

COVER PAGE FOR TEST REPORT

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ, QQGQ7
Complementary Product Categories:	Audio/Video Apparatus(AZSQ, AZSQ7)
Test Procedure:	Listing
Product:	Switching Adapter
Model/Type Reference:	GT-81081-60x-y-a Series
Rating(s):	Input: 100-240 Vac, 50/60 Hz, 1.5 A
Standards:	UL 60950-1, 1st Edition, 2006-07-07 (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
This Report includes the following parts, in addition to this cover page: <ol style="list-style-type: none">1. Specific Technical Criteria2. Clause Verdicts3. Critical Components4. Test Results5. National Differences6. Enclosures	

Issue Date: 2006-05-19
Amendment 1 2007-10-11

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Report Reference #

E170507-A15-UL-1

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:



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Reviewed By:




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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 60950-1:2003, First Edition.	
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)
1.7.2	Disconnect device - Pluggable equipment	Statement indicating that the socket-outlet shall be installed near the equipment and shall be easily accessible. (Instruction)
1.7.6	Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or

		fuseholder.
	Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
Other	Limited Power Source Marking	Unit may be optionally marked "LPS" or "Limited Power Source" For all models except GT-81081-6012-a.

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:			Models with suffix T3A only.			
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:			N/A			
BD1.4	Electric Strength Test Component Exemptions - The following solid-state components may disconnected from the remainder of the circuitry during the performance of this test:			N/A			

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-A15-UL-1
Compiled by	Norman Lowe
Reviewed by	David Keen
Date of issue	2006-05-19
Standards	UL 60950-1, 1st Edition, 2006-07-07 (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 Adapter
Trademark	
Model and/or type reference	GT-81081-60x-y-a Series
Rating(s)	Input: 100-240 Vac, 50/60 Hz, 1.5 A

Particulars: test item vs. test requirements

Equipment mobility	movable
Operating condition	continuous
Mains supply tolerance (%)	+10%, -10%
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class I (earthed) for Models with suffix T3 or T3A, Class II (double insulated) for Models with suffix T2.
Mass of equipment (kg)	0.3
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")

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Report Reference #

E170507-A15-UL-1

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	This product is a cord-connected type power unit intended to be used for information technology equipment in TN power systems and are for indoor use only. It consists of an isolated transformer with electronic circuitry housed in a thermoplastic enclosure. It is also provided with appliance inlet and a length of cord terminated with a molded-on non-standard polarized output connector for output connection.
CC1.0	Model Differences
CC1.1	<p>All models are identical except for type designation, output rating, transformer secondary winding. Models with suffix T3 or T3A are identical except for appliance inlet type. Models with suffix T2 are Class II type, models with suffix T3 or T3A are Class I type.</p> <p>GT-81081-60x-y-a Series where: 'x' can be 12, 14, 15, 18, 19, 20, 22, or 24. 'y' can be a two digit number in steps of 0.1 (ex. 0.7). 'x-y' represents output voltage , for example, when x = 18, y=2.5, x-y=18-2.5=15.5, the output voltage is 15.5V. 'a' can be T3, T3A, or T2: T3 for IEC 60320/C14 inlet ,T3A for IEC 60320/C6 inlet ,T2 for IEC 60320 /C8 inlet.</p> <p>'-' after GT may or may not be replaced by 'A'. Model number may or may not be followed by -CC indicating Dual Operational IC circuit.</p>
CD1.0	Additional Information
CD1.1	<p>Output: 12.0 - 24.0 Vdc, 5.0 A max., 60 W max.</p> <p>GT-81081-60x-y-a Series where: 'x' can be 12, 14, 15, 18, 19, 20, 22, or 24. 'y' can be a two digit number in steps of 0.1 (ex. 0.7). 'x-y' represents output voltage , for example, when x = 18, y=2.5, x-y=18-2.5=15.5, the output voltage is 15.5V. 'a' can be T3, T3A, or T2: T3 for IEC 60320/C14 inlet ,T3A for IEC 60320/C6 inlet ,T2 for IEC 60320 /C8 inlet.</p> <p>'-' after GT may or may not be replaced by 'A'. Model number may or may not be followed by -CC indicating Dual Operational IC circuit.</p> <p>Correction 1: Added statement to Technical consideration for the complimentary Recognition to UL6500 and CAN/CSA E60065-00.</p>

