Pass
1.5.2	Certified plug according to IRAM 2063 (two prong) or IRAM 2073 (three prong) are used in accordance with their ratings	Addition investigation when submitted for National Approval.	N/A
1.7.2	Operating/safety instructions made available to the user in Spanish. Product information appears on the product.	Addition investigation when submitted for National Approval.	N/A
3.2	Plugs shall be in conformity with IRAM 2063 Standard for Class II and IRAM 2073 Standard for Class I appliances (Resolution 524/98)	Addition investigation when submitted for National Approval.	N/A
4.3.6	Adapters/Transformers provided with integrated plugs shall be provided with blades which shall meet the geometry of IRAM 2063 standard for Class II appliances or IRAM 2073 standard for Class I appliances (Resolution 524/98)		N/A
General	Household power supply sources are 220 V a.c., 50 Hz		Pass

<b>Australia / New Zealand - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
General	Australia has national differences declared for 60950-1:2005 (below).		Pass
1.2.12.201	Addition: POTENTIAL IGNITION SOURCE Possible fault which can starts 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 15VA. 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		Pass
1.5.1	Add to the end of the first paragraph and in note 1 after the word "standard"; "or the relevant Australian / New Zealand Standard".		Pass
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'.		Pass
3.2.5.1	Replace the first four rows for Table 3B with the following: Sizes of Conductors -----	Additional investigation when submitted for National Approval.	N/A

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	<p>Rated Current of Equipment (A)</p> <p>Nominal cross-sectional area (mm<sup>2</sup>)</p> <hr/> <p>0.2 &lt;= 3      0.5 1)</p> <p>3 &lt;= 7.5      0.75</p> <p>7.5 &lt;= 10      (0.75) 2) 1.00</p> <p>10 &lt;= 16      (1,0) 3) 1.5</p> <hr/> <p>Replace footnote 1) with the following:                      1) This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord or cord guard, enters the appliance, and the entry to the plug, does not exceed 2 m (0.5 mm<sup>2</sup> three-core supply flexible cords are not permitted; see S/NZS 3191).</p> <p>Delete Note 1.</p>		
4.1.201	<p>Addition: Display devices used for television purposes</p> <p>Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television received, specified in AS/NZS 60065.</p>		N/A
4.3.6	<p>Replace the third paragraph: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>		N/A
4.3.13.5	<p>Add the following to the end of the first paragraph: "or AS/NZS 2211.1"</p>		N/A
4.7	<p>Add after the clause: For alternative resistance to fire tests, refer to Clause 4.7.201</p>		N/A
4.7.201.1	<p>Addition: Resistance to fire - Alternative tests</p> <p>General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following:</p> <p>(a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings</p>		N/A

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	<p>completely, and for ventilation not exceeding 1 mm in width regardless of length.</p> <p>(b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> <li>- small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings;</li> <li>- small electrical components, such as capacitors with a volume not exceeding 1,750 mm<sup>3</sup>, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10.</li> </ul> <p>NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another.</p> <p>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p>		
4.7.201.2	<p>Addition: Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p>		N/A
4.7.201.3	<p>Addition: Testing of insulating materials</p> <p>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3mm of the connection.</p> <p>NOTE Contacts in components such as switch</p>		N/A

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	<p>contacts are considered to be connections.</p> <p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <p>Clause of AS/NZS 60695.11.5 Change</p> <p>9 Test procedure</p> <p>9.2 Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. Replace the second paragraph with: The duration of application of the test flame shall be 30s + 1s.</p> <p>9.3 Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test.</p> <p>11 Evaluation of test results Replace with: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p> <p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.</p>		
4.7.201.4	<p>Addition: Testing in the event of non-extinguishing material - If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 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</p>		N/A

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	<p>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.</p>		
4.7.201.5	<p>Addition: 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</p> <ul style="list-style-type: none"> <li>- Printed board does not carry any POTENTIAL IGNITION SOURCE;</li> <li>- Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category 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</li> <li>- Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category 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.</li> </ul> <p>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</p>		N/A

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	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 (not in New Zealand) only, compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.		N/A
6.2.2.1	For Australia only, delete the first paragraph including the note and replace with the following: In Australia only(not in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of Annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, Uc is: (i) for 6.2.1a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment and (ii) for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 - The 7 kV impulse is to simulate lightning surges on typical rural and semi-rural network lines. NOTE 202 - The value of 2.5 kV for 6.2.1a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note and replace with the following: In Australia (not New Zealand), the a.c. test voltage is: (i) for 6.2.1a) 3 kV; and (ii) for 6.2.1b) and 6.2.1c) 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.		N/A
7.3	Add the following before the first paragraph:Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunication purposes.		N/A
P	Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification— Plugs and socket-outlets		Pass

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<b>China - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
General	China has national differences declared for 60950-1:2005 (below).		Pass
1.1.2	Revised third dashed paragraph to read: equipment intended to be used in vehicles, on board ships or aircraft, in tropical countries, or at altitudes greater than 5000m;		Pass
1.4.5	Amend the second paragraph and the two following dash paragraphs as: 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, in which case the tolerance shall be taken as the wider value.		Pass
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.  Add note 1: for equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater.  Add note 2: for equipment is to be operated at 2000m-5000m above sea level, its temperature test conditions and temperature limits are considered.	Equipment was investigated and complied with requirements for Tma 40 °C and altitude up to 2000 meters. Addition investigation when submitted for National Approval.	Pass
1.5.2	Add a note behind the first dashed paragraph. Note: A component used shall comply with related requirements corresponding altitude of 5000m.	Addition investigation when submitted for National Approval.	N/A
1.7	Add a paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Safety instructions in English. Other languages will be provided when submitted for National Approval.	Pass
1.7.1	Amend dashed paragraph at the fifth paragraph : The RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz		Pass
1.7.2.1	Add requirements of warning for equipment	Equipment was investigated	N/A



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	<p>intended to be used at altitude 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."</p> <p>For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions." If only the 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 intended to be used.</p>	<p>and complied with requirements for Tma 40 °C and altitude up to 2000 meters. Addition investigation when submitted for National Approval.</p>	
2.7.1	<p>Amended the first paragraph 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.</p>		Pass
2.9	<p>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.</p>		Pass
2.9.2	<p>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±2°C and a relative humidity of (93±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±3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot</p>		Pass

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	<p>shock, specific requirements are to be considered.</p> <p>Add note: For equipment to be operated at 2000m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.</p>		
2.10.3.1	<p>Amend the third paragraph of Clause 2.10.3.1 to be:</p> <p>These requirements apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at more than 2000m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.</p>	<p>Equipment was investigated and complied with requirements for Tma 40 °C and altitude up to 2000 meters. Addition investigation when submitted for National Approval.</p>	N/A
2.10.3.3	<p>Add "(applicable for altitude up to 2000m)" in header of Table 2K, 2L and 2M.</p>		N/A
2.10.3.4	<p>Add "(applicable for altitude up to 2000m)" in header of Table 2K, 2L and 2M.</p>		N/A
2.10.3.4	<p>Add a new section above Table 2K and in Clause 2.10.3.4:</p> <p>Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment operated at 2000m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1 (IEC 60664-1). For equipment to be operated at more than 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.</p>		N/A
3.2.1.1	<p>Add a paragraph before the last paragraph:</p> <p>Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.</p>	<p>Required addition investigations when submitted for National Approval.</p>	N/A
4.2.8	<p>Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011.</p> <p>Delete note of Clause 4.2.8.</p>	<p>No CRT.</p>	N/A
E	<p>Amend last section:</p> <p>For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall</p>		N/A

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	be added to the calculated temperature rise. Add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.		
G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		N/A
BB	Amended as: The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.		Pass
DD	Added annex DD: Instructions for the new safety warning labels. DD.1 Altitude warning label Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m. DD.2 Climate warning label Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment . There may be some potential safety hazard if the equipment is used in tropical climate region.	Addition investigation when submitted for National Approval.	N/A
EE	Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighu.		N/A
Other	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		Pass
Other	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		Pass

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	<p>corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments.</p> <p>For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> <li>- If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted;</li> <li>- If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted;</li> <li>- If the date of the national standard or industry standard is not given, the latest edition of the standard applies;</li> <li>- The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard.</li> </ul> <p>When quoting several chapters or clauses of the international standard, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> <li>- If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted;</li> <li>- If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted.</li> </ul> <p>Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1:2005.</p>		
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<b>Denmark - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
1.2.4.1	In Denmark, certain types of Class I appliances (see sub-clause 3.2.1.1) may be provided with plug not establishing earthing continuity when inserted into Danish socket-outlets.		N/A
1.7.2.1	CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to	Required addition investigations when submitted for National Approval.	N/A

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	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: : "Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord."		
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For stationary equipment, the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N/A
1.7.5	For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a. (Heavy Current Regulations, Section 107-2-D1)		N/A
3.2.1.1	Supply cord 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 contact 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.	Required addition investigations when submitted for National Approval.	N/A

<b>Finland - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
1.5.7.1	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.	Required addition investigations when submitted for National Approval.	N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	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	Required addition investigations when submitted for National Approval.	N/A

