

COVER PAGE FOR TEST REPORT

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ, QQGQ7
Test Procedure:	Listing
Product:	Switching Power Adapter
Model/Type Reference:	GT-41078-0505-USB and GT-41078-0506-USB
Rating(s):	Input: 100 - 240 V ac, 50-60 Hz, 0.2 A; Output: Model GT-41078-0505-USB, 5 V dc, 1 A Model GT-41078-0506-USB, 6 V dc, 0.83 A
Standards:	UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Applicant Name and Address:	GLOBTEK INC 186 VETERANS DR NORTHVALE NJ 07647 UNITED STATES
This Report includes the following parts, in addition to this cover page: <ol style="list-style-type: none">1. Specific Inspection Criteria2. Specific Technical Criteria3. Clause Verdicts4. Critical Components5. Test Results6. National Differences7. Enclosures	

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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Test Report By:



AnnaMarie Vessey
Staff Engineer
Underwriters Laboratories Inc.

Reviewed By:




David R. Keen
Staff Engineer
Underwriters Laboratories Inc.

SPECIFIC INSPECTION CRITERIA

BA1.0	Special Instructions to UL Representative
BA1.1	N/A

BB1.0	Supporting Documentation
BB1.1	<p>The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:</p> <p>A. Authorization - The Authorization page may include additional Factory Identification Code markings.</p> <p>B. Generic Inspection Instructions -</p> <ul style="list-style-type: none"> 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.

BC1.0	Markings and instructions	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements).	
Standard Clause	Clause Title	Marking or Instruction Details
1.7.1	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)
1.7.6	Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
Other	LPS	Marked "LPS" or "Limited Power Supply".

BD1.0	Production-Line Testing Requirements						
BD1.1	Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.						
					Test Potential		
	Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
	N/A						
BD1.2	Earthing Continuity Test Exemptions - This test is not required for the following models:						
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:						
BD1.4	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:						

BE1.0	Sample and Test Specifics for Follow-Up Tests at UL					
BE1.1	Model	Component	Material	Test	Sample(s)	Test Specifics
	N/A					

SPECIFIC TECHNICAL CRITERIA

UL 60950-1, First Edition Information technology equipment - Safety- Part 1: General Requirements	
Report Reference No	E170507-A30-UL-1
Compiled by	AnnaMarie Vessey
Reviewed by	David R. Keen
Date of issue	2008-10-17
Standards	UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Test procedure	Listing
Non-standard test method	N/A
Test item description	Switching Power Adapter
Trademark	None
Model and/or type reference	GT-41078-0505-USB and GT-41078-0506-USB
Rating(s)	Input: 100 - 240 V ac, 50-60 Hz, 0.2 A; Output: Model GT-41078-0505-USB, 5 V dc, 1 A Model GT-41078-0506-USB, 6 V dc, 0.83 A

Particulars: test item vs. test requirements

Equipment mobility	direct plug-in
Operating condition	continuous
Mains supply tolerance (%)	+10%, -10%
Tested for IT power systems	N/A
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class II (double insulated)
Mass of equipment (kg)	0.05
Protection against ingress of water	IP X0

Possible test case verdicts:

- | | |
|---|--|
| - test case does not apply to the test object | N / A |
| - test object does meet the requirement | Pass |
| - test object does not meet the requirement | Fail (acceptable only if a corresponding, less stringent national requirement is "Pass") |

General remarks:

- "(see Enclosure #)" refers to additional information appended to the Test Report
- "(see appended table)" refers to a table appended to the Test Report
- Throughout the Test Report a point is used as the decimal separator

GENERAL PRODUCT INFORMATION:	
CA1.0	Report Summary
CA1.1	N/A
CB1.0	Product Description
CB1.1	Switch mode power supply, with electronic components mounted on PWB and housed in plastic enclosure.
CC1.0	Model Differences
CC1.1	Model GT-41078-0505-USB is similar to model GT-41078-0506-USB except for output rating and model designation.
CD1.0	Additional Information
CD1.1	N/A
CE1.0	Technical Considerations
CE1.2	The product was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40 °C
CE1.3	The means of connection to the mains supply is: Pluggable A, Direct Plug-In Unit
CE1.4	The product is intended for use on the following power systems: TN
CE1.5	The equipment disconnect device is considered to be: Plug
CE1.7	The product was investigated to the following additional standards: The product 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.
CE1.9	The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): (V+ to V-) Output.

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

1	GENERAL		Pass
1.5	Components		Pass
1.5.1	General		Pass
	Comply with IEC 60950 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	There are no thermal controls.	N/A
1.5.4	Transformers	See Annex C-Transformers.	Pass
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of this standard.	Pass
1.5.6	Capacitors in primary circuits	Line-to-line capacitors are subclass X1 or X2.	Pass
1.5.7	Double insulation or reinforced insulation bridged by components		Pass
1.5.7.1	General		Pass
1.5.7.2	Bridging capacitors	Double Insulation bridged by a single capacitor complying with IEC 60384-14: 1993, subclass Y1.	Pass
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts	Accessible conductive parts separated from other parts by DOUBLE or REINFORCED INSULATION bridged by CY1	Pass

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

		comply with the requirements for LIMITED CURRENT CIRCUITS.	
1.5.8	Components in equipment for IT power systems	Not for use on IT power systems.	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	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	Not hand-held equipment.	N/A
1.6.4	Neutral conductor	Neutral conductor was served as line conductor.	Pass

