

## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
<b>Certification Type:</b>	Listing
<b>CCN:</b>	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
<b>Product:</b>	Direct plug in Switching Adaptor
<b>Model:</b>	GT-81090-06VV-X.X-W2-USB series and GT-81090-06VV-X.X-WR2-USB series: VV is the standard rated output voltage designation, with a maximum value of "7.5"; -X.X is optional or blank and denotes the output voltage differentiator, subtracting or adding X.X volts from standard output voltage VV in 0.1V increments, blank is to indicate the no voltage different; VV-X.X together denotes the voltage range from 5.0 to 7.5Vdc.
<b>Rating:</b>	I/P: 100-240Vac or 100-120 Vac, 50/60, 0.2 A O/P: 5.0-7.5 Vdc, 1.0A, 5.2W max.  For Model GT-81090-WWVV-X.X-WR2-USB only I/P: 100-240Vac, 50/60, 0.2 A O/P: 5.0-7.5 Vdc, 1.0A, 5.2W max.
<b>Applicant Name and Address:</b>	GLOBTEK (SUZHOU) CO LTD BLDG 4, #76 JINLING EAST RD SUZHOU PARK SUZHOU JIANGSU 215021 CHINA

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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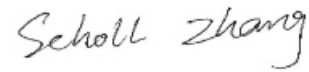
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Report Reference # E336418-A45-UL

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### Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
  - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
  - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
  - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

### Product Description

PWB with electronic components housed with plastic enclosure by ultrasonic welding.

### Model Differences

All Models are identical to each other except for input voltage, output voltage/ current, secondary components and model designation.

### Technical Considerations

- Equipment mobility : direct plug-in
- 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%, -10% (manufacturer declared)
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class II (double insulated)
- Considered current rating (A) : 20

- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Less than 2000
- Altitude of test laboratory (m) : Less than 2000
- Mass of equipment (kg) : 0.05 kg max.
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 45 degree C
- The means of connection to the mains supply is: Pluggable A, Direct Plug-in
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Plug
- The product was investigated to the following additional standards: The unit was investigated to the following additional standards: The unit were evaluated to the maximum acceptable moment, center of gravity, dimensions and weight of the unit in accordance with UL 1310 and CSA C22.2 No. 223. The blade dimension was evaluated to be complied with NEMA configurations in accordance with Wiring Devices-Dimensional Specifications, ANSI/NEMA WD6.
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: CY1 secondary pin
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Output V+ to V-

#### **Additional Information**

- The unit was evaluated to the maximum acceptable moment, center of gravity, dimensions and weight of the unit in accordance with UL 1310 and CSA C22.2 No. 223.


- The blade dimensions were evaluated to be complied with NEMA configurations in accordance with Wiring Devices-Dimensional Specifications, ANSI/NEMA WD6.

#### **Additional Standards**

The product fulfills the requirements of: N/A

#### **Markings and instructions**

Clause Title	Marking or Instruction Details
Power rating - Ratings	

	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Power rating - Class II symbol	Symbol for Class II construction  (60417-2-IEC-5172)
Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
<b>Special Instructions to UL Representative</b> Inspect the transformer(s) listed in BD1.1 per AA1.1- (C). When the tests are conducted at other location, inspect test record and specification sheet provided by the component manufacturer. Verify the specification sheet indicates 100% routine test specified in BD1.1 be conducted at the component manufacturer.	

**Production-Line Testing Requirements**

**Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.**

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
All Models	Transformer (T1)	N/A	Primary to Secondary	300 0	4242	1

**Earthing Continuity Test Exemptions - This test is not required for the following models:**

All Models

**Electric Strength Test Exemptions - This test is not required for the following models:**

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**Electric Strength Test Component Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:**

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**Sample and Test Specifics for Follow-Up Tests at UL**

Model	Component	Material	Test	Sample(s)	Test Specifics
--	--	--	--	--	--

**TABLE: List of Critical Components**

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
01. Enclosure	Sabic Innovative Plastics US L L C	SE1X	V-1, 105 degree C, minimum 1.84 mm thick. Measured overall 60 by 37 by 26mm. Two parts construction, secured together by ultrasonic welding.	QMFZ2	UL
01a. Enclosure (Alternate)	Asahi Kasei Chemicals Corp XYRON POLYMER	540V	V-1, 105 degree C, minimum 1.84 mm thick. Measured overall 60 by 37 by 26 mm. Two parts construction, secured together by ultrasonic welding	QMFZ2	UL
01-1. Enclosure (for Model GT-81090-WWVV-X.X-WR2-USB use only)	Sabic Innovative Plastics US L L C	SE1X	V-1, 105 degree C, minimum 1.84 mm thick. Measured overall 61 by 38 by 30 mm. Two parts construction, secured together by ultrasonic welding.	QMFZ2	UL
01a-1. Enclosure (Alternate) (for Model GT-81090-WWVV-X.X-WR2-USB use only)	Asahi Kasei Chemicals Corp XYRON POLYMER	540V	V-1, 105 degree C, minimum 1.84 mm thick. Measured overall 61 by 38 by 30 mm. Two parts construction, secured together by ultrasonic welding	QMFZ2	UL
02. Plug Holder	Sabic Innovative Plastics US L L C	SE1X	V-1, 105 degree C, 2.00 mm thick. Measured overall 27.8 by 21.2 mm. Physically fit between top and bottom halves of enclosure.	QMFZ2	UL
02a. Plug Holder (alternate)	Asahi Kasei Chemicals Corp Xyron Polymer	540V	V-1, 105 degree C, 2.00 mm thick. Measured overall 27.8 by 21.2 mm. Physically fit between top and bottom halves of enclosure.	QMFZ2	UL
02-1. Separation Plug (for Model GT-81090-WWVV-X.X-WR2-USB use only)	Sabic Innovative Plastics US L L C	SE1X	V-1, 105 degree C, 2.00 mm thick. Measured overall 30.8 by 35.5 mm. Secured to bottom enclosure by tenon fit.	QMFZ2	UL
02a-1. Separation Plug (Alternate) (for Model GT-81090-WWVV-X.X-WR2-USB use only)	Asahi Kasei Chemicals Corp XYRON POLYMER	540V	V-1, 105 degree C, 2.00 mm thick. Measured overall 30.8 by 35.5 mm. Secured to bottom enclosure by tenon fit.	QMFZ2	UL
03. Input Blades	Various	Various	Solid copper, non-grounding, non-polarized, NEMA 1-15P configuration. Spaced minimum 8 mm from perimeter edge of Enclosure. Blades connected to PWB by internal wiring.	--	--