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	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 shall be: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"		
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.3	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - STATIONARY PLUGGABLE EQUIPMENT TYPE A that: (1) is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and (3) is provided with instructions for the installation of that conductor by a SERVICE PERSON; - STATIONARY PLUGGABLE EQUIPMENT TYPE B - STATIONARY PERMANENTLY CONNECTED EQUIPMENT		N/A
6.1.2.1	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		N/A

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	<p>of 1,5 kV.</p> <p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994 (EN 60384-14:2005), subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400 [EN 60384-14:2005], may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400 [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;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 132400 [EN 60384-14];</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400 [EN 60384-14], in the sequence of tests as described in EN 132400 [EN 60384-14].</li> </ul>		
6.1.2.2	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 center, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	Requirements according to this annex 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A

<b>Germany - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
1.7.2.1	If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A

<b>Group - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
General	Group Differences also includes the requirements		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	in A11:2009 and A12:2011		
1.3	A12:2011 - In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Deleted.	N/A
1.5.1	Add the following NOTE Z1: The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC	It should be provided in national approval.	N/A
1.7.2.1	Delete NOTE Z1 and the addition for Portable Sound System Add the following Zx clauses and annex to the existing standard and amendments		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) 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.		Pass
2.7.2	Void		N/A
3.2.3	Delete the NOTE and conduit sizes in parentheses in Table 3A		N/A
3.2.5.1	Add the following Note: NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD.  In Table 3B, replace the first four lines by the following:	A power supply cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer; proper application is determined by the country's local Certification	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	<p>Up to and including 6 0.75 a)  Over 6 up to and including 10 0.75 b) 1.0  Over 10 up to and including 16 1.0 c) 1.5</p> <p>In the conditions applicable to table 3B, delete the words "in some countries" in condition a).  In Note 1, applicable Table 3B, to delete the second sentence.</p>	Body.	
3.3.4	<p>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 by 4"</p> <p>Delete the fifth line: conductor sizes for 13 to 16A.</p>		N/A
4.3.13.6	<p>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 this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.</p>		N/A
H	<p>Replace the last paragraph of this annex by:  At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 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.</p>		N/A
Zx	Protection against excessive sound pressure from personal music players		N/A
Zx.1	<p>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.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> <li>- is designed to allow the user to listen to recorded or broadcast sound or video; and</li> <li>- primarily uses headphones or earphones that can be worn in or on or around the ears; and</li> <li>- allows the user to walk around while in use.</li> </ul>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	<p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> <li>- while the personal music player is connected to an external amplifier; or</li> <li>- while the headphones or earphones are not used.</li> </ul> <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> <li>- hearing aid equipment and professional equipment;</li> </ul> <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p> <ul style="list-style-type: none"> <li>- analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</li> </ul> <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		
Zx.2	<p>Equipment Requirements - No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> <li>- equipment provided as a package (personal music player with its listening device), where the acoustic output LAeq,T is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and</li> <li>- a personal music player provided with an</li> </ul>		N/A

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	<p>analogue electrical output socket for a listening device, where the electrical output is <math>\leq 27</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1.</p> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level LAeq,T is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <ul style="list-style-type: none"> <li>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</li> <li>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</li> <li>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</li> </ul> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <ul style="list-style-type: none"> <li>d) have a warning as specified in Zx.3; and</li> <li>e) not exceed the following:               <ul style="list-style-type: none"> <li>1) equipment provided as a package (player with its listening device), the acoustic output shall be <math>\leq 100</math> dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and</li> <li>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be <math>\leq 150</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. For music where the average sound pressure (long term LAeq,T) measured over the duration of the song is lower than the average produced by the programme</li> </ul> </li> </ul>		
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Clause	Requirement + Test	Result - Remark	Verdict
	<p>simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term LAeq,T) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		
Zx.3	<p>Warning - The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> <li>- the symbol of Figure 1 (IEC 60417-6044) with a minimum height of 5 mm; and</li> <li>- the following wording, or similar:                      “To prevent possible hearing damage, do not listen at high volume levels for long periods.”</li> </ul> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level</p>		N/A
Zx.4	Requirements for Listening devices (headphones and earphones)		N/A
Zx.4.1	<p>Wired listening devices with analogue input                      With 94 dBA sound pressure output LAeq,T, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be <math>\geq 75</math> mV.</p> <p>This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A
Zx.4.2	<p>Wired listening devices with digital input                      With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the</p>		N/A

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	<p>acoustic output LAeq,T of the listening device shall be ≤ 100 dBA.</p> <p>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		
Zx.4.3	<p>Wireless listening devices In wireless mode:</p> <ul style="list-style-type: none"> <li>- with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and</li> <li>- respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and</li> <li>- with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA.</li> </ul> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
Zx.5	<p>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.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A

Ireland - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Ireland has national differences declared for 60950-1:2005, Am 1:2009 (below).		Pass
3.2.1.1	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.	A power supply cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer; proper application is determined by the country's local Certification Body.	N/A
4.3.6	DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		
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<b>Israel - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
General	Israel has national differences declared for 60950-1:2005, Am 1:2009 (below).		Pass
1.6.1	Add Note: This clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.		N/A
1.7	Add: Sub-clause 1.7.201 shall be added at the beginning of the clause.		N/A
1.7.2.1	Add: All the instructions and warnings related to safety shall also be written in the Hebrew language.		N/A
1.7.201	The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition, the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language. The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed. 1) name of the apparatus and its commercial designation; 2) Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3) Manufacturer's registered trademark, if any; 4) Name of the model and serial number, if any; 5) country of manufacturer		N/A
2.9.4	Add: Seven means of protection against electrocution are permitted according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991. The seven are 1) TN-S or TN-C-S 2) TT 3) IT 4) Isolated Transformer 5) Safety extra low voltage (SELV or ELV) 6) Residual current circuit breaker (30 ma = 1delta) 7) reinforced insulation; double insulation (Class II)		N/A
2.201	Add: Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the standard series SI 961, shall be checked. The apparatus		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	shall meet the requirements in the appropriate part of the standard series SI 961. If there are components of the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this standard.		
3.2.1.1	Add after the note: The feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.		N/A
3.2.1.2	Add: At the end of the first paragraph add the following note: At the time of issue of the standard, there is no Israel Standard for connection accessories to d.c.		N/A

Japan - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	NCBs are issuing and recognizing to 60950-1:2005, Am 1:2009. Japan has declared differences to 60950-1:2001 (see below.)		Pass
1.2.4.1	Addition of the following note: 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.	Class I equipment. Additional investigation when submitted for National Approval if a 2-pin cord set with an earthing lead.	N/A
1.2.4.3A	Addition of new clause 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.		N/A
1.3.2	Add after the 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.	Additional investigation when submitted for National Approval.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Replace the first paragraph with: 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 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.		Pass
1.5.1	Replace note 1 with: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.		Pass
1.5.2	Replace the 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.		Pass
1.5.2	Add the following note after the first dashed paragraph: 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.		Pass
1.5.2	Replace first sentence in the third dashed paragraph with the following: 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.		Pass
1.5.6	In this sub-clause, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.		Pass
1.5.7.2	In this sub-clause, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.		Pass
1.5.8	In the first paragraph, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.		Pass



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Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Replace fifth dashed paragraph with the following: manufacturer's or responsible company's name or trade-mark or identification mark		Pass
1.7.5	In the second paragraph, add "or JIS C 8303:2007" after the reference number, IEC/TR 60083:1997".	No power outlet.	N/A
1.7.5A	Add the following new clause after 1.7.5: 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 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"	Additional investigation when submitted for National Approval.	N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.	Additional investigation when submitted for National Approval.	N/A
1.7.17A	Add the following new clause. after 1.7.17:  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."	Additional investigation when submitted for National Approval.	N/A
2.1.1.1	In item b) of this sub-clause, replace "IEC 60083" with "JIS C 8303:2007 or Article 1 of the Ministerial Ordinance (No. 85:1962)"		Pass
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.	Additional investigation when submitted for National Approval.	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	Additional investigation when submitted for National Approval.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	earthing terminal other than appliance inlet.		
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:	Additional investigation when submitted for National Approval.	N/A
2.6.5.8A	Add the following new clause. after 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.	Additional investigation when submitted for National Approval.	N/A
2.10.3.1	In this sub-clause, replace IEC 60664-1 with JIS C 0664:2003.		Pass
2.10.3.2	In the second paragraph, replace IEC 60664-1 with JIS C 0664:2003.		Pass
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.	Additional investigation when submitted for National Approval.	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.	Additional investigation when submitted for National Approval.	N/A
3.2.5.1	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.	Additional investigation when submitted for National Approval.	N/A
3.2.5.1	Delete 1) in Table 3B.	Additional investigation when submitted for National Approval.	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.		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.		N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections	Additional investigation when submitted for National	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.	Approval.	
4.3.13.5	<p>Replace the first paragraph with the following:</p> <p>Except as permitted below, equipment shall be classified and labelled according to JIS C 6802:2005, and JIS C 6803:2006 or IEC 60825-2:2000, as applicable.</p> <p>Replace IEC 60825-1 in the second and the last paragraph with JIS C 6802:2005.</p>		N/A
4.5	Add the following NOTE to Table 4B, 3): NOTE: In case no data for the material is available, Appendix 4, 1. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances (Commerce and Distribution Policy Group No. 3:2008/06/19) may apply.		Pass
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 conducted using the test circuit from IEC 60990, figure 13.		N/A
5.1.6	Replace Table 5A as shown in J60950-1.		Pass
6	Replace IEC 60664-1 in NOTE 4 with JIS C 0664.		N/A
7	Replace IEC 60664-1 in NOTE 3 with JIS C 0664:2003.		N/A
7.2	<p>Add the following after the paragraph:</p> <p>However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply:</p> <ul style="list-style-type: none"> <li>– the circuit under consideration is a TNV-1 CIRCUIT; and</li> <li>– the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and</li> <li>– the screen of the coaxial cable is intended to be connected to earth in the building installation.</li> </ul>		N/A
JA	<p>Add new Annex JA:</p> <p>Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
JA.1	<p>Add: Markings and instructions The symbol (JIS S 0101:2000, 6.2.4) (exclamation point in yellow triangle) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible;</p> <ul style="list-style-type: none"> <li>- that use by an infants/children may cause a hazard of injury etc.;</li> <li>- that a hand can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- that clothing can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- that hairs can be drawn into the mechanical section for shredding when touching the document-slot;</li> <li>- in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.</li> </ul>		N/A
JA.2	<p>Add: Inadvertent Reactivation Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1</p>		N/A
JA.3	<p>Add: Disconnection from the mains supply: Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.</p>		N/A
JA.3	<p>Add: If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols.</p> <p>Compliance is checked by inspection</p>		N/A
JA.4	<p>Add: Protection against hazardous moving parts: Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	<p>Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool.</p> <p>Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.</p> <p>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.</p>		
W.1	<p>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.</p>		N/A
<b>Japan National Standard:</b> J3000 (H25)	<p>Equipment shall be so constructed that mechanical force is not transmitted to soldering section of appliance coupler when connector is inserted in or pulled out. This requirement is not applied to equipment which appliance coupler is secure fixed, and installation of appliance coupler is not relied solely on soldering.</p>	Fixed between top and bottom plastic enclosure.	Pass