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

1.7	Marking and instructions		Pass
1.7.1	Power rating	Rating marking readily visible to operator. See below for details.	Pass
	Rated voltage(s) or voltage range(s) (V)	100 - 240 V ac	Pass
	Symbol for nature of supply, for d.c. only	AC Source	N/A
	Rated frequency or rated frequency range (Hz)	50-60 Hz	Pass
	Rated current (mA or A).....	0.2 A	Pass
	Manufacturer's name or trademark or identification mark	GlobTek / E170507	Pass
	Type/model or type reference.....	Switching Power Adapter / Models GT-41078-0505-USB, GT-41078-0506-USB	Pass
	Symbol for Class II equipment only	60417-1-IEC-5172 symbol marked.	Pass
	Other symbols.....	Additional markings are used and are defined in the installation instructions.	Pass
	Certification marks	UL, C-UL	Pass
1.7.2	Safety instructions	Safety instructions in English. Other languages will be provided when submitted for national approval.	Pass
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment.....	Equipment is auto-ranging.	N/A
1.7.5	Power outlets on the equipment	No standard power outlets are provided.	N/A
1.7.6	Fuse identification.....	Fuse marking provided as follow : F1, T1A, rated 250 Vac.	Pass
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals	Class II equipment	N/A
1.7.7.2	Terminal 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	No indicator, control affecting	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

		safety provided.	
1.7.8.2	Colours..... :		N/A
1.7.8.3	Symbols according to IEC 60417 :	There is no switch in the equipment.	N/A
1.7.8.4	Markings using figures..... :	Figures are not used for indicating different positions of controls.	N/A
1.7.9	Isolation of multiple power sources :	There is only one connection to hazardous voltage.	N/A
1.7.10	IT power distribution systems	Not intended for use on IT power systems.	N/A
1.7.11	Thermostats and other regulating devices	No thermostats or similar regulating devices.	N/A
1.7.12	Language..... :	Reviewed only English markings/instructions. May be provided in other languages when the equipment will be applied for other national certificated.	-
1.7.13	Durability	All markings provided on UL Recognized Component labels suitable for surface they are applied upon and meet the durability test.	Pass
1.7.14	Removable parts	No marking is located on a removable part.	N/A
1.7.15	Replaceable batteries	There are no replaceable batteries in the equipment.	N/A
	Language..... :		-
1.7.16	Operator access with a tool :		N/A
1.7.17	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	PROTECTION FROM HAZARDS		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	See below.	Pass
	Test by inspection..... :	Operator can only contact with SELV circuit.	Pass
	Test with test finger..... :	The test finger was unable to contact bare hazardous parts, basic insulation, or ELV circuits.	Pass
	Test with test pin..... :	The test pin cannot touch hazardous voltage through and openings or seams of the whole enclosure.	Pass
	Test with test probe :	No TNV present.	N/A
2.1.1.2	Battery compartments..... :	No Battery compartments.	N/A
2.1.1.3	Access to ELV wiring	Internal wiring in an ELV circuit is not user accessible.	N/A
	Working voltage (V); minimum distance (mm) through insulation :	See Appended Table of clearance and creepage distance measurements	-
2.1.1.4	Access to hazardous voltage circuit wiring	Insulation of internal wiring is not operator accessible.	N/A
2.1.1.5	Energy hazards..... :	The output of the power supply is not an energy hazard.	Pass
2.1.1.6	Manual controls	No knobs, handles, levers, or the like are employed in power supplies.	N/A
2.1.1.7	Discharge of capacitors in equipment	Capacitor having a marked or nominal capacitance not exceeding 0.1 uF.	Pass
	Time-constant (s); measured voltage (V) :	37% Vo: 147.26 V, Vtc: 2 V after 1 s.	-
2.1.2	Protection in service access areas	No bare parts operating at HAZARDOUS VOLTAGES in a service access area.	N/A
2.1.3	Protection in restricted access locations	The unit is not intended to be used in restricted locations.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.2	SELV circuits		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).....	The Transformer (T1)'s secondary output complied with the requirement of 2.2	Pass
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)	Hazardous voltage wiring which may contact SELV parts provided with double or reinforced insulation.	Pass
2.2.3.2	Separation by earthed screen (method 2)		N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N/A
2.2.4	Connection of SELV circuits to other circuits.....	SELV circuits are only connected to other SELV circuits. SELV circuit and all interconnected circuits separated from primary by double 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	No TNV circuit	N/A
	Type of TNV circuits		-
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed.....		-
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

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Clause	Requirement + Test	Result - Remark	Verdict

2.4	Limited current circuits		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz)		-
	Measured current (mA)		-
	Measured voltage (V)		-
	Measured capacitance (mF)		-
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources		Pass
	Inherently limited output		Pass
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition	The output is limited to the values of table 2B in normal operation conditions and in the case of a single fault.	Pass
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA):	Uoc: 7.9 V, Isc: 1.51 A, VA: 6.94 W for model GT-41078-0505-USB, Uoc: 7.1 V, Isc: 1.4 A, VA: 7.56 W for model GT-41078-0506-USB	-
	Current rating of overcurrent protective device (A):		-

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Clause	Requirement + Test	Result - Remark	Verdict

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	Class II equipment.	N/A
2.6.2	Functional earthing	Class II equipment.	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 (mm ²), AWG		-
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG		-
2.6.3.4	Resistance (Ohm) of earthing conductors and their terminations, test current (A)		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 and 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

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Clause	Requirement + Test	Result - Remark	Verdict

2.7	Overcurrent and earth fault protection in primary circuits		Pass
2.7.1	Basic requirements	Protection provided as part of the building installation.	Pass
	Instructions when protection relies on building installation	Pluggable Type A.	N/A
2.7.2	Faults not covered in 5.3	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 "LIVE" phase	Pass
2.7.5	Protection by several devices	Only one protective device is provided.	N/A
2.7.6	Warning to service personnel :	No protective device is provided in the neutral conductor.	N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

2.9	Electrical insulation		Pass
2.9.1	Properties of insulating materials	Electric strength test conducted after the humidity treatment.	Pass
2.9.2	Humidity conditioning	Humidity treatment performed to 48 hrs.	Pass
	Humidity (%)	95%	-
	Temperature (°C).....	30 degree C	-
2.9.3	Grade of insulation	The adequate level of safety insulation is provided and maintained to comply with the requirements of this standard.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