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: Detachable power cord, Pluggable A
CE1.4	The product is intended for use on the following power systems: TN
CE1.5	The equipment disconnect device is considered to be: Appliance inlet
CE1.8	The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Vout (+ to -)
CE1.9	The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Vout (+ to -) for all models except GT-81081-6012-a.
CE2.0	These models have been additionally evaluated to UL6500 second edition and CAN/CSA E60065-00.

Test Record No. 2

Only the test listed above was needed for the modification of rerouting the Protective Earth conductor to a separate pin on the output connector in Power Supply Model GT-81081-XXYY with suffix T3 and T3A.

The following tests were conducted:

Test	Testing Location/Comments
Power Supply Reference Page	
Protective Bonding I (2.6.3.4, 2.6.1)	

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

IEC 60950-1			
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	
Model GT-81081-6012	--	--	--	--	--	--	
F1	--	90 V/ 50 Hz	69.8	1315	1315	Maximum Normal Load	
F1	--	90 V/ 60 Hz	69.7	1347	1347	ditto	
F1	1.5	100 V/ 50Hz	68.9	1213	1213	ditto	
F1	1.5	100 V/ 60 Hz	69	1239	1239	ditto	
F1	1.5	240 V/ 50 Hz	67	672	672	ditto	
F1	1.5	240 V/ 60 Hz	67	660	660	ditto	
F1	--	254 V/ 50 Hz	67	646	646	ditto	
F1	--	254 V/ 60 Hz	67	633	633	ditto	
F1	--	264 V/ 50 Hz	67	627	627	ditto	
F1	--	264V/ 60 Hz	67	615	615	ditto	
Model GT-81081-6020	--	--	--	--	--	--	
F1	--	90 V/ 50 Hz	69.2	1264	1264	Maximum Normal Load	
F1	--	90 V/ 60 Hz	69	1302	1302	ditto	
F1	1.5	100 V/ 50Hz	68.3	1171	1171	ditto	
F1	1.5	100 V/ 60 Hz	68.2	1196	1196	ditto	
F1	1.5	240 V/ 50 Hz	67	651	651	ditto	
F1	1.5	240 V/ 60 Hz	67	640	640	ditto	
F1	--	254 V/ 50 Hz	67	623	623	ditto	
F1	--	254 V/ 60 Hz	67	614	614	ditto	
F1	--	264 V/ 50 Hz	67	602	602	ditto	
F1	--	264V/ 60 Hz	67	596	596	ditto	

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

supplementary information:

See Test Record

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)	
Primary, Line to Neutral, Before Fuse, PWB Trace (Models with T2 suffix)	420	250	1.5	2.5	2.5	2.5	
Primary to Earth, Before Fuse, PWB Trace (Models with T3 or T3A suffix)	420	250	2.0	3.2	2.5	3.2	
Primary to Secondary, 10N, D2 to U4 (Sec)	420	250	4.0	13.8	5.0	13.8	
Primary to Secondary, Under CY3, CY4, PWB Trace	420	250	4.0	11.7	5.0	11.7	
Primary to Secondary, Under U4, PWB Trace	420	250	4.0	7.9	5.0	8.0	
Primary to Secondary, Under T1, PWB Trace	456	256	4.2	13.7	5.2	13.7	
Primary to Secondary, T1	456	256	4.2	13.7	5.2	13.7	
Secondary to Core, T1	456	256	4.2	11	5.2	11	
supplementary information:							
See Test Record							

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)	
Mylar Sheet	420	3000	0.4	0.4	
Optical Isolator	420	3000	0.4	0.4	
supplementary information:					
Optical Isolator is UL approved - See Test Record					

4.5	TABLE: temperature rise measurements						Pass
	test voltage (V).....	90V (normal)	90V (Upside down)	90V (on side)	264V (normal)	--	—