Korea - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	<p>Korea has national differences declared for 60950-1:2005, Am 1:2009 (below).</p>		Pass
1.5.101	<p>Plugs for the connection of the apparatus to the mains supply shall comply with the Korean requirement (KSC 8305)</p>		N/A
8	<p>EMC - The apparatus shall comply with the relevant CISPR standards</p>	<p>Addition investigation when submitted for National Approval.</p>	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Norway - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Norway has national differences declared for 60950-1:2005, Am 1:2009 (below).		Pass
1.2.13.14	For requirements see 1.7.2.1 and 7.3.		N/A
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Addition investigation when submitted for National Approval.	N/A
1.5.8	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).	Addition investigation when submitted for National Approval.	N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	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 shall be: "Apparatet må tilkoples jordet stikkontakt"	Addition investigation when submitted for National Approval.	N/A
1.7.2.1	In Norway, 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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkøpelt utstyr - og er tilkøpelt et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkøpling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel-TV nettet."</p>		
2.2.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.3.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	<p>TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment:</p> <ul style="list-style-type: none"> <li>- STATIONARY PLUGGABLE EQUIPMENT TYPE A that: <ul style="list-style-type: none"> <li>(1) is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and</li> <li>(2) has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and</li> <li>(3) is provided with instructions for the installation of that conductor by a SERVICE PERSON;</li> </ul> </li> <li>- STATIONARY PLUGGABLE EQUIPMENT TYPE B</li> <li>- STATIONARY PERMANENTLY CONNECTED EQUIPMENT</li> </ul>		N/A
6.1.2.1	<p>Add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>Alternatively for components, there is no distance through insulation requirement for the insulation</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	<p>consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul> <p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 123400 [EN 60384-14:2005], may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400 [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;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 132400 [EN 60384-14];</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400 [EN 60384-14], in the sequence of tests as described in EN 132400 [EN 60384-14.]</li> </ul>		
6.1.2.2	<p>The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N/A
7.3	<p>Refer to EN 60728-11:2005 for installation conditions</p>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict

7.3	Requirements according to this annex 1.2.13.14 and 1.7.2.1 apply.		N/A
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<b>Spain - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
General	Spain has national differences declared for 60950-1:2005, Am 1:2009 (below).		Pass
3.2.1.1	Supply cords of single-phase equipment having a rated current not exceeding 10A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2.5A shall be provided with a plug according to UNE-EN 50075:1993. CLASS 1 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.	Addition investigation when submitted for National Approval.	N/A

<b>Sweden - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
1.2.13.14	For requirements see 1.7.2.1 and 7.3.		N/A
1.5.1	(Ordinance (1990:944)) Add NOTE: Switches containing mercury are not permitted.		N/A
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Addition investigation when submitted for National Approval.	N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	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 shall be:"Apparaten skall anslutas till jordat uttag"	Addition investigation when submitted for National Approval.	N/A
1.7.2.1	In 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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	<p>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)."</p> <p>NOTE: In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to 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."</p>		
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	<p>TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment:</p> <p>STATIONARY PLUGGABLE EQUIPMENT TYPE A that:</p> <p>(1) is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and</p> <p>(2) has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and</p> <p>(3) is provided with instructions for the installation of that conductor by a SERVICE PERSON;</p> <p>- STATIONARY PLUGGABLE TYPE B</p> <p>- STATIONARY PERMANENTLY CONNECTED EQUIPMENT</p>		N/A
6.1.2.1	Add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	<p>part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>Alternatively for components, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul> <p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400 [EN 60384-14:2005], may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400 [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;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 132400 [EN 60384-14];</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400 [EN 60384-14], in the sequence of tests as described in EN 132400 [EN 60384-14.]</li> </ul>		
6.1.2.2	<p>The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and 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</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	provided with instructions for the installation of that conductor by a SERVICE PERSON.		
7.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	Requirements according to this annex 1.2.13.14 and 1.7.2.1 apply.		N/A

Switzerland - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Includes update from 60950-1:2005, AC:2011		Pass
1.5.1	Ordinance on environmentally hazardous substances SR 814.81, 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.		N/A
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 no longer in force and superseded by SR 814.81 of 2009-02-01 (ChemRRV).		N/A
3.2.1.1	<p>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 (3rd Ed.) + Amd. 1, SEV 1011 and one of the following dimension sheets:</p> <ul style="list-style-type: none"> <li>- SEV 6533-2:2009, Plug type 11, L+N, 250 V, 10 A</li> <li>- SEV 6534-2:2009, Plug type 12, L+N+PE, 250 V, 10 A</li> <li>- SEV 6532-2:2009, Plug type 15, 3P+N+PE, 250/400 V, 10 A</li> </ul> <p>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 (3rd Ed.) + Amd. 1, SEV 1011 and one of the following dimension sheets:</p> <ul style="list-style-type: none"> <li>- SEV 5933-2:2009, Plug type 21, L+N, 250 V, 16 A</li> <li>- SEV 5934-2:2009, Plug type 23, L+N+PE, 250 V, 16 A</li> <li>- SEV 5932-2:2009, Plug type 25, 3P+N+PE, 230/400 V, 16 A</li> </ul> <p>NOTE: 16 A plugs are not often used in Swiss</p>	Addition investigation when submitted for National Approval.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	domestic installation systems.		
3.2.4	Requirements according to this annex 3.2.1.1 apply.	Addition investigation when submitted for National Approval.	N/A

<b>USA / Canada - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013</b>			
1.1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part1, and when applicable, the National Electrical Safety Code, IEEE C2.		Pass
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.		Pass
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.		N/A
1.1.2	Special requirements apply to equipment intended for use outdoors.		N/A
1.4.14	For PLUGGABLE EQUIPMENT TYPE A, the protection in the installation is assumed to be 20 A.	Considered.	Pass
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1.		Pass
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2.		Pass
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.		Pass
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.		N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC and CEC.		N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable.		N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.5.5	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233.		N/A
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system is subject to special circuit classification requirements (e.g., TNV-2)		N/A
1.6.1.2	Earthing of d.c. powered equipment provided.		N/A
1.7	Lamp replacement information indicated on lampholder in operator access area.		N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor.		N/A
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions.		N/A
1.7.6	Special fuse replacement marking for operator accessible fuses.		N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor.		N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.		N/A
1.7.7	Marking located adjacent to terminals and visible during wiring.		N/A
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover.		N/A
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.		N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through a 2000 Ohm or greater resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions.		N/A
2.3.1.b	Limits for measurements across 5000 ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.		N/A
2.3.2.1	In the event of a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.		N/A
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.		N/A
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092).		N/A
2.6.3.3	For PLUGGABLE EQUIPMENT TYPE A, if a) b) or c) are not applicable, the current rating of the circuit is taken as 20 A		Pass
2.6.3.3	The first column on Table 2D requirement: "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		Pass
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.		N/A
2.6.3.4	Protective bonding conductors and their terminals of non-standard constructions (e.g. PWB traces) evaluated to limited short-circuit test of CSA C22.2 No.0.4.		N/A
2.6.4.1	Field wiring terminals for earthing conductors suitable for wire sizes (gauge) used in US and Canada.		N/A
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the equipment.		N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1.		N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring.		N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards.		N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.		N/A
2.10.5.12	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.12 and Annex U.		Pass
3.1.1	Permissible combinations of internal wiring/external cable sizes for overcurrent and short circuit protection.		Pass
3.1.1	All interconnecting cables protected against overcurrent and short circuit.		N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	and CEC, Part 1.		
3.2.1	Permitted use for flexible cords and plugs.		N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.		N/A
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.		N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements (e.g., no permanent connection to supply by flexible cord).		N/A
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing.		N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.		N/A
3.2.1.2	Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment.		N/A
3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment.		N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.		N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC and CEC, Part 1.		N/A
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm <sup>2</sup> ) and not less than 150 mm in length for connection of field installed wiring.		N/A
3.2.3	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate.		N/A
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables.		N/A
3.2.5	Power supply cords are required to be no longer		N/A