2.10	Clearances, creepage distances and distances through insulation		Pass
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.2	Determination of working voltage	Max. Vpk: T1-Pin A to T1- Pin 5 = 418 Vpk, Vrms: T1-Pin A to T1- Pin 2 = 240 Vrms	Pass
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4).	Pass
2.10.3.1	General	When measuring CLEARANCES, 4.2.2, 4.2.3 and 4.2.4 apply.	Pass
2.10.3.2	Clearances in primary circuit	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.3.3	Clearances in secondary circuits		N/A
2.10.3.4	Measurement of transient voltage levels	Considered.	Pass
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	Pass
	CTI tests..... :	Material group IIIb: 100<=CTI<175	-
2.10.5	Solid insulation		Pass
2.10.5.1	Minimum distance through insulation	(see appended table 2.10.5)	Pass
2.10.5.2	Thin sheet material	Two layers used, each of which complies with the required electric strength test	Pass
	Number of layers (pcs) :	Reinforced Insulation - 2 layers minnum.	-
	Electric strength test :	3000 V ac	-
2.10.5.3	Printed boards	PWB is not used as reinforced or supplementary insulation.	N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material :		-
	Number of layers (pcs) :		N/A
2.10.5.4	Wound components		Pass
	Number of layers (pcs) :	Three extruded layers.	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

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2.10.6	Coated printed boards	No coated printed wiring boards.	N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C)		N/A
2.10.6.5	Electric strength test		-
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test		-
2.10.7	Enclosed and sealed parts	No hermetically sealed or enclosed components used except for optical isolator. (see appended table 1.5.1.)	N/A
	Temperature T1=T2 = Tma - Tamb +10K (°C).....		N/A
2.10.8	Spacings filled by insulating compound.....	Optical isolator is approved component. (see appended table 2.10.5)	Pass
	Electric strength test	(see appended table 5.2)	-
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3	WIRING, CONNECTIONS AND SUPPLY		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection		Pass
3.1.2	Protection against mechanical damage		Pass
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors	Insulation on internal conductors is considered to be of adequate quality and suitable for the application and the working voltages involved.	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	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections.	N/A
3.1.9	Termination of conductors		Pass
	10 N pull test		Pass
3.1.10	Sleeving on wiring	Not provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.2	Connection to an a.c. mains supply or a d.c. mains supply		Pass
3.2.1	Means of connection	The unit is provided with a means for direct plug-in unit.	Pass
3.2.1.1	Connection to an a.c. mains supply		Pass
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Single mains supply.	N/A
3.2.3	Permanently connected equipment	The equipment is not permanently connected.	N/A
	Number of conductors, diameter (mm) of cable and conduits..... :		-
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 ²), 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
	D (mm); test mass (g)..... :		-
	Radius of curvature of cord (mm)..... :		-
3.2.9	Supply wiring space		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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 ²)		-
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
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.4	Disconnection from the mains supply		Pass
3.4.1	General requirement		Pass
3.4.2	Disconnect devices	A mains plug that is part of DIRECT PLUG-IN EQUIPMENT	Pass
3.4.3	Permanently connected equipment	Unit is not intended to be permanently connected.	N/A
3.4.4	Parts which remain energized	No parts remain energized when the disconnect device is removed.	N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment and d.c. equipment	Disconnect device disconnects both poles simultaneously.	Pass
3.4.7	Three-phase equipment	The equipment is single-phased.	N/A
3.4.8	Switches as disconnect devices	No such switch provided.	N/A
3.4.9	Plugs as disconnect devices	The required warning is provided in accordance with 1.7.2.	Pass
3.4.10	Interconnected equipment	No interconnection of hazardous voltages or energy levels.	N/A
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	This equipment is not considered for connection to TNV. Ref. to 2.2 for other details.	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

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Clause	Requirement + Test	Result - Remark	Verdict

4	PHYSICAL REQUIREMENTS		Pass
4.1	Stability		N/A
	Angle of 10°	The test was deemed not necessary.	N/A
	Test: force (N) :		N/A

4.2	Mechanical strength		Pass
4.2.1	General	See below.	Pass
4.2.2	Steady force test, 10 N	10 N were applied to components. No energy or other hazards.	Pass
4.2.3	Steady force test, 30 N	The equipment does not have any internal enclosures.	N/A
4.2.4	Steady force test, 250 N	250 N were applied to the outer enclosure. No energy or other hazards.	Pass
4.2.5	Impact test		Pass
	Fall test		Pass
	Swing test		N/A
4.2.6	Drop test	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 (70.5 degree C/7 h).	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

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Clause	Requirement + Test	Result - Remark	Verdict

4.3	Design and construction		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	The equipment is auto-ranging.	N/A
4.3.4	Securing of parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heatshrink tubing are used.	Pass
4.3.5	Connection of plugs and sockets	The equipment does not have any interchangeable plugs/sockets.	N/A
4.3.6	Direct plug-in equipment	The prevention of imposing to undue strain on the socket outlet was done by the construction of the adaptor.	Pass
	Dimensions (mm) of mains plug for direct plug-in . :	Refer Enclosure 4-09 for details.	Pass
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) :	The additional torque applied to the socket-outlet to maintain the engagement face in the vertical plane did not exceed 0.25 Nm.	Pass
4.3.7	Heating elements in earthed equipment	The equipment does not contain heating elements.	N/A
4.3.8	Batteries	No Battery provided.	N/A
4.3.9	Oil and grease	The insulation of the internal wiring is not exposed to oil, grease, etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce or employ powders, liquids, or gases.	N/A
4.3.11	Containers for liquids or gases	The equipment does not contain liquid.	N/A
4.3.12	Flammable liquids..... :	The equipment does not use any flammable liquids.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Quantity of liquid (l)..... :		N/A
	Flash point (°C)..... :		N/A
4.3.13	Radiation; type of radiation	Ionizing radiation or laser or in which similar hazards are not presents.	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)..... :		-
	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