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
04. Label	Various	Various	80 degree C minimum.	PGDQ2 or PGJ12	UL
05. Connectors and Receptacles (Secondary ELV/SELV)	Various	Various	Metal/plastic, Copper alloy pins housed in bodies of plastic	ECBT2, QMFZ2, RTRT2	UL
06. Internal Wiring (Primary)	Various	Various	Rated minimum 80 degree C, 300 V, minimum No. 24 AWG. PVC, TFE, PTFE, FEP or neoprene or surface marked VW-1.	AVLV2	UL
07. Insulating Tubing/Sleeving (for SELV)	Various	Various	FEP, PTFE, PVC, TFE, neoprene, or marked VW-1; 105 degree C, 300 V	UZFT2, YDPU2, YDTU2	UL
08. Printed Wiring Board	Various	Various	Rated minimum V-1, minimum 130 degree C.	ZPMV2	UL
09. Fusing Resistor (F1)	Vis Electronics Co Ltd.	FRT	10 ohms, 2W	FPEW2	UL
09a. Fusing Resistor (F1) (Alternate)	TZAI YUAN	KNF	10 ohms, 2W	--	--
09b. Fusing Resistor (F1) (Alternate)	Jiangsu Xinyang Electronic Component Co Ltd	RF10	10 ohms, 2W	FPEW2	UL
09c. Fusing Resistor (F1) (Alternate)	Chien Tung Electronics	FKN	10 ohms, 2W	--	--
09d. Fusing Resistor (F1) (Alternate)	Hua Sheng Electronics	FKN	10 ohms, 2W	--	--
09e. Fusing Resistor (F1) (Alternate)	Shenzhen Great	RXF series	10 ohms, 2W	--	--
10. Diodes (D1, D2, D3, D4)	Various	Various	Rated minimum 1A, minimum 600V.	--	--
11. Electrolytic Capacitor (C1, C2)	Various	Various	Integral pressure relief, each rated 2.2-10 uF, minimum 200 V, minimum 105 degree C.	--	--
12. Mosfet Transistor (Q1)	Various	Various	Rated 1-2A, 400V min.	--	--
13. Bridge Capacitor (CY1) (Optional)	TDK-EPC Corp	CD	Rated maximum 2200 pF, minimum 250 V ac. Class Y1. 125 degree C. The damp heat test duration in 21 days minimum. Comply IEC 60384-14	FOWX2	UL
13a. Bridge Capacitor	Murata Mfg Co Ltd	KX	Rated maximum 2200 pF, minimum 250 V ac.	FOWX2	UL



Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
(CY1) (alternate) (Optional)			Class Y1. 125 degree C. The damp heat test duration in 21 days minimum. Comply IEC 60384-14		
13b. Bridge Capacitor (CY1) (alternate) (Optional)	Success Electronics Co Ltd	SE, SB	Rated maximum 2200 pF, minimum 250 V ac. Class Y1. 125 degree C. The damp heat test duration in 21 days minimum. Comply IEC 60384-14	FOWX2	UL
13c. Bridge Capacitor (CY1) (alternate) (Optional)	Jya-Nay Co Ltd	JN	Rated maximum 2200 pF, minimum 250 V ac. Class Y1. 125 degree C. The damp heat test duration in 21 days minimum. Comply IEC 60384-14	FOWX2	UL
13d. Bridge Capacitor (CY1) (alternate) (Optional)	Welson Industrial Co Ltd	WD	Rated maximum 2200pF, minimum 250 V ac. Class Y1. 125 degree C. The damp heat test duration in 21 days minimum. Comply IEC 60384-14	FOWX2	UL
14. Transformer (T1)	Dee Van Enterprise Co., Ltd.	90E5PFC05-xxx("xxx" to denote the part number, can be any alphanumeric character for marketing purposes only.)	Class B (130 degree C) Insulation System, Type YCI-130	OBJY2	UL
14-1. Core (T1)	--	--	Ferrite, measures 16.0 mm by 16.0 mm by 5.2 mm.	--	--
14-3. Bobbin (T1)	Hitachi Chemical Co Ltd	CP-J-8800	Phenolic, Three flange type, Rated V-0, 150 degree C, minimum 0.87mm thick.	QMFZ2	UL
14-3a. Bobbin (T1) (Alternate)	SUMITOMO BAKELITE CO LD	PM-9820	Phenolic, Three flange type, Rated V-0, 150 degree C, minimum 0.71 mm thick.	QMFZ2	UL
14-4. Insulation Tape (T1)	3M Co.	1350F-1, 1350F-2	Polyester tape, rated 130 degree C.	OANZ2	UL
14-4a. Insulation Tape (T1) (Alternate)	SYMBIO INC	35660, 35661	Polyester tape, rated 130 degree C.	OANZ2	UL
14-5. Triple Insulation wire (T1)	Young Chang Silicone Co Ltd	STW-B	Polyester tape, rated 130 degree C.	OBJT2	UL
14-6. Varnish (T1)	Hitachi Chemical Co Ltd	WP-2952F-2G	Rated minimum 130 degree C.	OBOR2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
14a. Transformer (T1) (Alternate)	Dee Van Enterprise Co., Ltd.	90E5PFC05-xxx("xxx" to denote the part number, can be any alphanumeric character for marketing purposes only.)	Class B (130 degree C) Insulation System, Type HIS-8A	OBJY2	UL
14a-1. Core (T1)	--	--	Ferrite, measures 16.8 mm by 16.4 mm by 5.2mm.	--	--
14a-3. Bobbin (T1)	Hitachi Chemical Co Ltd	CP-J-8800	Phenolic, Three flange type, Rated V-0, 150 degree C, minimum 0.87mm thick	QMFZ2	UL
14a-4. Insulation Tape (T1)	3M Co.	1350F-1, 1350F-2	Polyester tape, rated 130 degree C	OANZ2	UL
14a-4a. Insulation Tape (T1) (Alternate)	Symbio Inc	MY130	Polyester tape, rated 130 degree C.	OANZ2	UL
14a-5. Triple Insulation wire (T1)	Furukawa Electric Co Ltd	TEX-E	Polyester tape, rated 130 degree C.	OBJT2	UL
14a-5a. Triple Insulation wire (T1) (Alternate)	Totoku Electric Co Ltd	TIW-E	Polyester tape, rated 130 degree C.	OBJT2	UL
14a-6. Varnish (T1)	Hitachi Chemical Co Ltd	WP-2952F-2G, WA-238A, WF-285	Rated minimum 130 degree C.	OBOR2	UL
14a-6a. Varnish (T1) (Alternate)	Meiden Chemical Co Ltd	#880, #754XL	Rated minimum 130 degree C.	OBOR2	UL
15. Glue	Various	Various	V-2 min.	QMFZ2	UL
16. Line choke (L1) (Optional)	Various	Various	Min. 105 degree C	--	--
16-1. Magnetic wires of choke (L1)	Various	Various	Min. 105 degree C	OBMW2	UL