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

	t1 (°C).....	--	--	--	--	--	—
	t2 (°C).....	--	--	--	--	--	—
maximum temperature T of part/at:		T (°C)					allowed Tmax (°C)
Model GT-81081-6012		--	--	--	--	--	--
Inlet pin		54.7	51.3	55.2	50.3	--	70
LF1 coil		115.3	110.3	114.5	90.0	--	130
LF3 coil		97.4	92.9	96.6	83.0	--	130
PCB under BD1		99.9	95.5	100.4	84.8	--	130
C1 body		98.9	93.9	98.5	85.7	--	105
H.S1 near Q1		109.8	103.7	108.1	95.9	--	130
T1 Primary coil		103.7	98.4	103.4	96.4	--	110
T1 Secondary coil		105.3	100.0	104.9	98.4	--	110
T1 core		98.8	93.5	98.1	92.8	--	110
U4 body		97.1	91.8	95.8	90.7	--	100
H.S2 near Q5		98.0	93.0	96.9	92.6	--	130
L3 coil		90.5	85.5	90.4	85.5	--	105
Inside Enclosure		80.1	74.7	83.8	74.9	--	100
Ambient air		40.0	40.0	40.0	40.0	--	--
Model GT-81081-6020		90VA C	90VAC	90VAC	264VAC	--	--
Inlet pin		57.8	57.7	56.7	52.6	--	70
LF1 coil		110.7	108.8	107.5	84.8	--	130
LF3 coil		91.8	90.7	89.1	77.7	--	130
PCB under BD1		91.7	91.3	89.3	79.3	--	130
C1 body		94.6	93.7	91.8	82.7	--	105
H.S1 near Q1		94.8	93.3	92.5	87.6	--	130
T1 Primary coil		94.8	94.8	92.4	90.6	--	110
T1 Secondary coil		95.3	95.0	92.9	91.9	--	110
T1 core		91.1	91.3	88.9	88.6	--	110
U4 body		91.5	90.6	88.7	87.3	--	100
H.S2 near Q5		91.3	91.0	89.1	87.1	--	130
L3 coil		82.8	82.4	80.3	80.5	--	105
Inside Enclosure		76.2	79.1	74.4	73.1	--	100
Surface Enclosure		67.2	73.4	65.5	64.2	--	95
Ambient air		40.0	40.0	40.0	40.0	--	--
temperature T of winding:			R ₁ (Ω)	R ₂ (Ω)	T (°C)	allowed Tmax (°C)	insulation class
--			--	--	--	--	--
supplementary information:							
Maximum normal load. Temperatures adjusted to reflect ambient of 40°C. See Test Record							

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

4.5.2	TABLE: ball pressure test of thermoplastics		N/A
	allowed impression diameter (mm)		—
part		test temperature (°C)	impression diameter (mm)
supplementary information:			

4.7	TABLE: resistance to fire			Pass
part	manufacturer of material	type of material	thickness(mm)	flammability class
--	--	--	--	--
supplementary information:				
See Critical Components List.				

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
One layers of insulation to Polyester thickness=0.05mm		3000 V AC	No
Primary winding to SELV winding		3000 V AC	No
SELV winding to core		3000 V AC	No
Primary to SELV		4242 V DC	No
Primary to Enclosure with Foil		4242 V DC	No
Primary to Earth (Models with T3 or T3A suffix)		2400 V DC	No
supplementary information:			
--			

5.3	TABLE: fault condition tests					Pass
	ambient temperature (°C)	See Below				—
	model/type of power supply	See Models and Ratings				—
	manufacturer of power supply	See Models and Ratings				—
	rated markings of power supply.....	See models and Ratings				—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
Model GT-	--	--	--	--	--	--