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Clause	Requirement + Test	Result - Remark	Verdict

4.5	Thermal requirements		Pass
4.5.1	Maximum temperatures	(see appended table) The equipment and its component parts did not attain excessive temperatures during normal operation.	Pass
	Normal load condition per Annex L :	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established.	Pass
4.5.2	Resistance to abnormal heat	It has been determined from examination of the physical characteristics of the materials used that the material meets the requirements of the test.	Pass

4.6	Openings in enclosures		N/A
4.6.1	Top and side openings	No Opening provided.	N/A
	Dimensions (mm)..... :		-
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom..... :		-
4.6.3	Doors or covers in fire enclosures	The equipment does not have any doors or covers.	N/A
4.6.4	Openings in transportable equipment	Unit is not transportable.	N/A
4.6.5	Adhesives for constructional purposes	Adhesives are not used to secure internal barriers or screens.	N/A
	Conditioning temperature (°C)/time (weeks) :		-

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	Resistance to fire		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	(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	A fire enclosure covers all parts.	N/A
4.7.3	Materials		Pass
4.7.3.1	General	See below.	Pass
4.7.3.2	Materials for fire enclosures	Equipment is direct plug-in 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	Fire enclosure covers all parts.	N/A
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. See Table 1.5.1 for material information.	Pass
4.7.3.5	Materials for air filter assemblies	No air filter assemblies.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General	See below.	Pass
5.1.2	Equipment under test (EUT)	Equipment designed for connection to only one power source.	Pass
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 10X20 cm metal foil in contact with accessible non-conductive part.	Pass
5.1.5	Test procedure		Pass
5.1.6	Test measurements		Pass
	Test voltage (V)	264 V ac	-
	Measured touch current (mA)	0.19 mA at Secondary Output; 0.01 mA at Enclosure with metal foil.	-
	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 ..	Touch current is < 0.25 mA.	N/A
5.1.8	Touch currents to and from 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 and a cable distribution system		N/A
	Test voltage (V)		-
	Measured touch current (mA)		-
	Max. allowed touch current (mA)		-
5.1.8.2	Summation of touch currents from telecommunication networks		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	Electric strength		Pass
5.2.1	General	Based on the electric strength test the use of the insulating materials within the equipment is satisfactory. (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	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.	Pass
5.3.5	Electromechanical components	The equipment does not have any electromechanical components in the secondary.	N/A
5.3.6	Simulation of faults	See appended table 5.3.	Pass
5.3.7	Unattended equipment	The equipment does not have any thermostats, temperature limiters, or thermal cut-outs.	N/A
5.3.8	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

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

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.2	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.3	Insulation between primary circuits and cable distribution systems		N/A
7.3.1	General		N/A
7.3.2	Voltage surge test		N/A
7.3.3	Impulse test		N/A

A	Annex A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples..... :		-
	Wall thickness (mm) :		-
A.1.2	Conditioning of samples; temperature (°C) :		N/A
A.1.3	Mounting of samples..... :		N/A
A.1.4	Test flame		N/A
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		-
	Sample 2 burning time (s)..... :		-
	Sample 3 burning time (s)..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		-
	Wall thickness (mm)		-
A.2.2	Conditioning of samples		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame		N/A
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		-
	Sample 2 burning time (s).....		-
	Sample 3 burning time (s).....		-
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4, 8		N/A
	Sample 1 burning time (s).....		-
	Sample 2 burning time (s).....		-
	Sample 3 burning time (s).....		-

A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

B	Annex B, MOTOR TESTS UNDER ABNORMAL CONDITIONS(see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		-
	Manufacturer.....		-
	Type		-
	Rated values		-
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days).....		-
	Electric strength test: test voltage (V).....		-
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	Test procedure		N/A
B.7.2	Alternative test procedure; test time (h).....		N/A
B.7.3	Electric strength test		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V).....		-

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Clause	Requirement + Test	Result - Remark	Verdict

C	Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)		Pass
	Position	Primary to SELV.	-
	Manufacturer.....	(see appended table 1.5.1)	-
	Type	(see appended table 1.5.1)	-
	Rated values	(see appended table 1.5.1)	-
	Method of protection	Protective by inherent or external impedance.	-
C.1	Overload test	(see appended table 5.3)	Pass
C.2	Insulation	(see appended table 5.2)	Pass
	Protection from displacement of windings.....	Triple insulated wire used.	Pass

D	Annex D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS		Pass
D.1	Measuring instrument		Pass
D.2	Alternative measuring instrument		N/A

E	Annex E, TEMPERATURE RISE OF A WINDING		N/A
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F	Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		Pass
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Clause	Requirement + Test	Result - Remark	Verdict

G	Annex G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	DC mains supply		N/A
G.3	Determination of telecommunication network transient voltage (V) :..... :		N/A
G.4	Determination of required withstand voltage (V) ... :		N/A
G.5	Measurement of transient levels (V)..... :		N/A
G.6	Determination of minimum clearances :		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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J	Annex J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal used :		-

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) :		N/A
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V) :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

L	Annex L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)		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	Annex M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		-
M.3.1.2	Voltage (V)		-
M.3.1.3	Cadence; time (s), voltage (V)		-
M.3.1.4	Single fault current (mA)		-
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A

N	Annex N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

P	Annex P, NORMATIVE REFERENCES		Pass
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Q	Annex Q, BIBLIOGRAPHY		Pass
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R	Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

S	Annex S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	Annex T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
 :		-

U	Annex U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		Pass
 :	Triple insulation wire provide as Transformer secondary winding.	-