## **Enclosures**

<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
Photographs	3-01	Overall view (top side)
Photographs	3-04	Overall view (plug side)
Photographs	3-05	Internal view
Photographs	3-06	PWB view (component side)
Photographs	3-09	PWB view (trace side)
Photographs	3-13	Overall view (top side) for Model GT-81090-06VV-X.X-WR2-USB
Photographs	3-14	Overall view (plug side) for GT-81090-06VV-X.X-WR2-USB
Photographs	3-15	Separation Plug view-1 for Model GT-81090-06VV-X.X-WR2-USB
Photographs	3-16	Separation Plug view-2 for Model GT-81090-06VV-X.X-WR2-USB
Diagrams	4-01	Transformer (T1) Spec.
Diagrams	4-11	Line choke (L1) Spec.
Schematics + PWB	5-01	PWB Layout
Manuals		
Miscellaneous	7-01	Enclosure dimensions
Miscellaneous	7-02	Blade dimensions
Miscellaneous	7-16	LPS test table
Miscellaneous	7-17	Enclosure dimensions for GT-81090-06VV-X.X-WR2-USB
Miscellaneous	7-18	Dimension of Separation Plug for GT-81090-06VV-X.X-WR2-USB

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	Components certified to IEC harmonized standard and checked for correct application. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component Standard.	Pass
1.5.3	Thermal controls	There are no thermal controls	N/A
1.5.4	Transformers	See Annex C-Transformers.	Pass
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors bridging insulation	Double Insulation bridged by a capacitor (CY1) complying with IEC 60384-14: 2005, subclass Y1.	Pass
1.5.7	Resistors bridging insulation		Pass
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		Pass
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		Pass
1.6.1	AC power distribution systems	AC power distribution systems are classify as TN	Pass
1.6.2	Input current	-- (See appended table 1.6.2) The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under NORMAL LOAD.	Pass
1.6.3	Voltage limit of hand-held equipment	The unit is not a hand-held equipment.	N/A
1.6.4	Neutral conductor	Class II equipment. Phase conductors were separated from BODY by reinforced insulation.	N/A
1.7	Marking and instructions		Pass
1.7.1	Power rating	Rating marking readily visible to operator.	Pass
	Rated voltage(s) or voltage range(s) (V) .....	Refer to the Model information at the beginning of this Test Report.	Pass
	Symbol for nature of supply, for d.c. only .....		N/A
	Rated frequency or rated frequency range (Hz).....	Refer to the Model information at the beginning of this Test Report.	Pass
	Rated current (mA or A) .....	Refer to the Model information at the beginning of this Test Report.	Pass
	Manufacturer's name or trademark or identification mark.....	GLOBTEK (SUZHOU) CO LTD or File Number	Pass
	Model identification or type reference .....	Refer to the Model information at the beginning of this Test Report.	Pass
	Symbol for Class II equipment only .....	60417-1-IEC-5172 symbol marked.	Pass
	Other markings and symbols.....	Other symbols may be used provided that they do not give rise to misunderstanding.	Pass
1.7.2	Safety instructions and marking	Safety instructions in English. Other languages will be	Pass

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

		provided when submitted for national approval.	
1.7.2.1	General		Pass
1.7.2.2	Disconnect devices	Plug is intended to serve as the disconnect device	Pass
1.7.2.3	Overcurrent protective device	The product is a Pluggable Equipment Type A DPIU	N/A
1.7.2.4	IT Power distribution systems		N/A
1.7.2.5	Operator access with a tool	The product is secured by Ultrasonic welding, Internal part can not be accessed.	N/A
1.7.2.6	Ozone	This product does not produce ozone.	N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment .....	Equipment is designed for single voltage operation.	N/A
	Method and means of adjustment; reference to installation instructions .....		N/A
1.7.5	Power outlets on the equipment.....	No standard power outlets are provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....	Fusing resistor used. (marked F1)	Pass
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals .....	Direct Plug-in Adapter - No wiring terminal provided.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking .....		N/A
1.7.8.2	Colours .....	No indicators with colors.	N/A
1.7.8.3	Symbols according to IEC 60417 .....	There are no switches in the equipment.	N/A
1.7.8.4	Markings using figures.....		N/A
1.7.9	Isolation of multiple power sources .....	There is only one connection to hazardous voltages.	N/A
1.7.10	Thermostats and other regulating devices .....	No thermostats or similar regulating devices.	N/A
1.7.11	Durability	All markings provided on UL Recognized Component labels	Pass

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

		suitable for surface they are applied upon and meet the durability test.	
1.7.12	Removable parts	No removable parts provided.	N/A
1.7.13	Replaceable batteries..... :	There are no lithium batteries in the equipment.	N/A
	Language(s) ..... :		-
1.7.14	Equipment for restricted access locations..... :	Equipment not intended for installation in a RESTRICTED ACCESS LOCATION.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	No operator access to energized parts.--	Pass
	Test by inspection..... :	No operator access to energized parts.	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	No Battery compartments.	N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV.	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	No internal wiring accessible to the user.	N/A
2.1.1.5	Energy hazards ..... :	The output of the power supply is not an energy hazard.  Maximum VA=5.4, Voltage=4.9V, Amps.=1.1A (For output 5.2V) Maximum VA=7.5, Voltage=6.8V, Amps.=1.1A (For output 7.5V)	Pass
2.1.1.6	Manual controls	The equipment does not contain any knobs, handles, levers, or the like.	N/A
2.1.1.7	Discharge of capacitors in equipment	No X-CAP used	N/A
	Measured voltage (V); time-constant (s) ..... :		-
2.1.1.8	Energy hazards - d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply .. :		N/A
	b) Internal battery connected to the 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	N/A