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
81081-6024						
BD1	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(BD1), NT, NB, NC.
C1	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
T1 pin F-pin S	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
T1 pin 4-pin 6	Short	240	10min	F1	0.64 -> 0.05	Unit shut down, NT, NB, NC.
Q1 G-S	Short	240	10min	F1	0.64 -> 0.05	Unit shut down, NT, NB, NC.
Q1 G-D	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
Q1 D-S	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
U4 primary	Short	240	10min	F1	0.64 -> 0.05	Unit shut down, NT, NB, NC.
U4 secondary	Short	240	10min	F1	0.64 -> 0.05 -> 0.28	Unit cycle protection, NT, NB, NC.
+24V	Overload	240	4.5h	F1	0.64 -> 0.72	CT at 3.5A output increased to 4A unit shut down, NT, NB, NC. T1: 95 degree C Ambient: 26 degree C
+24V	Overload	240	4.5h	F1	0.64 -> 0.65	CT at 3A output increased to 4A unit shut down, NT, NB, NC. T1: 88 degree C Ambient: 23 degree C
Model GT-81081-6012	--	--	--	--	--	--
T1 pin F-pin S	Short	240	1sec	F1	0.66 -> 0	IP(F1), CD(BD1), NT, NB, NC.
+12V After D5	Overload	240	4h	F1	0.66 -> 0.70	CT at 6.5A output increased to 7.5A unit shut down, NT, NB, NC. T1: 110 degree C Ambient: 25 degree C
+12V	Overload	240	4h	F1	0.66 -> 0.65	CT at 6A output increased to 7A unit shut down, NT, NB, NC. T1: 104 degree C Ambient: 29 degree C
supplementary information:						
See Test Record						

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

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
Enclosure	GE Plastics BV	SE1	V-1, 105°C, minimum 2.3 mm thick. Measured overall 120 by 56 by 33 mm. Two halves construction, secured together by ultrasonic welding.	QMFZ2	UL	
Appliance Inlet (Models with T3 suffix only)	Various	Various	Grounding type, 250 V ac, minimum 10 A	AXUT2	UL	
Appliance Inlet (Alternate) (Models with T2 suffix only)	Various	Various	Non-grounding type, 250 V ac, minimum 2.5 A	AXUT2	UL	
Appliance Inlet (Alternate) (Models with T3A suffix only)	Various	Various	Grounding type, 250 V ac, minimum 2.5 A	AXUT2	UL	
Output Cord Strain Relief	Various	Various	PVC bushing integrally molded on output cord.	QMFZ2	UL	
Output Cord	Various	Various	Maximum 3.05 m, marked VW-1 or FT-1, terminates with a polarized connector outside enclosure.	AVLV2	UL	
Output Cord - alternate	Various	Various	Style No. 1185, AWM, No. 22 AWG min., VW-1, 80 degrees C, 300 V; one end is soldered to PWB; other end molded with connector barrel type	AVLV2	UL, cUL	
Output Cord - alternate	Various	Various	SPT-1, AWM, No. 18 AWG min., VW-1, 105 degrees C, 300 V; one end is soldered to PWB; other end molded with connector barrel type	AVLV2	UL, cUL	

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

Internal Wire	Various	Various	Rated minimum 80°C, 300V. PVC, TFE, PTFE, FEP, surface marked VW-1.	AVLV, AVLV2	--	
Bonding Conductor (Models with T3 or T3A suffix only)	Various	Various	Green or green/yellow wire, minimum No. 18 AWG	AVLV, AVLV2	UL	
Insulating Tubing/Sleeving	Various	Various	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; rated 105°C, 300 V.	UZFT2, YDPU2, YDRY2, YDTU2	UL	
Printed Wiring Board	Various	Various	Rated minimum V-0, 130°C.	ZPMV2	UL	
Fuse (F1)	Various	Various	250 Vac, T3.15 A.	JDYX	UL	
Fuse (F1) (Alternate)	Schurter AG	MST	250 Vac, T3.15 A.	JDYX2	UL	
Fuse (F1) (Alternate)	Bel Fuse Inc.	MRT	250 Vac, T3.15 A.	JDYX2	UL	
Fuse (F1) (Alternate)	Save FuseTech Inc.	SR-5	250 Vac, T3.15 A.	JDYX2	UL	
Thermistor (TR1)	Various	Various	NTC/PTC, rated minimum 4 A, 5 ohms, at 25°C.	XPGU2	UL	
Varistor (VR1)	Various	Various	Rated 275 Vac, 350 Vdc.	XUHT2	UL	
X-Capacitor (CX1, CX2) (Optional)	Various	Various	CX1 rated maximum 0.47 µF, minimum 250 Vac, CX2 rated maximum 0.15 µF, minimum 250 Vac, class X1 or X2.	FOKY2, FOWX2	UL	
Bleeder Resistor (R1A, R1B, R1C)	Various	Various	Each rated 470 kohms, 1/4 W	--	--	
Bridge Diode (BD1)	Various	Various	Rated minimum 2 A, minimum 600 V.	--	--	
Y-Capacitors (CY1, CY2) (Optional) (Models with T3A or T3 suffix only)	Various	Various	Rated maximum 1000 pF, minimum 250 Vac. Class Y1 or Y2.	FOKY2 or FOWX2	UL	
Electrolytic Capacitor (C1)	Various	Various	Integral pressure relief, rated 120 µF, minimum 400 V, minimum 105°C.	--	--	