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1.5.1	TABLE: list of critical components					Pass
Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
01. Input Blades	--	--	Non-polarized, solid copper alloy (NEMA 1-15P configuration), integrally molded on Enclosure. From any point of either blade to the plug face section of the edge of enclosure is spaced minimum 5.1 mm perimeter.	--	--	4-04
02. Enclosure	GE Plastics China Ltd.	SE1X	Two pieces construction, rated V-1 or better, rated 105 degree C, Secured together by ultrasonic welding. Overall 71 mm by 41 mm by 31.5 mm, thickness 1.8 mm min.	QMFZ2	UL	3-01
02-1. Enclosure (alternate)	GE Plastics China Ltd.	C2950	Two pieces construction, rated V-0 or better, rated 75 degree C, Secured together by ultrasonic welding. Overall 71 mm by 41 mm by 31.5 mm, thickness 1.8 mm min.	QMFZ2	UL	3-01
03. Plug Holder	GE Plastics China Ltd.	SE1X	Rated minimum V-1, minimum 1.8 mm thick, 105 degree C, Secured on enclosure by snap fit. Overall 26 mm by 25 mm by 9mm.	QMFZ2	UL	3-11
04. P.W.B	Various	Various	V-1 or better, min. 105 degree C	ZPMV2	UL	3-04
05. Fuse (F1)	Conquer Electronics Co. Ltd.	MST	T1A/250Vac	JDYX2	UL	3-03

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05-01. Fuse (F1) (Alternate)	Ever Island Electric Co. Ltd.	2010	T1A/250Vac	JDYX2	UL	3-03
05-02. Fuse (F1) (Alternate)	Save Fusetech Inc.	SS-5	T1A/250Vac	JDYX2	UL	3-03
06.Varistor (ZNR)	Various	Various	Rated 300Vac, 385Vdc	XUHT2	UL	3-03
07.X-Capacitor (CX1)	Various	Various	Line-to-Line, rated maximum. 0.1 uF, minimum 300Vac, 100 degree c	FOWX2	UL	3-03
08. Noise Filter(NF1)(Optional)	--	--	130 degree c min.	--	--	4-03
08-01. Core	--	--	Ferrite measured overall 14.8mm by 11mm by 7.9mm	--	--	4-03
08-02. Coil	Various	Various	130 degree c min.	OBMW2	UL	4-03
08-03. Bobbin	Sumitomo Bakelite Co., Ltd.	PM-9820	Rated minimum V-0, 150 degree C, Phenolic, minimum 0.71 mm thick.	QMFZ2	UL	4-03
09. Y-Capacitor (CY1)	Various	Various	Max.2200pF, 250V,max., marked Y1, Min. 85 degree C	FOWX2	UL	3-03
10. Bridge Diode (DA1, DA2, DA3, DA4)	--	--	Rated 1A, 600 V min.	--	--	3-03
11. Storage Capacitor (C1,C2)	--	--	Rated 400 V, max. 4.7uF, min. 105 degree C with integral pressure relief	--	--	3-03
12. Optical isolator (PC1)	Sharp Corp Electronic Components Group	PC817	Reinforced Insulation 5000 Vac isolation, 100 degree C	FPQU2	UL	3-03
12-01. Optical isolator (PC1) (Alternate)	Everlight Electronics Co., Ltd.	EL817	Reinforced Insulation 5000 Vac, 100 degree C	FPQU2	UL	3-03
12-02. Optical isolator (PC1) (Alternate)	Lite-on TechnologyCorp.	LTV-817	Reinforced Insulation 5000 Vac, 100 degree C	FPQU2	UL	3-03
13. Transformer (T1)	--	--	See below	--	--	4-02
13-01. Insulation system for Transformer (T1)	Top Nation Electronic Co.,Ltd.	M7A90	Insulation system Class B (130 degree C)	OBJY2	UL	4-02
13-02. Core	--	--	Ferrite, measured overall 21	--	--	4-02

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Clause	Requirement + Test	Result - Remark	Verdict

			mm by 18 mm by 5.3 mm			
13-03. Bobbin	Hitachi Chemical Co., Ltd.	CP-J-8800	V-0, 150degree C, Phenolic, thickness 0.71mm min.	QMFZ2	UL	4-02
13-04. Insulation Tape	3M Company	1350F-1	130 degree C min.	OANZ2	UL	4-02
13-05. Insulation Tape (Alternate)	3M Company	1318	130 degree C min.	OANZ2	UL	4-02
13-06. Magnet wire	Various	Various	130 degree C min.	OBMW2	UL	4-02
13-07. Triple Insulation Wire	Furukawa Electric Co., Ltd.	TEX-E	130 degree C	OBJT2	UL	4-02
13-08. Tubing	Zeus industrial products Inc.	TFE-TW-300	Min. 300V, 200 degree C	YDPU2	UL	4-02
13-09. Varnish	Kyocera Chemical Corp.	TVB-2180T	Min. 130 degree C	OBOR2	UL	4-02
13-10. Varnish (Alternate)	Hitachi Chemical Co., Ltd.	WP-2952F-2G	Min. 130 degree C	OBOR2	UL	4-02
13-11. Insulation system for Transformer (T1)	Hong KoK Electronics Co.,Ltd.	HIS-8A	Insulation system Class B (130 degree C)	OBJY2	UL	4-02
13-12. Core	--	--	Ferrite measured overall 21 mm by 18 mm by 5.3 mm	--	--	4-02
13-13. Bobbin	Chang chun plastics Co., Ltd.	T375J	V-0, 150degree C, Phenolic, thickness 0.71mm min.	QMFZ2	UL	4-02
13-14. Insulation Tape	3M Company	1350F-1	130 degree C min.	OANZ2	UL	4-02
13-15. Magnet wire	Various	Various	130 degree C min.	OBMW2	UL	4-02
13-16. Triple Insulation Wire	Furukawa Electric Co., Ltd.	TEX-E	130 degree C	OBJT2	UL	4-02
13-17. Tubing	Zeus industrial products Inc.	TFE-TW-300	Min. 300V, 200 degree C	YDPU2	UL	4-02
13-18. Varnish	Kyocera Chemical Corp.	TVB-2180T	Min. 130 degree C	OBOR2	UL	4-02
13-19. Insulation system for Transformer (T1)	Xepex Electronic Co.,Ltd.	GPB-6	Insulation system Class B (130 degree C)	OBJY2	UL	4-02
13-20. Core	--	--	Ferrite, measured overall 21 mm by 18 mm by 5.3 mm	--	--	4-02
13-21. Bobbin	Chang chun plastics	T375J	V-0, 150degree C, Phenolic,	QMFZ2	UL	4-02