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
		a service access area.	
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		Pass
2.2.1	General requirements	42.4 V <sub>peak</sub> or 60 V <sub>dc</sub> are not exceeded in SELV circuit under normal operation or single fault condition.	Pass
2.2.2	Voltages under normal conditions (V) .....	--All accessible voltages are less than 42.4 V <sub>p</sub> or 60 V <sub>dc</sub> and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V) .....	--All accessible voltages are less than 42.4 V <sub>p</sub> or 60 V <sub>dc</sub> and are classified as SELV.	Pass
2.2.4	Connection of SELV circuits to other circuits .....	--SELV circuits are only connected to other secondary circuits. SELV circuit and all interconnected circuits separated from primary by double/reinforce insulation. The SELV circuit does not exceed the SELV limits under normal and fault conditions.	Pass
2.3	TNV circuits		N/A
2.3.1	Limits		N/A
	Type of TNV circuits .....		-
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....		-
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....		-
2.3.5	Test for operating voltages generated externally		N/A
2.4	Limited current circuits		Pass
2.4.1	General requirements	For bridge capacitor CY1	Pass
2.4.2	Limit values	0.7 mA	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	Frequency (Hz) .....	60 Hz	-
	Measured current (mA) .....	Measured current = 0.4 mAp	-
	Measured voltage (V) .....	0.8 Vpk for Method I; 352 Vpk for Method II	-
	Measured circuit capacitance (nF or uF) .....	Measured circuit capacitance = 0.0022uF	-
2.4.3	Connection of limited current circuits to other circuits	Limited current circuit meets the limits of 2.4.2 under normal conditions.	Pass
2.5	Limited power sources		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	The output comply with table 2B, both under normal operating conditions and after single fault in the regulating network.	Pass
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....	Normal operation: Max. Uoc=7.47 Vdc, Isc=1.1 A, VA=7.5 VA Normal operation: Max. Uoc=7.49 Vdc, Isc=1.3 A, VA=8.3 VA See Enclosures/ Miscellaneous/ 7-16 for details.	-
	Current rating of overcurrent protective device (A) :		-
2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	Class II equipment.	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm²), AWG .....		-
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm²), AWG .....		-

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
2.6.4.1	General		N/A
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		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	Overcurrent and earth fault protection in primary circuits		Pass
2.7.1	Basic requirements	Protective devices are integrated in the equipment.	Pass
	Instructions when protection relies on building installation	Pluggable Type A.	Pass
2.7.2	Faults not covered in 5.3.7		N/A
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection.	Pass
2.7.4	Number and location of protective devices ..... :	One protective device in the "LIVE" phase.	Pass
2.7.5	Protection by several devices	One protective device in the "LIVE" phase.	Pass
2.7.6	Warning to service personnel..... :	No protective device is provided in the neutral	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

		conductor.	
2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm) ..... :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A
2.9	Electrical insulation		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	Electric strength test was conducted after the humidity treatment.  There was no indication of dielectric breakdown following humidity conditioning for 120 hours.	Pass
	Relative humidity (%), temperature (°C)..... :	95%, 40 degree C	-
2.9.3	Grade of insulation	Electric strength test conducted after the humidity treatment. No flash over or breakdown of insulation.	Pass
2.9.4	Separation from hazardous voltages	The adequate level of safety insulation is provided and maintained to comply with the requirements of this standard.	Pass
	Method(s) used..... :	(Method 1) DOUBLE INSULATION, a) or b) or c)	-
2.10	Clearances, creepage distances and distances through insulation		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.1.1	Frequency..... :	less than 30 kHz	Pass
2.10.1.2	Pollution degrees..... :	2	Pass
2.10.1.3	Reduced values for functional insulation		Pass
2.10.1.4	Intervening unconnected conductive parts		Pass
2.10.1.5	Insulation with varying dimensions		Pass
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		Pass
2.10.2.1	General		Pass
2.10.2.2	RMS working voltage	CREEPAGE DISTANCES measured comply with RMS WORKING VOLTAGES requirement. Max. 240 V	Pass
2.10.2.3	Peak working voltage	CLEARANCES measured and electric strength test voltages comply with PEAK WORKING VOLTAGES requirement. Max. 448 V	Pass
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4).	Pass
2.10.3.1	General	Measured distance are adequate.	Pass
2.10.3.2	Mains transient voltages	Overvoltage Category II	Pass
	a) AC mains supply .....	Considered transient voltage as Overvoltage Category II, 2500 Vpk ( for input voltage: 100-240Vac) 1500 Vpk ( for input voltage: 100-120 Vac)	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	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply..... :	2500 Vpk ( for input voltage:	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
		100-240Vac) 1500 Vpk ( for input voltage: 100-120 Vac)	
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 and 2.10.4)	Pass
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		Pass
	CTI tests ..... :	Material group IIIb; 100 <= CTI < 175.	-
2.10.4.3	Minimum creepage distances	(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 appended table 2.10.5)	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	One layer of insulation tape complied with the required Electric Strength Test	Pass
2.10.5.7	Separable thin sheet material	Two layers insulation tape of T1	Pass
	Number of layers (pcs) ..... :	Two layers insulation tape of T1	-
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	One layer of insulation tape	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
		complied with the required Electric Strength Test	
	Electric strength test .....	3000 Vac	-
2.10.5.11	Insulation in wound components		Pass
2.10.5.12	Wire in wound components	Certified source of triple insulated wire used in Transformer.	Pass
	Working voltage .....	T1: 448 Vpk, 240 Vrms	Pass
	a) Basic insulation not under stress .....		N/A
	b) Basic, supplementary, reinforced insulation.....	Reinforced	Pass
	c) Compliance with Annex U .....	Certified source of triple insulated wire used in Transformer. See 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 components		N/A
	Electric strength test .....		-
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage .....		N/A
	- Basic insulation not under stress .....		N/A
	- Supplementary, reinforced insulation.....		N/A
2.10.6	Construction of printed boards		Pass
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	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	The printed board was not a multi-layer 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

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Clause	Requirement + Test	Result - Remark	Verdict

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



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Clause	Requirement + Test	Result - Remark	Verdict
3	<b>WIRING, CONNECTIONS AND SUPPLY</b>		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection	All internal wiring used in the distribution of primary power protected against overcurrent and short circuit by suitably rated protective devices.	Pass
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	Pass
3.1.3	Securing of internal wiring	The wires are positioned in such a manner that prevents excessive strain, loosening of terminal connections and damage of conductor insulation.	Pass
3.1.4	Insulation of conductors	Uninsulated conductors have been adequately fixed to prevent, in normal use, any reduction of creepage or clearance distances below those prescribed by in 2.9.	Pass
3.1.5	Beads and ceramic insulators	The equipment does not have any beads or similar insulators.	N/A
3.1.6	Screws for electrical contact pressure	The equipment does not have any screw-type connections.	N/A
3.1.7	Insulating materials in electrical connections	The equipment does not have any electrical connections that rely on insulating material for adequate contact pressure.	Pass
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections. Machine screws only.	N/A
3.1.9	Termination of conductors	All conductors are reliably secured.	Pass
	10 N pull test	10N pull test performed for all relevant conductors. No hazards caused hereby.	Pass
3.1.10	Sleeving on wiring		N/A
3.2	Connection to mains supply		Pass
3.2.1	Means of connection	The unit is provided with a	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