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	<p>than 4.5 m in length.</p> <p>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.</p> <p>Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.</p>		
3.2.5	Conductors in power supply cords sized according to NEC and CEC, Part I.		N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.		N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.		N/A
3.2.9	Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system. A method of securing wiring or instructions provided to ensure the wiring is protected from abuse.		N/A
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3.		N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated.		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means.		N/A
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm <sup>2</sup> ) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention.		N/A
3.3.4	Terminals accept wire sizes (gauge) used in the U.S. and Canada.		N/A
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.		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."		N/A

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3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used.		N/A
3.3.6	Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor.		N/A
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.		N/A
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.		N/A
3.4.8	Vertically mounted disconnect devices oriented so up position of handle is "on".		N/A
3.4.11	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 min require battery disconnect means.		N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.		N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.		N/A
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg tested at four times the weight of the unit.		N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310 or CSA 223 mechanical assembly requirements.		N/A
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).		N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.		N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible.		N/A
4.3.13.5.1	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370).		N/A
4.7	Automated information storage equipment intended to contain more than 0.76 m <sup>3</sup> of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.		N/A
4.7.3.1	Equipment for use in environmental air space other		N/A

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	than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics. Low smoke-producing characteristics evaluated according to UL 2043. Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations.		
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.9 m <sup>2</sup> or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.		N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.		Pass
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.		N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.		N/A
5.3.7	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.		N/A
5.3.7	Tests interrupted by opening of a component repeated two additional times.		N/A
5.3.9.1	Test interrupted by opening of wire or trace subject to certain conditions.		N/A
6	Specialized instructions provided for telephones that may be connected to a telecommunications network.		N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.		N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.		N/A
6.3	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.		N/A
6.4	Additional requirements for equipment intended for connection to a telecommunication network using cable subject to overvoltage from power line failures (Fig. 6C).		N/A
6.4	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.		N/A

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7	Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.		N/A
H	Ionizing radiation measurements made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370.		N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.		N/A
M.4	Special requirements for message waiting and similar telecommunications signals.		N/A
NAC	Equipment intended for use with a generic secondary protector marked with suitable instructions.		N/A
NAC	Equipment intended for use with a specific primary or secondary protector marked with suitable instructions.		N/A
NAD	Acoustic pressure from an ear piece less than 140 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets and insert earphones, for long duration disturbances.		N/A
NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A
EE.5	UL articulated accessibility probe (Fig. EE.3) required for assessing accessibility to document/media shredders, instead of Figure 2A test finger.		N/A

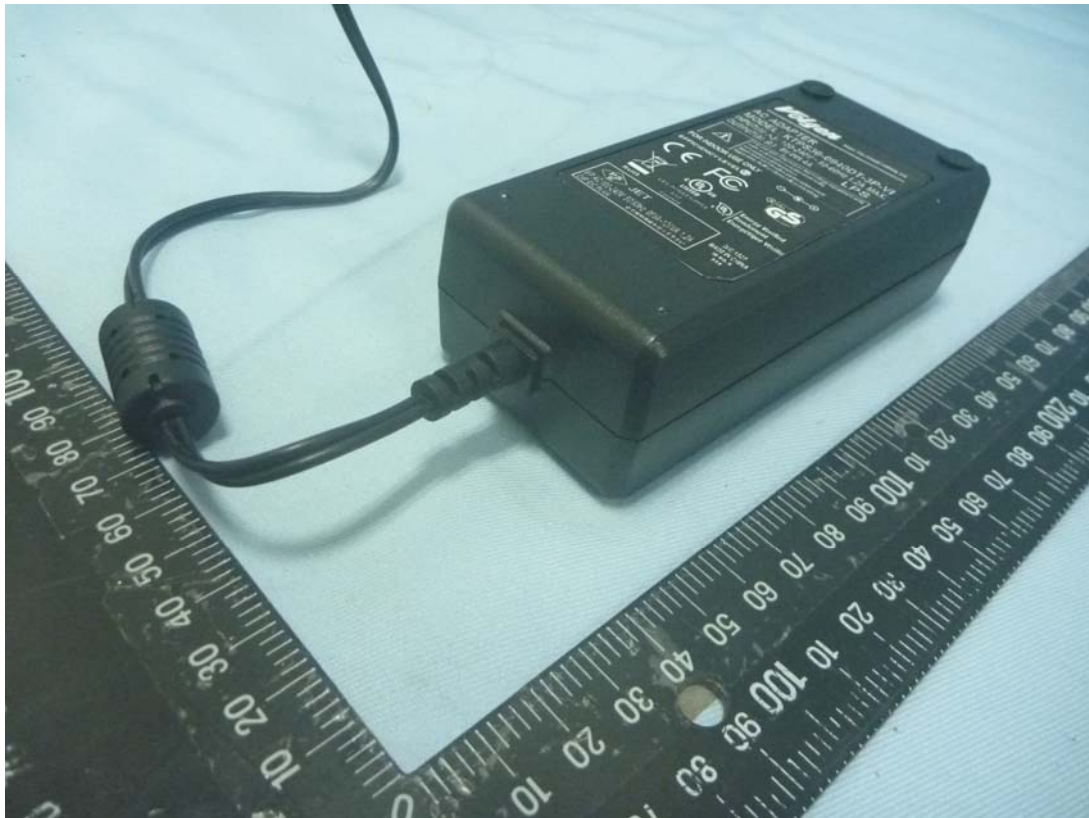
United Kingdom - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
2.6.3.3	The current rating of the circuit shall be taken as 13 A, not 16 A.	Considered.	Pass
2.7.1	To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests 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.		N/A
3.2.1.1	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	Addition investigation when submitted for National Approval.	N/A

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	<p>"standard plug" in accordance with Statutory Instrument 1786: 1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		
3.2.5.1	A power supply cord with conductor of 1.25 mm <sup>2</sup> is allowed for equipment with a rated current over 10A and up to and including 13A.		N/A
3.3.4	The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10 A up to and including 13 A is 1.25 mm <sup>2</sup> to 1.5 mm <sup>2</sup> nominal cross-sectional area.		N/A
4.3.6	The torque test is performed using a socket outlet complying with BS 1363 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, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125°C.		N/A
4.3.6	Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

Photographs

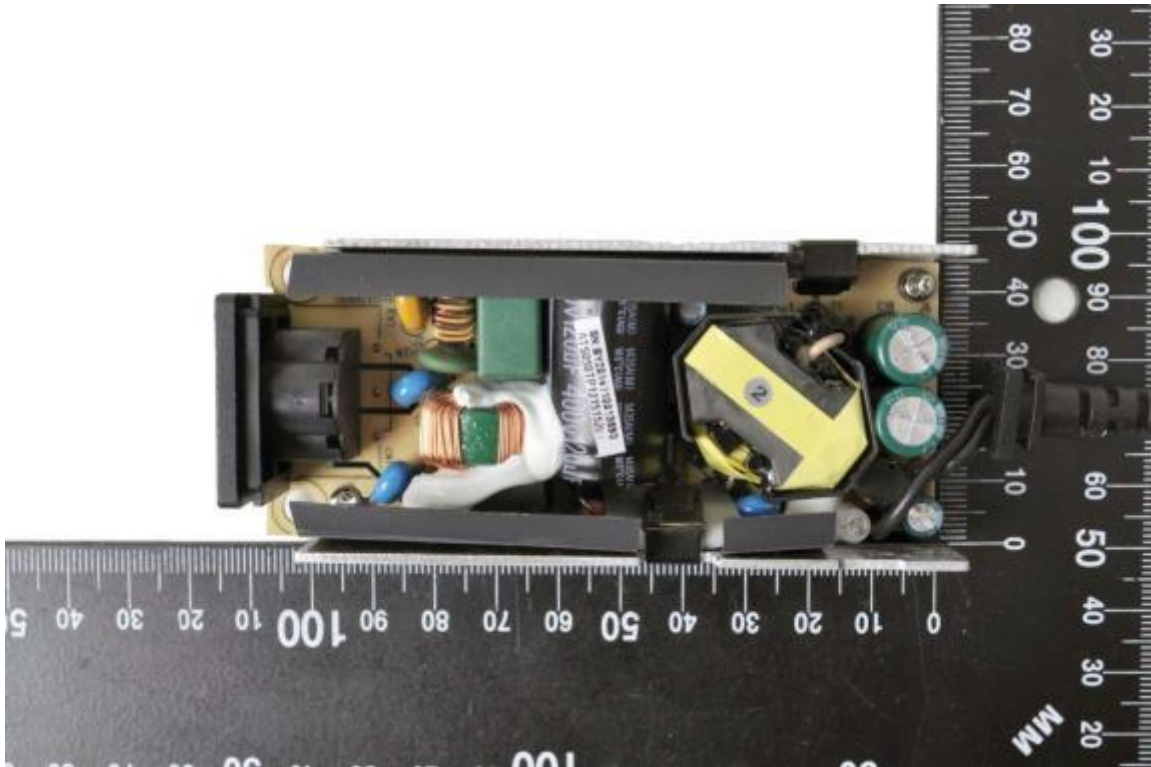


Photographs



KTPS40-1233DT-3P-VI, TPS50-1242DT-3P-VI, KTPS50-13537DT-3P-VI, KTPS50-1533DT-3P-VI, KTPS50-1827DT-3P-VI, KTPS50-1926DT-3P-VI, KTPS50-2421DT-3P-VI, KTPS50-4811DT-3P-VI