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Clause	Requirement + Test	Result - Remark	Verdict

	Co., Ltd		thickness 0.71mm min.			
13-22. Insulation Tape	3M Company	1350F-1	130 degree C min.	OANZ2	UL	4-02
13-23. Magnet wire	Various	Various	130 degree C min.	OBMW2	UL	4-02
13-24. Triple Insulation Wire	Furukawa Electric Co., Ltd.	TEX-E	130 degree C	OBJT2	UL	4-02
13-25. Tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT, TFL	Max. 300V, 200 degree C	YDPU2	UL	4-02
13-26. Varnish	John c dolph Co.,Ltd.	BC-346A	Min. 240 degree C	OBOR2	UL	4-02
14. Label	Various	Various	60 degree C, min.	PGDQ2, PGJI2	UL	
15. Semiconductor (U1)	--	--	Min. 650V,0.7A	--	--	3-03
16. Internal Plastic Part Materials	Various	Various	Rated V-2 minimum.	QMFZ2	UL	
17. Connectors and Receptacles (secondary ELV/SELV circuits)	--	Metal/Plastic	Copper alloy pins housed in bodies of plastic rated V-2 min.	QMFZ2, ECBT2, RTRT2	UL	
17-01. Connectors and Receptacles (secondary ELV/SELV circuits)	--	--	--	ECBT2, RTRT2	UL	
18. Interconnecting Cable (Optional)	Various	Various	Max. 3.05 m long, marked "VW-1" or "FT-1"	AVLV2, DVPJ	UL	

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Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: electrical data (in normal conditions)						Pass
fuse #	I rated (A)	U (V)	P (W)	I (mA)	I fuse (mA)	condition/status	
F1	--	90Vac/50Hz	6.59	116.06	116.06	Max. Normal Load GT-41078-0505-USB)	
F1	--	90Vac/60Hz	6.56	115.26	115.26	Max. Normal Load GT-41078-0505-USB)	
F1	0.2	100Vac/50Hz	6.49	104.76	104.76	Max. Normal Load GT-41078-0505-USB)	
F1	0.2	100Vac/60Hz	6.48	104.55	104.55	Max. Normal Load GT-41078-0505-USB)	
F1	0.2	240Vac/50Hz	6.59	54.84	54.84	Max. Normal Load GT-41078-0505-USB)	
F1	0.2	240Vac/60Hz	6.59	52.90	52.90	Max. Normal Load GT-41078-0505-USB)	
F1	--	254Vac/50Hz	6.63	52.73	52.73	Max. Normal Load GT-41078-0505-USB)	
F1	--	254Vac/60Hz	6.64	50.79	50.79	Max. Normal Load GT-41078-0505-USB)	
F1	--	264Vac/50Hz	6.67	51.37	51.37	Max. Normal Load GT-41078-0505-USB)	
F1	--	264Vac/60Hz	6.67	49.35	49.35	Max. Normal Load (GT-41078-0505-USB)	
F1	--	90Vac/50Hz	6.54	115.49	115.49	Max. Normal Load (GT-41078-0506-USB)	
F1	--	90Vac/60Hz	6.52	114.75	114.75	Max. Normal Load (GT-41078-0506-USB)	
F1	0.2	100Vac/50Hz	6.46	104.44	104.44	Max. Normal Load (GT-41078-0506-USB)	
F1	0.2	100Vac/60Hz	6.45	104.28	104.28	Max. Normal Load (GT-41078-0506-USB)	
F1	0.2	240Vac/50Hz	6.38	53.40	53.40	Max. Normal Load (GT-41078-0506-USB)	
F1	0.2	240Vac/60Hz	6.37	51.38	51.38	Max. Normal Load (GT-41078-0506-USB)	
F1	--	254Vac/50Hz	6.41	51.27	51.27	Max. Normal Load (GT-41078-0506-USB)	
F1	--	254Vac/60Hz	6.43	49.50	49.50	Max. Normal Load (GT-41078-0506-USB)	
F1	--	264Vac/50Hz	6.48	50.18	50.18	Max. Normal Load (GT-41078-0506-USB)	
F1	--	264Vac/60Hz	6.47	48.17	48.17	Max. Normal Load (GT-41078-0506-USB)	

supplementary information:

Maximum normal load: Outputs connected to resistive load as rated and operated continuously. Additional testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially

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similar product, which the Test Record has been deemed appropriate for use in this Test Report.

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					Pass
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
GT-41078-0505-USB	--	--	--	--	--	--
T1 PIN A TO T1 PIN 1	338	202	4	7.8	4.8	7.8
T1 PIN A TO T1 PIN 2	414	240	4	7.3	4.8	7.3
T1 PIN A TO T1 PIN 4	354	217	4	7.4	4.8	7.4
T1 PIN A TO T1 PIN 5	418	220	4	7.4	4.8	7.4
T1 PIN B TO T1 PIN 1	370	201	4	5.4	4.8	5.4
T1 PIN B TO T1 PIN 2	412	239	4	7.0	4.8	7.0
T1 PIN B TO T1 PIN 4	360	218	4	7.2	4.8	7.2
T1 PIN B TO T1 PIN 5	390	219	4	7.2	4.8	7.2
PC1 PIN1 TO PC1 PIN3	342	206	4	6.7	4.8	6.7
PC1 PIN1 TO PC1 PIN4	342	207	4	6.7	4.8	6.7
PC1 PIN2 TO PC1 PIN3	342	207	4	6.7	4.8	6.7
PC1 PIN2 TO PC1 PIN4	342	207	4	6.7	4.8	6.7
CY1 PIN1 TO CY1 PIN2	336	204	4	5.9	4.8	5.9
supplementary information:						
The CTI rating of PWB is material group IIIb (Cl. 2.10.4). - Separation Method between SELV and Hazardous circuit (Cl. 2.2.3) by double or reinforced insulation (Method 1). - Functional Insulation shorted, see Cl. 5.3.4. Additional testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially similar product, which the Test Record has been deemed appropriate for use in this Test Report.						