		means for direct plug-in.	
3.2.1.1	Connection to an a.c. mains supply	The unit is provided with a means for direct plug-in.	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	The equipment is not permanently connected.	N/A
	Number of conductors, diameter of cable and conduits (mm) .....		-
3.2.4	Appliance inlets	The equipment does not use an appliance inlet.	N/A
3.2.5	Power supply cords		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		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
3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ) .....		-
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type and nominal thread diameter (mm) .....		-
3.3.6	Wiring terminals design		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		Pass
3.4.1	General requirement	The plug is considered to be the disconnect device.	Pass
3.4.2	Disconnect devices	The plug is used as the disconnect device and information is provided in the manual.	Pass
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	No accessible parts on the supply side of the disconnect device.	Pass
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	The unit is single-phase equipment.	N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices	The plug is considered the disconnect device.	Pass
3.4.10	Interconnected equipment	No interconnection of hazardous voltages or energy levels.	Pass
3.4.11	Multiple power sources	The equipment only receives power from one source.	N/A
3.5	Interconnection of equipment		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

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Clause	Requirement + Test	Result - Remark	Verdict

4	<b>PHYSICAL REQUIREMENTS</b>		Pass
4.1	Stability		N/A
	Angle of 10°		N/A
	Test force (N)..... :		N/A
4.2	Mechanical strength		Pass
4.2.1	General	After tests of 4.2.2 to 4.2.7, the sample is continuing to comply with the requirements	Pass
4.2.2	Steady force test, 10 N	10N applied to components other than parts serving as an enclosure. No energy or other hazards.	Pass
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	250N were applied to the outer enclosure. No energy or other hazards.	Pass
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)..... :	No hazards as a result of the drop test.	Pass
4.2.7	Stress relief test	--No indication of shrinkage or distortion on enclosures due to the stress relief test (87 degree C/ 7hrs).	Pass
4.2.8	Cathode ray tubes	The equipment does not have any CRT*s	N/A
	Picture tube separately certified ..... :		N/A
4.2.9	High pressure lamps	The equipment does not have any high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ..... :		N/A
4.3	Design and construction		Pass
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N)..... :		N/A
4.3.3	Adjustable controls	The equipment does not have a voltage selector	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.4	Securing of parts	Mechanical fixings in such a way designed that they will withstand mechanical stress occurring in normal use.	Pass
4.3.5	Connection by plugs and sockets	The equipment does not have any interchangeable plugs/sockets.	Pass
4.3.6	Direct plug-in equipment		Pass
	Torque ..... :	--The additional torque applied to the socket-outlet to maintain the engagement face in the vertical plane did not exceed 0.25 Nxm.	Pass
	Compliance with the relevant mains plug standard:	--see below	Pass
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries	The equipment does not have any 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	The equipment does not produce dust or employ powders, liquids or gases.	Pass
4.3.11	Containers for liquids or gases	The equipment does not contain liquids.	N/A
4.3.12	Flammable liquids..... :	The equipment does not use any flammable liquids.	N/A
	Quantity of liquid (l)..... :		N/A
	Flash point (°C)..... :		N/A
4.3.13	Radiation	The equipment does not generate ionizing radiation or contain flammable liquids or gases.	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) ..... :		-
	Measured high-voltage (kV) ..... :		-

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	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	Laser (including LEDs)		N/A
	Laser class ..... :		-
4.3.13.6	Other types ..... :		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas ..... :		N/A
4.4.3	Protection in restricted access locations ..... :		N/A
4.4.4	Protection in service access areas		N/A
4.5	Thermal requirements		Pass
4.5.1	General		Pass
4.5.2	Temperature tests	The equipment and its component parts did not attain excessive temperatures during normal operation. (see appended table 4.5)	Pass
	Normal load condition per Annex L ..... :	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established.	-
4.5.3	Temperature limits for materials	(see appended table 4.5)	Pass
4.5.4	Touch temperature limits		Pass
4.5.5	Resistance to abnormal heat..... :	(see appended table 4.5.5)	Pass
4.6	Openings in enclosures		Pass
4.6.1	Top and side openings	There are no openings in the side of the enclosure.	Pass
	Dimensions (mm) ..... :	There are no openings in the side of the enclosure.	-
4.6.2	Bottoms of fire enclosures	No openings.	Pass
	Construction of the bottom, dimensions (mm)..... :	There are no openings in the side of the enclosure.	-
4.6.3	Doors or covers in fire enclosures		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) ..... :		-
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) ..... :		-
4.7	Resistance to fire		Pass
4.7.1	Reducing the risk of ignition and spread of flame		Pass
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	With having the following components: AC-DC -Components with windings. -Wiring. -Semiconductor devices, transistors, diodes, integrated circuits. -Resistors, capacitors, inductors. The fire enclosure is required.	Pass
4.7.2.1	Parts requiring a fire enclosure	A fire enclosure covers all parts.	Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		Pass
4.7.3.1	General	The propagation of fire is minimized through the fire enclosure construction.	Pass
4.7.3.2	Materials for fire enclosures	Equipment is moveable with mass less than 18 kg. Fire enclosure material is V-1 minimum.	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	PWBs are rated min. V-1. All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better	Pass

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		Internal wiring is UL Recognized, marked VW-1 or FT-1 and strapped by individual cable ties (where needed). See Table 1.5.1 for material information.	
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components.	N/A



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5	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General		Pass
5.1.2	Configuration of equipment under test (EUT)	Equipment designed for connection to only one power source.	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 or TT system.	Pass
5.1.4	Application of measuring instrument	Test made to 10 x 20 cm metal foil in contact with accessible non-conductive part. Tested using D.1 measuring instrument.	Pass
5.1.5	Test procedure	see above	Pass
5.1.6	Test measurements	see below	Pass
	Supply voltage (V) .....	264 Vac, 60Hz	-
	Measured touch current (mA).....	Enclosure with foil: 0.01 mA max. Output (+) and (-): 0.15 mA max.	-
	Max. allowed touch current (mA).....	0.25 mA	-
	Measured protective conductor current (mA) .....	--	-
	Max. allowed protective conductor current (mA) ...	--	-
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....		-