Photographs



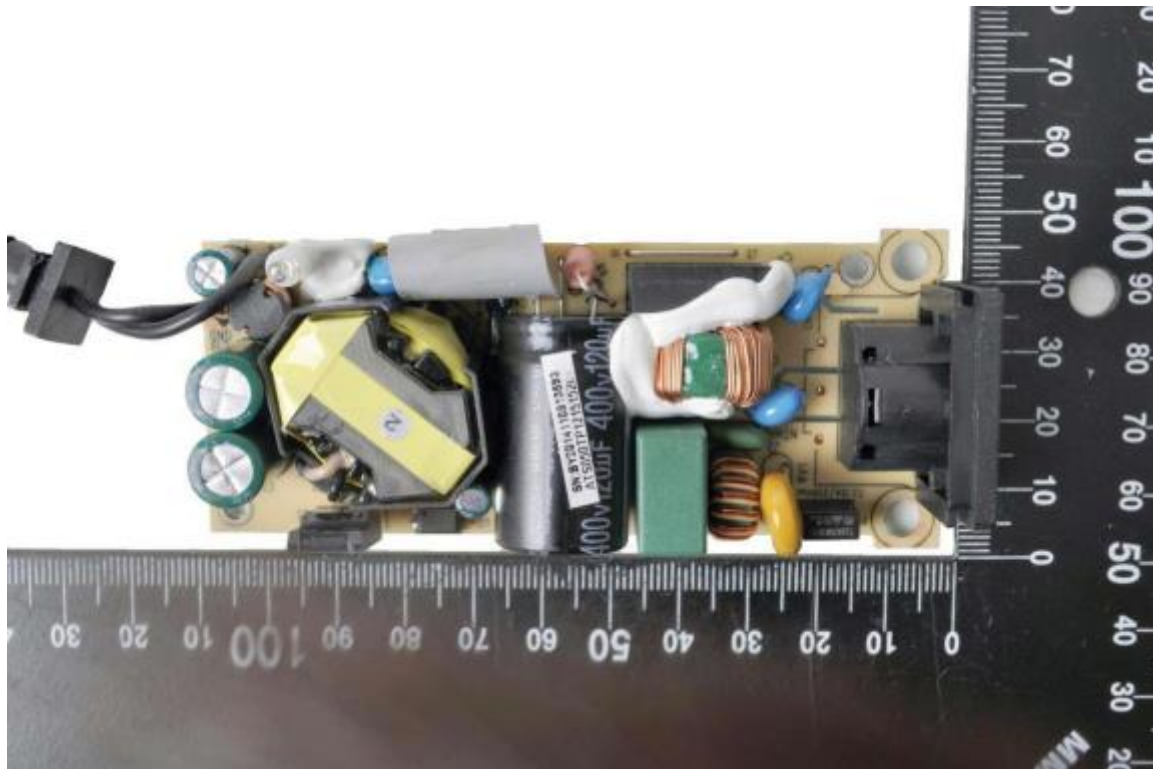
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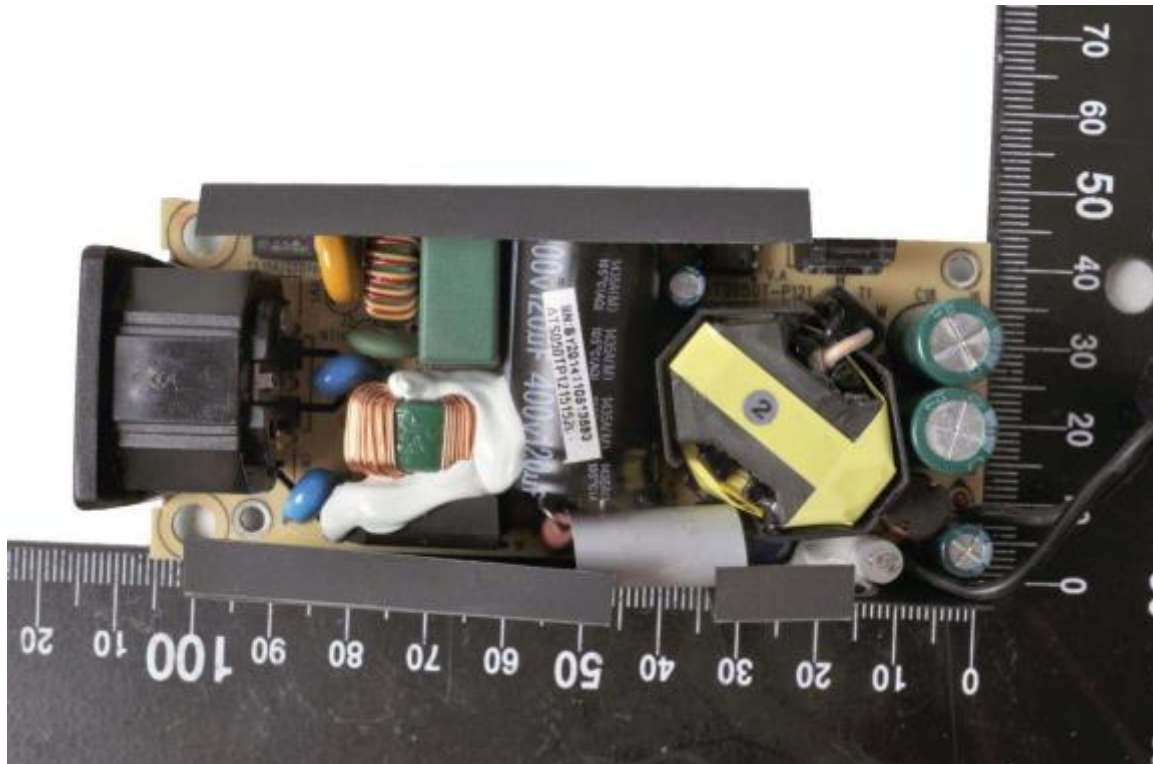


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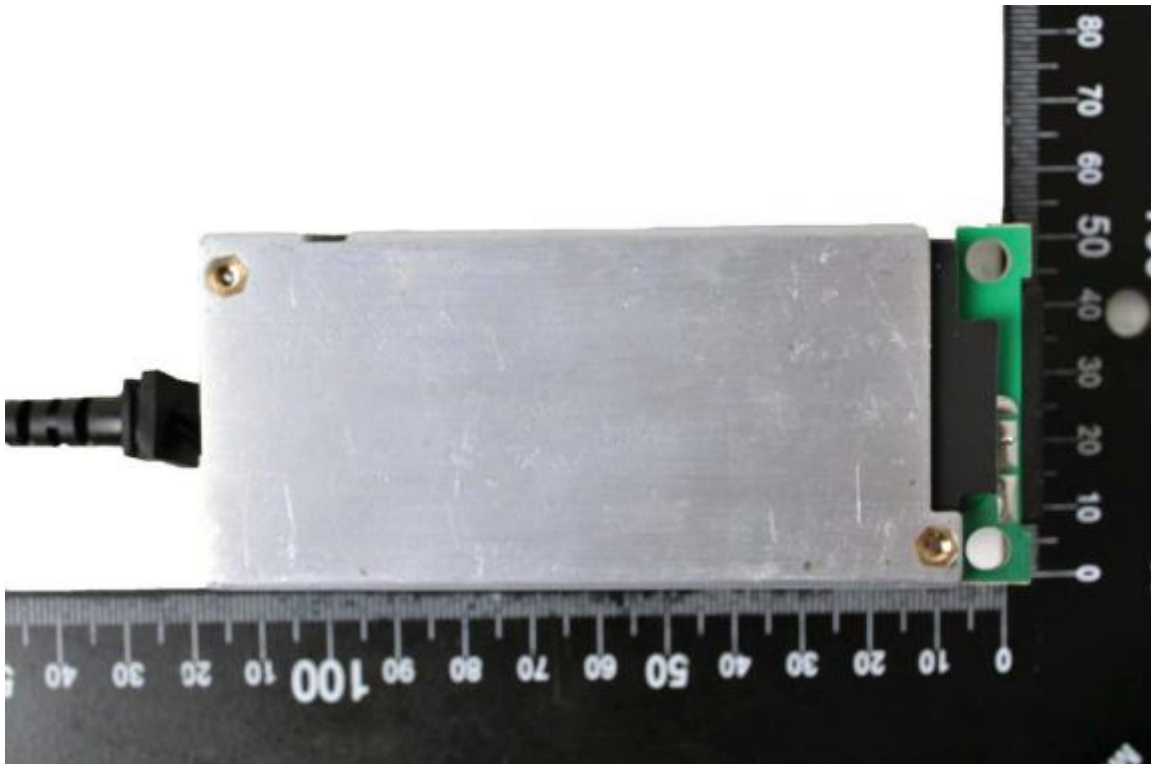