2.10.5	TABLE: distance through insulation measurements				Pass
distance through insulation di at/of:		Up (V)	test voltage (V)	required di (mm)	di (mm)
Enclosure		250	3000 Vac	0.4	1.8
supplementary information:					
Testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially similar product , which the Test Record has been deemed appropriate for use in this Test Report.					

4.5	TABLE: temperature rise measurements					Pass
	test voltage (V)	see below	see below	see below	see below	—

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Clause	Requirement + Test	Result - Remark	Verdict

t1 (°C).....	--	--	--	--		—
t2 (°C).....	--	--	--	--		—
maximum temperature T of part/at:	T (°C)					allowed Tmax (°C)
GT-41078-0506-USB	--	--	--	--	--	--
Condition	Vertical	Vertical	Horizontal	Horizontal	--	--
Input	90V	264V	90V	264V	--	--
Duration (hrs)	2	2.36	2.11	3.18	--	--
1. Ambient	40	40	40	40	--	--
2.T1 coil	66.0	67.2	62.6	66.9	--	110
3.T1 core	67.3	70.8	64.5	70.8	--	110
4.U1 body	84.2	84.8	80.7	84.1	--	105
5.PC1 coil	60.4	62.6	58.3	64.1	--	100
6.CX1 body	59.6	57.0	57.9	57.6	--	100
7.NF1 coil	63.3	59.8	61.8	61.4	--	105
8.CY1 body	60.9	62.6	58.6	63.9	--	85
9.C1 body	62.5	57.7	59.5	57.1	--	105
10.C2 body	70.8	66.8	66.6	66.1	--	105
11.C7 body	71.4	71.9	66.0	69.8	--	105
12.C8 body	55.4	55.7	52.8	56.7	--	105
13.R5 body	76.5	74.6	72.2	73.5	--	105
14.D4 body	79.0	79.2	73.9	77.9	--	105
15.L1body	71.9	65.0	67.5	64.4	--	105
16.L2 body	68.9	62.9	65.7	62.4	--	105
17.L3 body	61.6	61.4	57.2	60.4	--	105
18.DA1 coil	65.8	61.7	64.2	62.3	--	105
19.Enclosure inside above T1	59.1	59.6	56.3	60.5	--	75
20.Enclosure outside above T1	50.6	50.0	48.8	52.6	--	75
temperature T of winding:	R ₁ (Ω)		R ₂ (Ω)	T (°C)	allowed Tmax (°C)	insulation class
supplementary information:						
<p>The temperatures were measured under worst case normal mode defined in 1.2.2.1 and described in 1.6.2 at voltages as described in 1.4.5</p> <p>Without specified ambient temperature in users manual, therefore the ambient temperature assumed as 40°C, the max. allowed temperature is calculated as follows:</p> <p>Winding components:</p> <p>- Transformer (T1) Class B: (120-10K)=110°C</p> <p>Components with:</p> <p>- maximum absolute temp. of Inductor (NF1) = 105°C.</p> <p>- maximum absolute temp. of Electrolytic capacitor (C1 and C2) = 105°C.</p> <p>- maximum absolute temp. of PWB = 105°C.</p>						

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- maximum absolute temp. of Bridging- Capacitor (CY1) = 85°C.
- maximum absolute temp. of X-Capacitor (CX1) = 100°C.
- maximum absolute temp. of Optical isolator (PC1) = 100°C.

User Accessible Area:

- material is plastic 75°C

Additional testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially similar product, which the Test Record has been deemed appropriate for use in this Test Report.

4.5.2	TABLE: ball pressure test of thermoplastics			Pass
	allowed impression diameter (mm)..... :			—
part		test temperature (°C)	impression diameter (mm)	
Plug holder (GE, Type: SE1X)		125	1.2	
supplementary information:				
Additional testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially similar product, which the Test Record has been deemed appropriate for use in this Test Report.				

4.7	TABLE: resistance to fire			Pass
part	manufacturer of material	type of material	thickness(mm)	flammability class
Enclosure	GE Plastics China	C2950	1.8	V-0
Enclosure	GE Plastics China	SE1X	1.8	V-1
supplementary information:				
Additional testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially similar product, which the Test Record has been deemed appropriate for use in this Test Report.				

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests			Pass
test voltage applied between:		test voltage (V) a.c./d.c.	breakdown Yes / No	
For Transformer (T1):		--	--	
One layer of insulation tape (for insulation system: HIS-8A)		3000 Vac	No	
Primary winding to SELV winding (for insulation system: HIS-8A)		3000 Vac	No	
SELV winding to core (for insulation system: HIS-8A)		3000 Vac	No	

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One layer of insulation tape (for insulation system: M7A90)	3000 Vac	No
Primary winding to SELV winding (for insulation system: M7A90)	3000 Vac	No
SELV winding to core (for insulation system: M7A90)	3000 Vac	No
One layer of insulation tape (for insulation system: GBP-6)	3000 Vac	No
Primary winding to SELV winding (for insulation system: GBP-6)	3000 Vac	No
SELV winding to core (for insulation system: GBP-6)	3000 Vac	No
For Unit:	--	--
Primary to secondary	3000 Vdc	No
Primary to enclosure (foil)	3000 Vac	No
supplementary information:		
- All electrical strength tests duration last at least 60 seconds.		
- All applied test voltages from electric strength (in Table 5B) are based on the working voltage measured in T1: Vrms: 240 V, Vpk: 418 V.		
- Unit: Electrical strength test is conducted while the equipment is still in a well-heated condition immediately following the test in 4.5.1.		
Additional testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially similar product, which the Test Record has been deemed appropriate for use in this Test Report.		