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	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	Electric strength		Pass
5.2.1	General	(see appended table 5.2)	Pass
5.2.2	Test procedure	No insulation breakdown detected during the test. (see appended table 5.2)	Pass
5.3	Abnormal operating and fault conditions		Pass
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	Pass
5.3.2	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 between secondary voltages exceeding SELV and accessible SELV on signal connector complies with method c)	Pass
5.3.5	Electromechanical components	The equipment does not have any electromechanical components in the secondary.	N/A
5.3.6	Audio amplifiers in ITE..... :		N/A
5.3.7	Simulation of faults	--Connectors overloaded. Transformer temperatures measured for compliance with Annex C during test.	Pass
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation was noted during the tests. Electric Strength tests performed after abnormal and fault tests.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.9.1	During the tests	No fire, emission of molten metal or deformation was noted during the tests. The fire which occurred did not propagate beyond the equipment.	Pass
5.3.9.2	After the tests	Electric Strength tests performed after abnormal and fault tests.	Pass
6	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		N/A
7	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		N/A
A	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		N/A
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 .....	--T1	-
	Manufacturer .....	--See Critical Component table for details.	-
	Type.....	--See Critical Component table for details.	-
	Rated values.....	--See Critical Component table for details.	-
	Method of protection.....	--Regulating network circuit protection.	-
C.1	Overload test	--(see appended table 5.3)	Pass
C.2	Insulation	--(see appended table 5.3)	Pass
	Protection from displacement of windings.....	Triple insulated wire used.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

D	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		Pass
D.1	Measuring instrument	Simpson 228	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 BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>		Pass
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		Pass

M	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		N/A
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Clause	Requirement + Test	Result - Remark	Verdict
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
P	<b>ANNEX P, NORMATIVE REFERENCES</b>		Pass
Q	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>		N/A
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
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
	..... :	UL approved triple insulated Wire used.	-
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>		Pass
X.1	Determination of maximum input current		Pass
X.2	Overload test procedure		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		Pass
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A

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## **Enclosure**

### **National Differences**

USA / Canada

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

USA / Canada - Differences to IEC 60950-1:2005 (Second Edition)			
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	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.		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.		N/A
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
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		N/A



IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

	circuit classification requirements (e.g., TNV-2)		
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
2.3.2.4	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and		N/A

IEC 60950-1			
SubClause	Difference + Test	Result - Remark	Verdict

	routine testing.		
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
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
2.6.3.3	For Pluggable Equipment Type A, if a) b) or c) are not applicable, the current rating of the circuit is taken as 20 A		N/A
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.	The Appliance Receptacle was protected by an over current device in the branch circuit.	Pass
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

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SubClause	Difference + Test	Result - Remark	Verdict
3.1.1	All interconnecting cables protected against overcurrent and short circuit.		Pass
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1.		Pass
3.2.1	Permitted use for flexible cords and plugs.	The unit is provided with a means for direct plug-in.	N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.	The unit is provided with a means for direct plug-in.	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		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	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.		
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	Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.		N/A
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		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	U.S. and Canada.		
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.		N/A
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
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		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.	--The unit was investigated to the following additional standards: The unit were evaluated to the maximum acceptable moment, center of gravity, dimensions and weight of the unit in accordance with UL 1310 and CSA C22.2 No. 223. In addition, the blade	Pass

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SubClause	Difference + Test	Result - Remark	Verdict

		configuration was evaluated to the standard for the blade dimension.	
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	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 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.		N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 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

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SubClause	Difference + Test	Result - Remark	Verdict

5.3.7	Tests interrupted by opening of a component repeated two additional times.		Pass
5.3.9.1	Test interrupted by opening of wire or trace subject to certain conditions.	No interrupted by opening of wire or trace during Fault Test	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
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

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SubClause	Difference + Test	Result - Remark	Verdict
NAD	Acoustic pressure from an ear piece less than 136 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets, and 121 dBA for 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
NAF	Household/Home Office Document Shredders		N/A
NAF.1.7	Markings and instructions alert the user to key safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products.		N/A
NAF.2.8.3	Safety interlock cannot be inadvertently activated by the articulated accessibility probe (figure NAF.1).		N/A
NAF.3.4	Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.		N/A
NAF.4.4	Hazardous moving parts are not accessible, as determined using the articulated accessibility probe (figure NAF.1) and the accessibility probe/wedge (figures NAF.2/NAF.3).		N/A



1.6.2	TABLE: electrical data (in normal conditions)					Pass
U (V)	I (A)	I rated (A)	P (W)	Fuse #	I fuse (A)	condition/status
--	--	--	--	--	--	Model GT-81090-067.5-W2-USB Input for 100-240Vac
90	0.13	--	7.4	F1	0.13	7.5V / 0.69A / 50Hz
100	0.12	0.2	7.3	F1	0.12	7.5V / 0.69A / 50Hz
240	0.06	0.2	7.1	F1	0.06	7.5V / 0.69A / 50Hz
254	0.06	--	7.1	F1	0.06	7.5V / 0.69A / 50Hz
264	0.06	--	7.1	F1	0.06	7.5V / 0.69A / 50Hz
90	0.13	--	7.4	F1	0.13	7.5V / 0.69A / 60Hz
100	0.12	0.2	7.3	F1	0.12	7.5V / 0.69A / 60Hz
240	0.06	0.2	7.1	F1	0.06	7.5V / 0.69A / 60Hz
254	0.06	--	7.1	F1	0.06	7.5V / 0.69A / 60Hz
264	0.06	--	7.1	F1	0.06	7.5V / 0.69A / 60Hz
--	--	--	--	--	--	Model GT-81090-067.5-W2-USB Input for 100-120Vac
120	0.10	0.2	7.1	F1	0.10	7.5V / 0.69A / 50Hz
120	0.10	0.2	7.1	F1	0.10	7.5V / 0.69A / 60Hz
132	0.10	--	7.1	F1	0.10	7.5V / 0.69A / 50Hz
132	0.10	--	7.1	F1	0.10	7.5V / 0.69A / 60Hz
--	--	--	--	--	--	Model GT-81090-067.5-2.3-W2- USB Input for 100-240Vac
90	0.13	--	7.8	F1	0.13	5.2V / 1A / 50Hz
100	0.12	0.2	7.7	F1	0.12	5.2V / 1A / 50Hz
240	0.06	0.2	7.1	F1	0.06	5.2V / 1A / 50Hz
254	0.06	--	7.1	F1	0.06	5.2V / 1A / 50Hz
264	0.06	--	7.1	F1	0.06	5.2V / 1A / 50Hz
90	0.13	--	7.8	F1	0.13	5.2V / 1A / 60Hz
100	0.12	0.2	7.7	F1	0.12	5.2V / 1A / 60Hz
240	0.06	0.2	7.1	F1	0.06	5.2V / 1A / 60Hz
254	0.06	--	7.1	F1	0.06	5.2V / 1A / 60Hz
264	0.06	--	7.1	F1	0.06	5.2V / 1A / 60Hz
--	--	--	--	--	--	Model GT-81090-067.5-2.3-W2- USB Input for 100-120Vac
120	0.10	0.2	7.1	F1	0.10	5.2V / 1A / 50Hz
120	0.10	0.2	7.1	F1	0.10	5.2V / 1A / 60Hz
132	0.09	--	7.4	F1	0.09	5.2V / 1A / 50Hz
132	0.09	--	7.4	F1	0.09	5.2V / 1A / 60Hz

Maximum Normal Load (MNL): Output was load as it maximum rated current and operated continuously.