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

Transistor (Q1)	Various	Various	Rated minimum 6 A, minimum 600 V.	--	--	
Bridging Capacitors (CY3, CY4) (Optional)	Various	Various	Rated maximum 3300 pF, minimum 250 Vac, class Y1.	FOKY2, FOWX2	UL	
Inductor (LF3) (Optional)	Various	30R200010-00F	Open-type construction. Rated minimum 130°C.	--	--	
Core (LF3)	Various	Various	Ferrite, measured overall 12 m OD by 6 mm ID by 4.5 mm.	--	--	
Coil (LF3)	Various	Various	Rated minimum 130°C.	OBMW2	UL	
Inductor (LF1) (Optional)	Various	30R022058-00F	Open-type construction. Rated minimum 130°C.	--	--	
Core (LF1)	Various	Various	Ferrite, measured overall 18 m OD by 10 mm ID by 6 mm.	--	--	
Coil (LF1)	Various	Various	Rated minimum 130°C.	OBMW2	UL	
Insulating Tubing/Sleeving (LF1)	Various	Various	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; rated 130°C, 300 V. Provided on LF1 body.	UZFT2, YDPU2, YDRY2, YDTU2	---	
Optical Isolators (U4)	Lite-On Technology Corp.	LTV 817, LTV 816.	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	
Optical Isolators (U4) (Alternate)	Fairchild Semiconductor Corp.	H11A817x	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	
Optical Isolators (U4) (Alternate)	Sharp Corp., Electronic Components Group	PC817, PC123	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	
Optical Isolators (U4) (Alternate)	Everlight Electronics Co., Ltd.	EL817	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	
Transformer (T1)	Globtek	90E266012-00F, 90E266016-00F, 90E266020-00F.	Open-type construction. Class 130 (B) insulation system, Type HIS-8A	OBJY2	UL	
Core (T1)	Various	Various	Ferrite, measured overall 27 by 23 by 20 mm.	--	--	
Coil (T1)	Various	Various	Rated minimum 130°C.	OBMW2	UL	

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Clause	Requirement + Test	Result - Remark	Verdict