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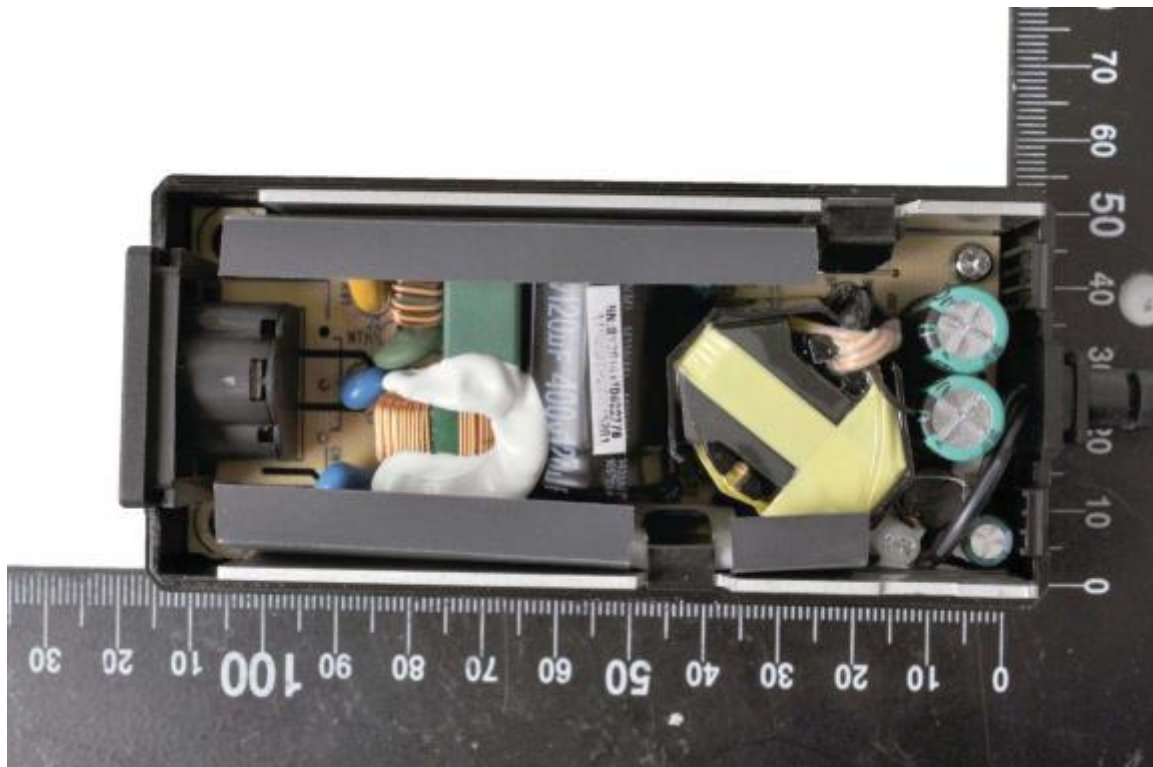
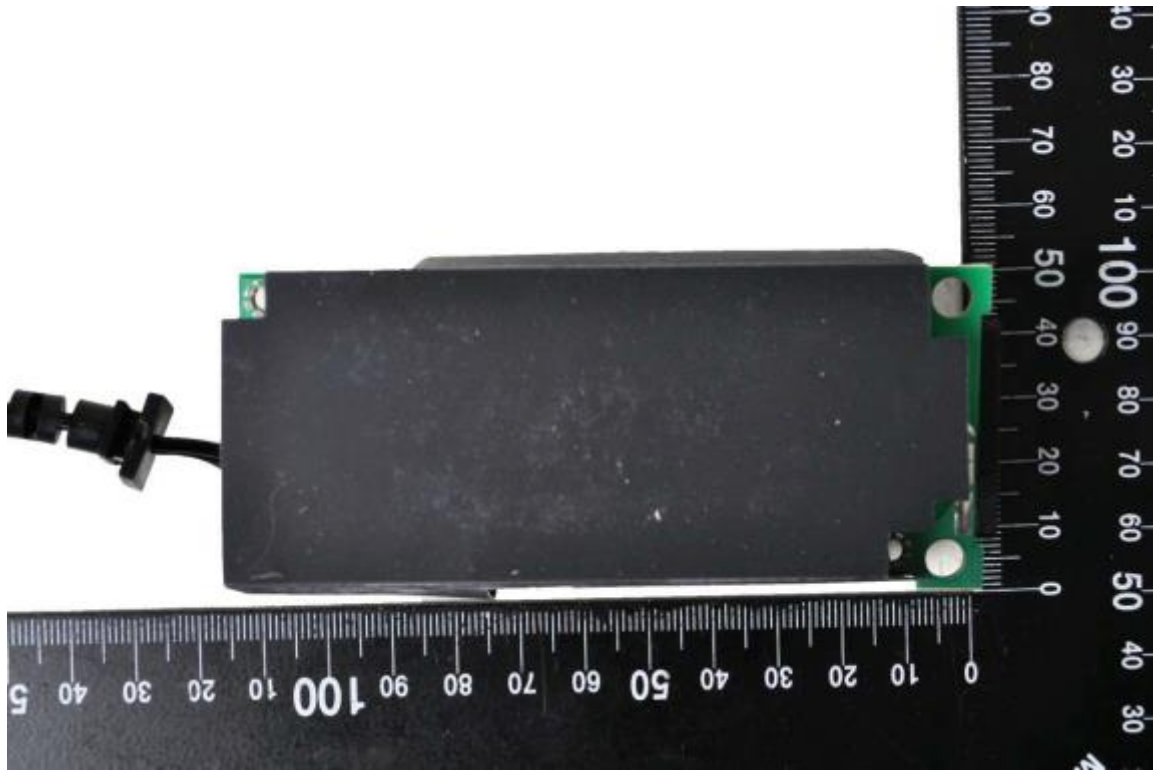
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Photographs



KTPS36-0940DT-3P-VI, KTPS45-0950DT-3P-VI

Photographs

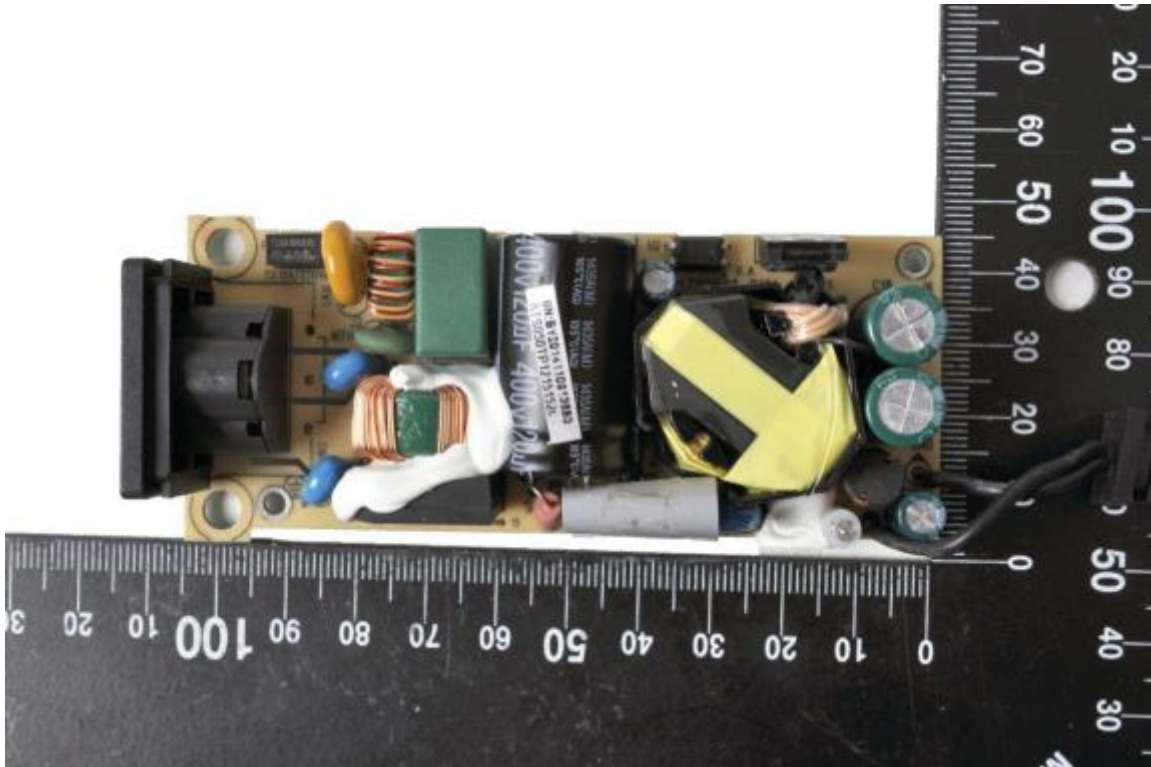


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KTPS36-0940DT-3P-VI, KTPS45-0950DT-3P-VI