2.10.3 and 2.10.4	<b>TABLE: clearance and creepage distance measurements</b>					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)
For Unit	--	--	--	--	--	--
Functional: Line - Neutral (before fuse)	<420	<250	1.8	2.6	2.5	2.6
Functional: Trace under fuse	<420	<250	1.8	2.6	2.5	2.6
Reinforced: Primary D6 body - secondary C8 body	<420	<250	4.0	6.7	5.0	6.7
Reinforced: Primary D2 trace - secondary C8 trace	<420	<250	4.0	4.8	5.0	6.4
Reinforced: CY1 primary trace - CY1 secondary trace	<420	<250	4.0	6.3	5.0	6.3
Reinforced: R5 primary trace - CY1 Secondary trace	<420	<250	4.0	6.0	5.0	6.0
For Transformer (T1)	--	--	--	--	--	--
Reinforced: Primary pin - Secondary Pin	448	240	4.2	see below	5.0	see below
Reinforced: Secondary Pin - Core	448	240	4.2	6.0	5.0	6.0
Reinforced: Primary winding - Secondary Pin	448	240	4.2	6.0	5.4	6.0
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)
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)
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)
supplementary information:						
1) The CTI rating of PCB is material group IIIb (Cl. 2.10.4) and Pollution Degree 2 applicable, 2) Separation Method between SELV and hazard circuit (Cl. 2.2.3) achieved by double or reinforced insulation (Method 1) 3) Functional insulation shorted, see Cl. 5.3.4, 5) A force of 10 N is applied to the internal components. 4) Triple insulation wire used in secondary winding of T1. 5) Core was considered as primary side.						

[illegible]

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Clause	Requirement + Test	Result - Remark	Verdict

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

4.5	<b>TABLE: Thermal requirements</b>						Pass
	Supply voltage (V)..... :	See below	See below	See below	See below	--	—
	Ambient Tmin (°C) ..... :	--	--	--	--	--	—
	Ambient Tmax (°C) ..... :	--	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)					allowed Tmax (°C)
Model GT-81090-067.5-2.3-W2-USB		--	--	--	--	--	--
Test condition		90V / 60Hz (Vertical)	Shift to 45 degree C	90V / 60Hz (Horizontal)	Shift to 45 degree C	--	--
1. Inside enclosure near plug		48.0	68.5	45.8	67.3	--	105
2. Input wire		55.4	75.9	54.2	75.7	--	80
3. L1 coil		61.6	82.1	60.9	82.4	--	105
4. C1 body near C2		62.4	82.9	61.8	83.3	--	105
5. PCB near D1		64.1	84.6	61.0	82.5	--	130
6. CY1 body		65.6	86.1	65.0	86.5	--	125
7. T1 Bottom side		68.4	88.9	67.7	89.2	--	110
8. T1 Top side		67.1	87.6	66.1	87.6	--	110
9. T1 core		61.4	81.9	59.7	81.2	--	110
10. L2 coil		58.3	78.8	56.9	78.4	--	105
11. Inside enclosure		56.4	76.9	55.5	77.0	--	105
12. Surface of Enclosure		41.9	62.4	41.7	63.2	--	95
13. ambient air		24.5	45.0	23.5	45.0	--	--
Test Duration		1.5 hr	--	1.5 hr	--	--	--
Test condition		264V / 60Hz (Vertical)	Shift to 45 degree C	264V / 60Hz (Horizontal)	Shift to 45 degree C	--	--
1. Inside enclosure near plug		43.5	63.5	43.5	63.7	--	105
2. Input wire		46.2	66.2	46.4	66.6	--	80

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Clause	Requirement + Test	Result - Remark	Verdict

3. L1 coil			48.0	68.0	48.2	68.4	--	105
4. C1 body near C2			52.6	72.6	52.8	73.0	--	105
5. PCB near D1			53.2	73.2	53.4	73.6	--	130
6. CY1 body			63.7	83.7	63.7	83.9	--	125
7. T1 Bottom side			65.7	85.7	65.8	86.0	--	110
8. T1 Top side			64.5	84.5	64.6	84.8	--	110
9. T1 core			58.7	78.7	58.8	79.0	--	110
10. L2 coil			57.3	77.3	57.3	77.5	--	105
11. Inside enclosure			54.4	74.4	54.3	74.5	--	105
12. Surface of Enclosue			42.4	62.4	42.2	62.4	--	95
13. ambient air			25.0	45.0	24.8	45.0	--	--
Test Duration			1.2 hr	--	1.4 hr	--	--	--
Model GT-81090-067.5-2.3-W2-USB(5.2Vdc)			--	--	--	--	--	--
Test condition			132V / 60Hz (Vertical)	Shift to 45 degree C	132V / 60Hz (Horizontal)	Shift to 45 degree C	--	--
1. C1 body near C2			57.2	75.7	58.0	76.5	--	105
Ambient air			26.5	45	26.5	45	--	--
Test Duration			1.5 hr	--	1.5 hr	--	--	--
temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> ( Ω)	T (°C)	allowed T <sub>max</sub> (°C)	insulation class	
--	--	--	--	--	--	--	--	

supplementary information:

The temperatures were measured under worst-case normal mode defined in 1.2.2.1 and as described in 1.4.1 at voltages as described in 1.4.5

With a specified for 1.4.12.3 Non-temperature dependent equipment

T shall not exceed (T<sub>max</sub> + T<sub>amb</sub> - T<sub>ma</sub>)

T<sub>ma</sub> = 45 (the maximum ambient temperature permitted by the manufacturer's specification)

T<sub>max</sub> (PWB) = 130 degree C

T<sub>max</sub> (T1 core, T1 coil), class B = 110 degree C

T<sub>max</sub> (Electrolytic Capacitor: C1; L1, L2 coil; Inside enclosure) = 105 degree C

T<sub>max</sub> (Input wire) = 80 degree C

User accessible area:

T<sub>max</sub> (surface of enclosure)=95 degree C

4.5.5	<b>TABLE: Ball pressure test of thermoplastic parts</b>		Pass
	allowed impression diameter (mm) .....	less than or equal to 2.0	—

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Clause	Requirement + Test	Result - Remark	Verdict

part	test temperature (°C)	impression diameter (mm)
Blade holder, Sabic, type SE1X, 4.0mm (2.0x2) thickness	125	1.1
Blade holder, Asahi, type 540V, 4.0mm (2.0x2) thickness	125	0.8
supplementary information:		
Test sample measured min. 2.5 mm thick with approx. with upper and lower surface parallel to one another.		