5.3	TABLE: fault condition tests						Pass
	ambient temperature (°C) :					See below	—
	model/type of power supply :					GT-41078-0506-USB	—
	manufacturer of power supply :					Globtek	—
	rated markings of power supply :					I/P: 100-240 V, O/P: 5 V 1 A	—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result	
01. C1	Short	240Vac/ 60Hz	1sec	F1	0.053->0	NB,NC,NT,CD(F1) NO hazards (b)	
02. DA1	Short	240Vac/ 60Hz	1sec	F1	0.053->0	NB,NC,NT,CD(F1) NO hazards (b)	
03. ZD1	Short	240Vac/ 60Hz	1sec	F1	0.053->0.02	NB,NC,NT,IP(U1) NO hazards (a)	
04. D4	Short	240Vac/ 60Hz	1sec	F1	0.053->0.011	NB,NC,NT,IP(U1) NO hazards (a)	
05. PC1 Pin 1-2	Short	240Vac/ 60Hz	1sec	F1	0.053->0.016	NB,NC,NT,IP(U1) NO hazards (a)	
06. PC1 Pin 3-4	Short	240Vac/ 60Hz	1sec	F1	0.053->0.009	NB,NC,NT,IP(U1) NO hazards (a)	
07. PC1 Pin 1	Open	240Vac/ 60Hz	1sec	F1	0.053->0.01	NB,NC,NT,IP(U1) NO hazards (a)	

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Clause	Requirement + Test	Result - Remark	Verdict

08. PC1 Pin 3	Open	240Vac/ 60Hz	1sec	F1	0.053->0.01	NB,NC,NT,IP(U1) NO hazards (a)
09. U1 Pin4-2	Short	240Vac/ 60Hz	1sec	F1	0.053->0.009	NB,NC,NT,IP(U1) NO hazards (a)
10. U1 Pin4-5	Short	240Vac/ 60Hz	1sec	F1	0.053->0	NB,NC,NT,CD(F1,L1,L2U1) NO hazards (b)
11. T1 after D4	Overload (For HIS-8A)	240Vac/ 60Hz	6.1hrs.	F1	0.092->0.008	NB,NC,NT,IP(U1),unit shutdown, while the output loaded to 1.51A, T1coil: 81.1 degree C, T1 core: 80 degree C, Amb: 24.5 degree C No hazards
12. T1 after D4	Short (For HIS- 8A)	240Vac/ 60Hz	10mins	F1	0.066->0.008	NB,NC,NT,IP(U1) No hazards
13. Output	Short	240Vac/ 60Hz	10mins	F1	0.067->0.009	NB,NC,NT,IP(U1) NO hazards
14. Output	overload r	240Vac/ 60Hz	7.1hrs.	F1	0.088->0.008	NB,NC,NT,IP(U1), unit shutdown, while the output loaded to 1.45A, T1 coil: 81.7 degree C, T1 core: 79.4 degree C, Amb:22.9 degree C No hazards

supplementary information:

The following Electric Strength (ES) potentials were applied after fault condition were indicated for one minute: A. Primary to Enclosure -> 3000 V ac. B. Primary to SELV -> 3000 V ac. TEST RESULT: (a) Unit Shutdown instantly (b) Fuse open instantly (c) Unit operated normally and No hazard, No damage The items 01, 02, 10 and 11 conducted with following fuses: 1. Conquer Electronics Co. Ltd., Type: MST 2. Ever Island Electric Co. Ltd., Type: 2010 3. Save Fusetech Inc., Type: SS-5 Results Key: IP = Internal protection operated (component indicated) CT = Constant temperatures were obtained TW = Transformer winding opened CD = Components damaged (damaged components indicated) NB = No indication of dielectric breakdown YB = Dielectric breakdown (time and location indicated) NC = Cheesecloth remained intact YC = Cheesecloth charred or flamed NT = Tissue paper remained intact YT = Tissue paper charred or flamed Additional testing of the Model GT-41078-0505-USB and Model GT-41078-0506-USB was not considered necessary based on the results of previous investigation. All tests were derived from records of tests for a substantially similar product, which the Test Record has been deemed appropriate for use in this Test Report.

Enclosure
National Differences

USA / Canada

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SubClause	Difference + Test	Result - Remark	Verdict

USA / Canada - Differences to IEC 60950-1:2001, First 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.		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.		Pass
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

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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.		Pass
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	Screw shell of Edison-base lampholder tied to the neutral conductor.		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	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 routine testing.		N/A

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2.3.2	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
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 neither a) or b) are 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.		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
2.10.5.4	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.4 and Annex U.		Pass
3.1.1	Permissible combinations of internal wiring/external		Pass

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SubClause	Difference + Test	Result - Remark	Verdict
	cable sizes for overcurrent and short circuit protection.		
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.		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,		N/A

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SubClause	Difference + Test	Result - Remark	Verdict

	Part 1.		
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm ²) and not less than 152 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	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 ²) or smaller conductor if provided with upturned lugs, cupped		N/A

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	washer or equivalent retention.		
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
3.3.6	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.		Pass
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

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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 ³ 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 ² 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
5.3.6	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.		N/A
5.3.6	Tests interrupted by opening of a component repeated two additional times.		N/A
5.3.8.1	Test interrupted by opening of wire or trace subject to certain conditions.	No opening of wire or trace.	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
6.2.1	Special requirements for enameled wiring used as electrical separation provided between parts		N/A

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	connected to telecommunication network and telecommunication circuitry intentionally isolated from network.		
6.2.1	Digital line termination equipment (e.g., NCTE) subject to separation requirements.		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
6.5	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
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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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 to the user, as determined using the articulated accessibility probe (figure NAF.1) and the accessibility probe/wedge (figures NAF.2/NAF.3).		N/A