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KTPS36-0940DT-3P-VI, KTPS45-0950DT-3P-VI

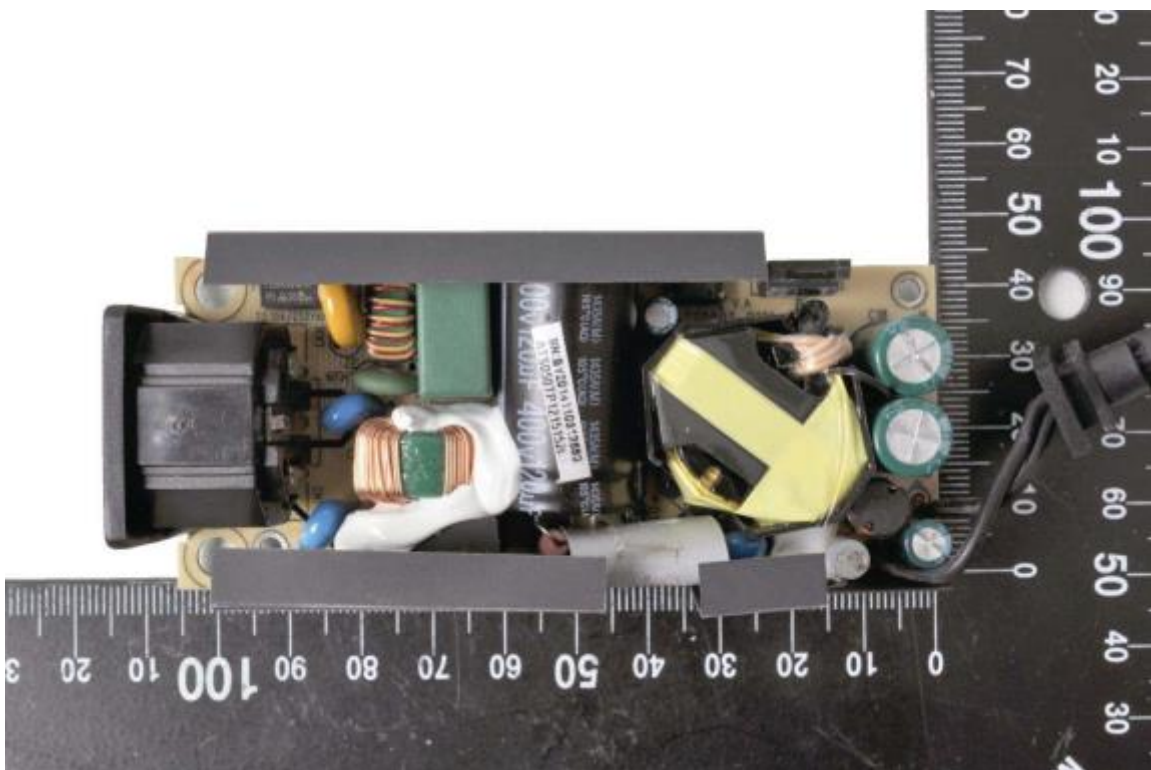


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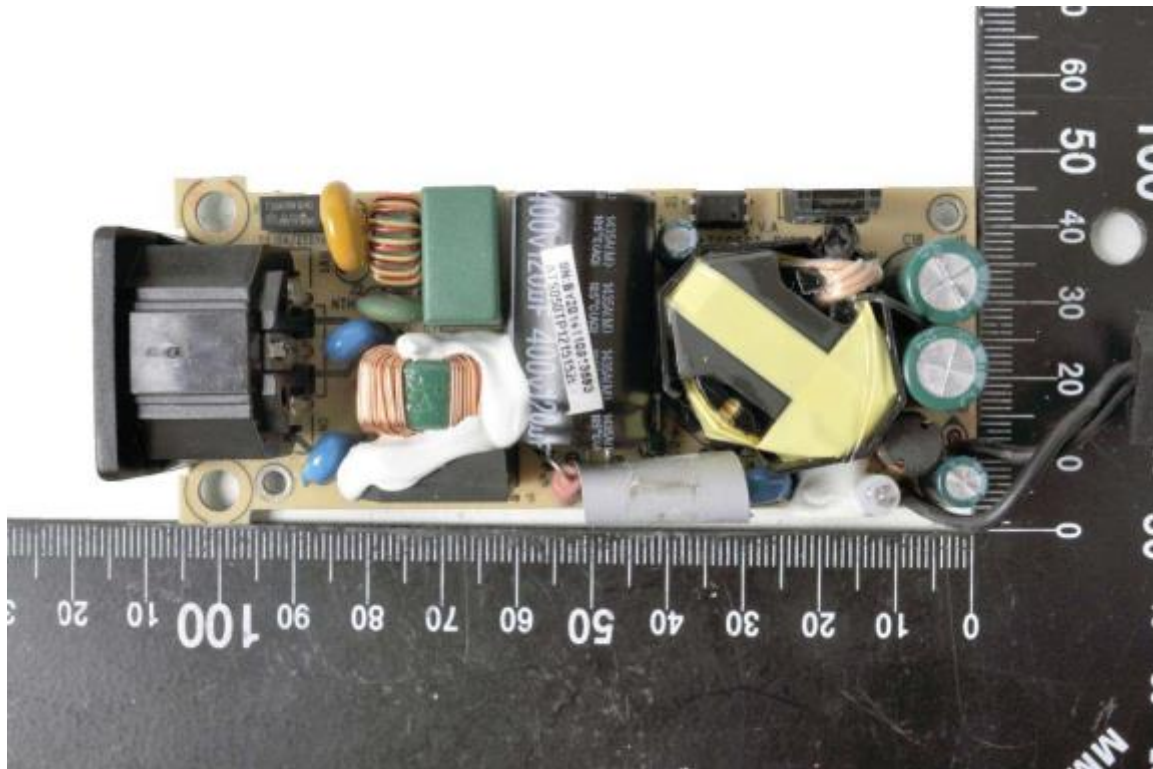


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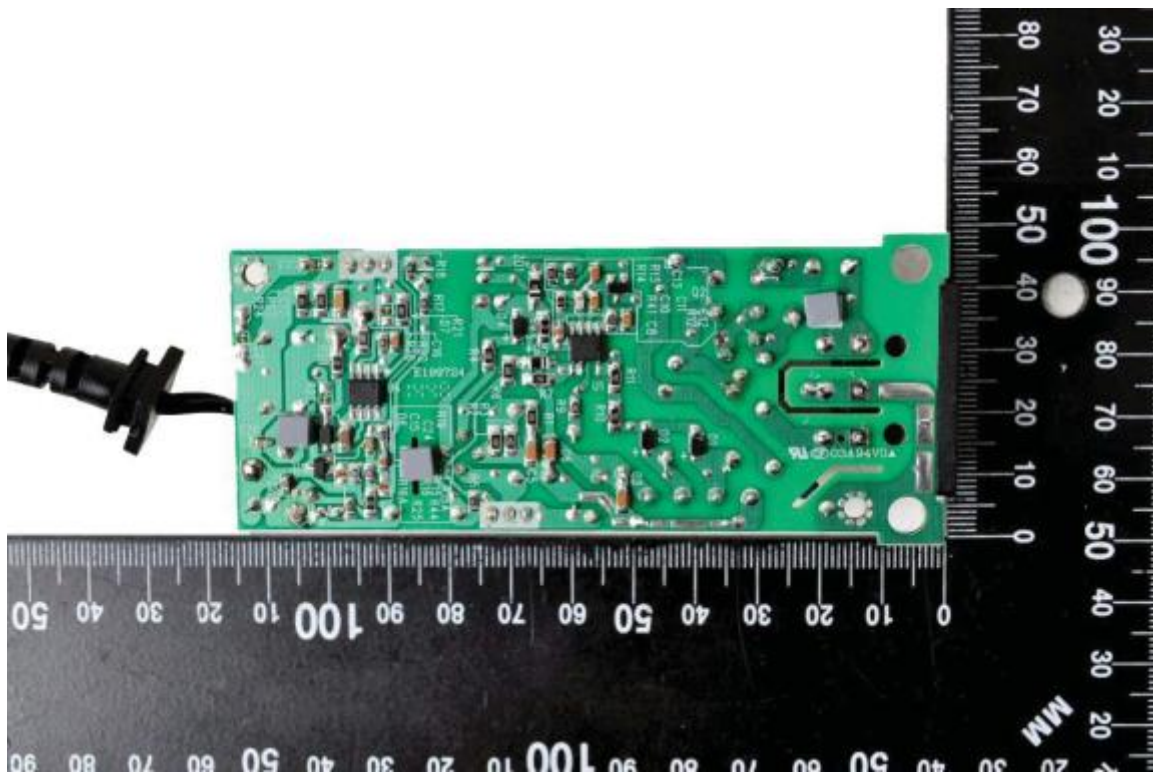