4.7	TABLE: resistance to fire					Pass
part		manufacturer of material	type of material	thickness (mm)	flammability class	Evidence
--		--	--	--	--	--
supplementary information:						
More materials information refer to Critical Components table for details.						

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests			Pass
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
For Transformer		--	--	--
T1 Primary winding to SELV winding		AC	3000	No
T1 SELV winding to Core		AC	3000	No
One layer insulation tape / 1350F-1		AC	3000	No
One layer insulation tape / 1350F-2		AC	3000	No
One layer insulation tape / MY130		AC	3000	No
One layer insulation tape / 35660		AC	3000	No
One layer insulation tape / 35661		AC	3000	No
For Unit		--	--	--
Primary to SELV		DC	4242	No
Primary to Enclosure with foil		DC	4242	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

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Clause	Requirement + Test	Result - Remark	Verdict

Reinforced:			
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
supplementary information:			
Core is considered as primary side and Triple insulation wire is used at secondary wiring.			
Tape source:			
(1) 3M Company, type 1350F-1, 1350F-2			
(2) Symbio Inc, type MY130, 35660, 35661			
SELV winding (triple insulation wire) source:			
(1) Young Chang , type STW-B			
(2) Furukawa, type TEX-E			
(3) Totoku, type TIW-E			

5.3	<b>TABLE: fault condition tests</b>					Pass
	ambient temperature (°C) .....				See below	—
	Power source for EUT: Manufacturer, model/type, output rating .....				Model GT-81090-067.5-2.3-W2-USB O/P rating: 5.2 Vdc, 1.0 A or Model GT-81090-067.5-W2-USB O/P rating: 7.5 Vdc, 0.69 A	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
--	--	--	--	--	--	5.3.1, 5.3.4, 5.3.7 - Component Failure Test
--	--	--	--	--	--	Model GT-81090-067.5-W2-USB (7.5V/0.69A)
C1	Short	240Vac	1 Sec	F1	--	IP (F1), NT, NB, NC; I/P: 0A, Repeat all fuse result were same. Repeat nine times result were same.
C1	Short	120Vac	1 Sec	F1	--	IP (F1), NT, NB, NC; I/P: 0A, Repeat all fuse result were same Repeat nine times result

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Clause	Requirement + Test	Result - Remark	Verdict

						were same.
T1 Pin 3 - Pin 4	Short	240Vac	30 min	F1	--	Unit Shutdown NT, NB, NC; I/P: 0.002A, IP (IC1)
T1 Pin A - Pin B	Short	240Vac	30 min	F1	--	Unit cycle protection NT, NB, NC; I/P: 0.009-0.01A, IP (IC1)
D1	Short	240Vac	1 Sec	F1	--	IP (F1), NT, NB, NC; I/P: 0A Repeat all fuse result were same. Repeat nine times result were same.
Q1 G-D	Short	240Vac	1 Sec	F1	--	CD (Q1) NT, NB, NC; I/P: 0.002A Repeat two times result were same
Q1 G-S	Short	240Vac	30 min	F1	--	CD (Q1) NT, NB, NC; I/P: 0.002A Repeat two times result were same
Q1 S-D	Short	240Vac	1 Sec	F1	--	CD (Q1) NT, NB, NC, I/P: 0.002A Repeat two times result were same
R14	Short	240Vac	30 min	F1	--	CD (Q1) NT,NB,NC; I/P: 0.002A Repeat two times result were same
R14 (For Model GT-81090-067.5-2.3-W2-USB)	Short	240Vac	30 min	F1	--	CD (Q1) NT,NB,NC; I/P: 0.002A Repeat two times result were same
--	--	--	--	--	--	5.3.3, 5.3.7b, ANNEX C.1 - TRANSFORMER ABNORMAL OPERATION TEST
--	--	--	--	--	--	Model GT-81090-067.5-2.3-W2-USB (5.2V/1A)
T1 pin A after D7 for +5.2V	Overload	240 Vac	4.5 hr	F1	--	CT at 0.1A, output 1A total 1.1 A; increased to 0.15 A, Unit shutdown, NT, NC, NB, T1 coil = 79 degree C, Amb = 22 degree C, I/P: 0.11A, IP (IC1)
--	--	--	--	--	--	5.3.7 - POWER SUPPLY OUTPUT SHORT-CIRCUIT/OVERLOAD TEST
--	--	--	--	--	--	Model GT-81090-067.5-2.3-



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						W2-USB (5.2V/1A)
+5.2V output	Overload	240Vac	8.5hr	F1	--	CT at 1.05A, Increased to 1.1A; Unit shutdown, NT, NB, NC, T1 coil = 82 degree C, amb=24 degree C, I/P: 0.11A, IP (IC1)
+5.2V output	Short	240Vac	30min	F1	--	Unit cycle protection NT, NB, NC; IP (IC1), I/P: 0.005-0.01A

supplementary information:

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 CT: Constant temperature were obtained CD: Components damaged (listed damaged components) SD: Unit shut down and no indication of output voltage and current IP: Internal protection operated (list component) I/P: Input Current For fuse open items, tests were repeated nine times with the same outcomes. Alternate fuses were tested with the same outcomes. Fuse used: (1) Fuse(F1): 10 ohm/ 2 W, Vis, type FRT (2) Fuse(F1): 10 ohm/ 2 W, Tzai Yuan, type KNP (3) Fuse(F1): 10 ohm/ 2 W, Jiangsu, type RF10 (4) Fuse(F1): 10 ohm/ 2 W, Chien Tung, type FKN (5) Fuse(F1): 10 ohm/ 2 W, Hua Sheng, type FKN (6) Fuse(F1): 10 ohm/ 2 W, Shenzhen Great, type RXF series (7) Fuse(F1): 10 ohm/ 2 W, Shenzhe Kayocota, type FRKNP series Fuse tubing would be removed during the tests.