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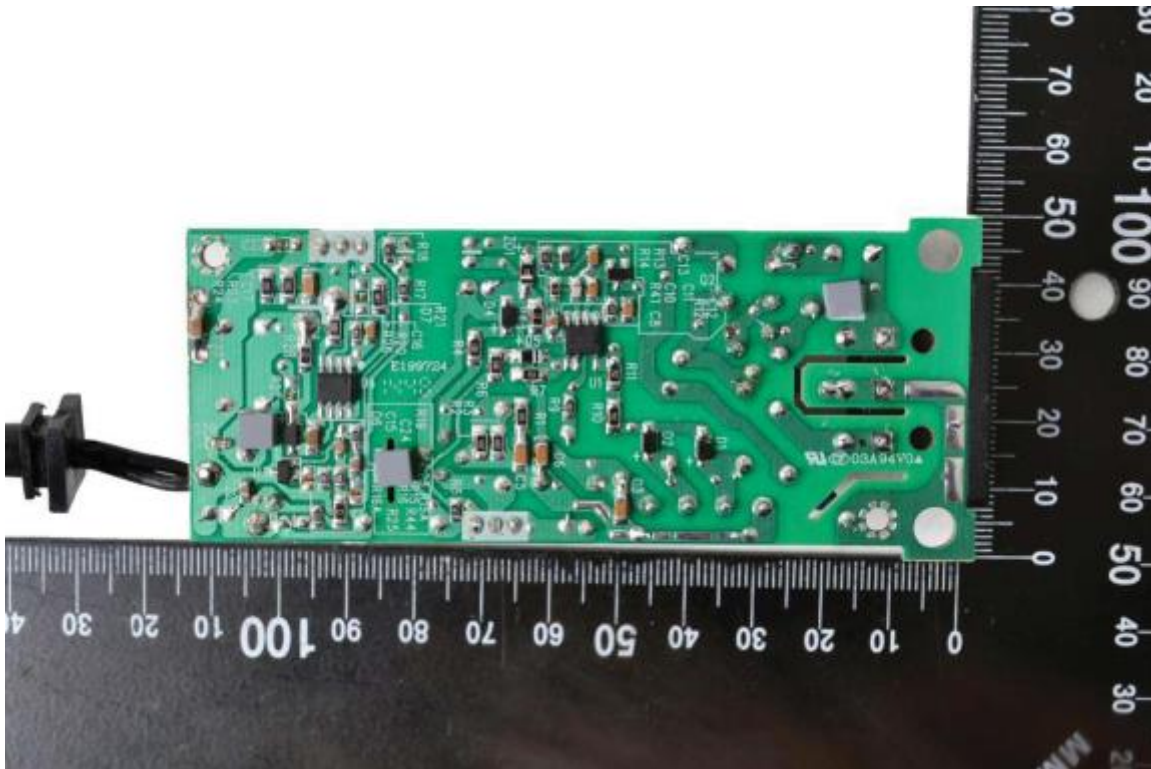
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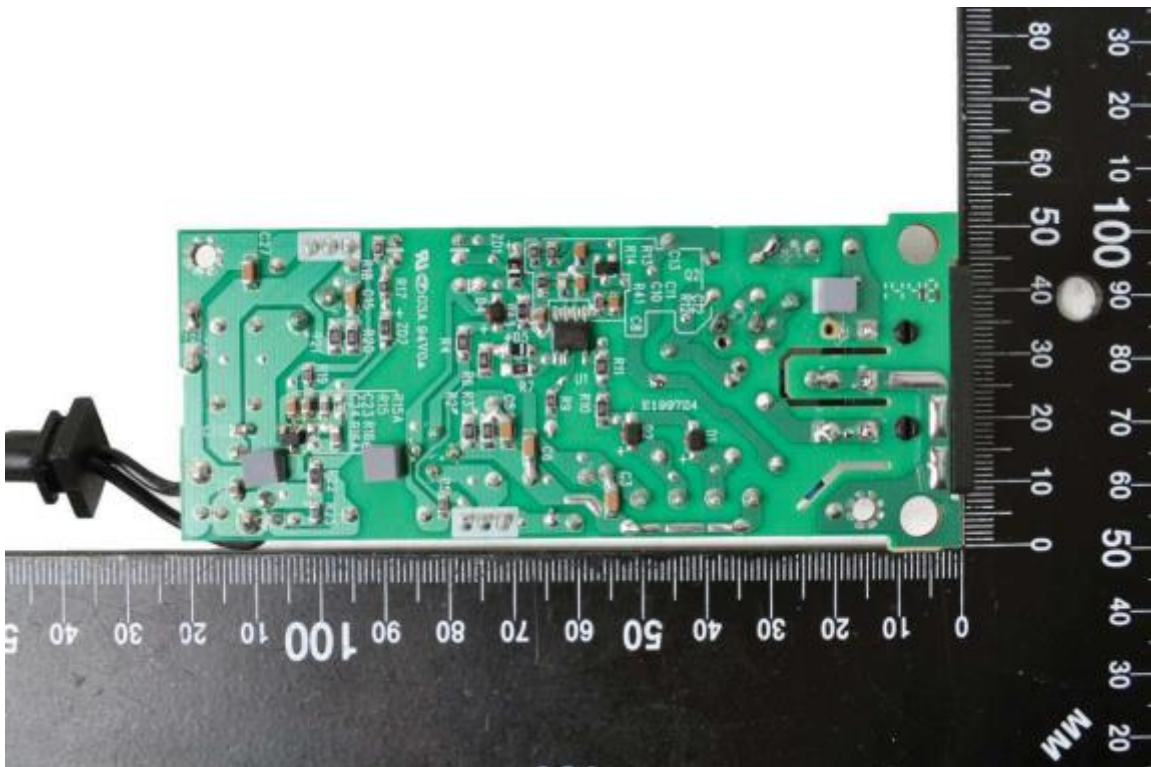
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Photographs

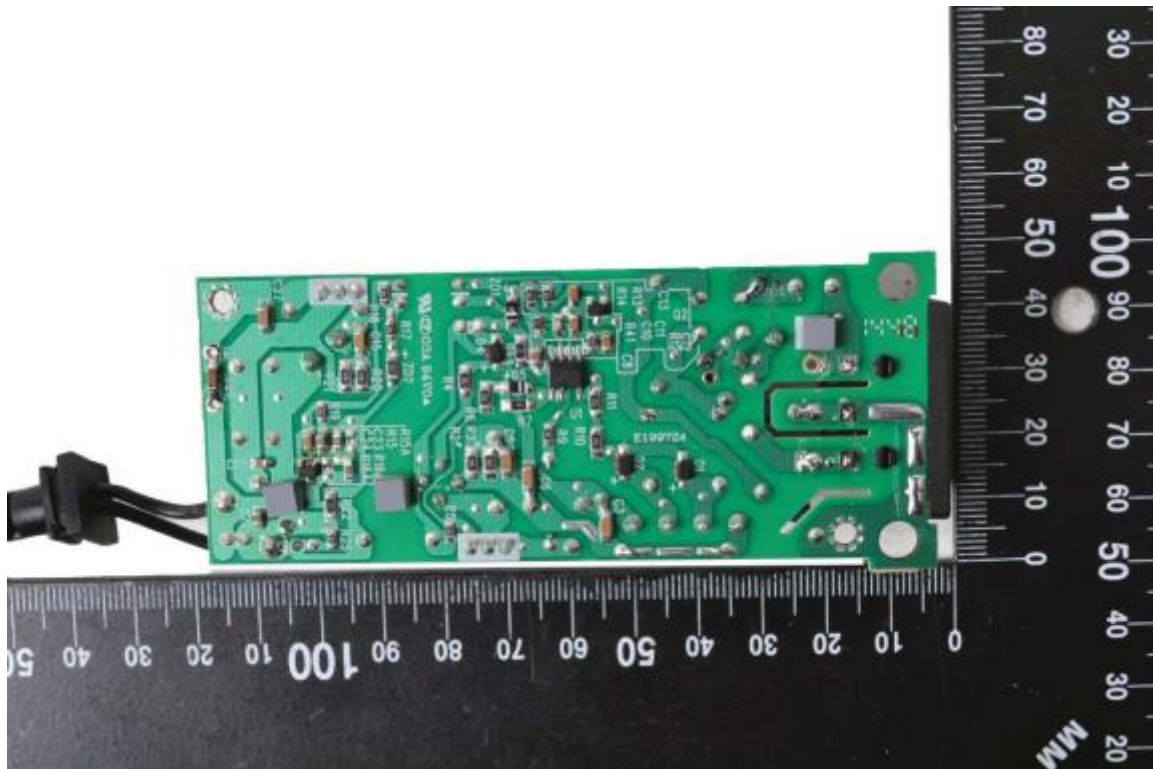


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KTPS50-1827DT-3P-VI, KTPS50-1926DT-3P-VI, KTPS50-2421DT-3P-VI, KTPS50-4811DT-3P-VI

Photographs



KTPS50-1827DT-3P-VI, KTPS50-1926DT-3P-VI, KTPS50-2421DT-3P-VI, KTPS50-4811DT-3P-VI