Triple Insulated Winding Wire (T1)	Furukawa Electric Co., Ltd.	TEX-E	Rated minimum 105°C.	OBJT2	UL	
Bobbin (T1)	Hitachi Chemical Co., Ltd.	CP-J-8800	V-0, 150°C, minimum 0.71 mm thick.	QMFZ2	UL	
Insulating Tape (T1)	Symbio Inc.	MY130	Polyester tape, 0.05 mm thick, rated 130°C.	OANZ2	UL	
Insulating Tape (T1) (Alternate)	Sumitomo 3M Ltd.	10, 27	Polyester tape, 0.05 mm thick, rated 130°C.	OANZ2	UL	
Insulating Tape (T1) (Alternate)	3M Co.	1, 44, 56, 1194, 1205, 1318, 1318-1, 1350F-2, Super 10	Polyester tape, 0.05 mm thick, rated 130°C.	OANZ2	UL	
Insulating Tape (T1) (Alternate)	Nitto Denko Corp.	31, 31CT, 31CT-1, 35, 35B, 160UL, 354, 188UL, 320A, 343B, 350A, 354E, 3161-F,	Polyester tape, 0.05 mm thick, rated 130°C.	OANZ2	UL	
Insulating Tape (T1) (Alternate)	Nichiban Co., Ltd.	553H, 553H-UL, 573H, 573H-UL, 620UL-T, 945UL-30, 945UL-50	Polyester tape, 0.05 mm thick, rated 130°C.	OANZ2	UL	
Insulating Tape (T1) (Alternate)	Teraoka Seisakusho Co., Ltd.	530F 0.15, 530F 0.2, 530F 0.4, 630F #25, 630F #50	Polyester tape, 0.05 mm thick, rated 130°C.	OANZ2	UL	
Varnish (T1)	Hitachi Chemical Co., Ltd.	WA-238A, WF-285, WP-2952F-2G	Minimum 130°C.	OBOR2	UL	
Varnish (T1) (Alternate)	Meiden Chemical Co., Ltd.	#754XL, #880	Minimum 130°C.	OBOR2	UL	
Tubing (T1)	Zeus Industrial Products Inc.	TFE-TW-300	Minimum 130°C.	YDPU2	UL	
Mylar Sheet	Various	Various	Minimum V-2, minimum 0.4	QMFZ2	UL	

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			mm thick. See enclosure for detailed dimensions.			
EMI Shield	--	--	Copper, minimum 0.2 mm thick. See enclosure for detailed dimensions.	--	--	
Hest Sink (HS1)	--	--	Aluminum, minimum 2 mm thick. See enclosure for detailed dimensions.	--	--	
Hest Sink (HS2)	--	--	Aluminum, minimum 2 mm thick. See enclosure for detailed dimensions.	--	--	
Adhesive Glue	Various	Various	Minimum V-2, 115°C.	QMFZ2	UL	
Label	Various	Various	60 °C.	PGDQ2	UL	
Internal Wire	Various	Various	Rated minimum 80°C, 300V. PVC, TFE, PTFE, FEP, surface marked VW-1.	AVLV, AVLV2	--	

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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	
Model GT-81081-6012	--	--	--	--	--	--	
F1	--	90 V/ 50 Hz	69.8	1315	1315	Maximum Normal Load	
F1	--	90 V/ 60 Hz	69.7	1347	1347	ditto	
F1	1.5	100 V/ 50Hz	68.9	1213	1213	ditto	
F1	1.5	100 V/ 60 Hz	69	1239	1239	ditto	
F1	1.5	240 V/ 50 Hz	67	672	672	ditto	
F1	1.5	240 V/ 60 Hz	67	660	660	ditto	
F1	--	254 V/ 50 Hz	67	646	646	ditto	
F1	--	254 V/ 60 Hz	67	633	633	ditto	
F1	--	264 V/ 50 Hz	67	627	627	ditto	
F1	--	264V/ 60 Hz	67	615	615	ditto	
Model GT-81081-6020	--	--	--	--	--	--	
F1	--	90 V/ 50 Hz	69.2	1264	1264	Maximum Normal Load	
F1	--	90 V/ 60 Hz	69	1302	1302	ditto	
F1	1.5	100 V/ 50Hz	68.3	1171	1171	ditto	
F1	1.5	100 V/ 60 Hz	68.2	1196	1196	ditto	
F1	1.5	240 V/ 50 Hz	67	651	651	ditto	
F1	1.5	240 V/ 60 Hz	67	640	640	ditto	
F1	--	254 V/ 50 Hz	67	623	623	ditto	
F1	--	254 V/ 60 Hz	67	614	614	ditto	
F1	--	264 V/ 50 Hz	67	602	602	ditto	
F1	--	264V/ 60 Hz	67	596	596	ditto	

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

supplementary information:

See Test Record

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)	
Primary, Line to Neutral, Before Fuse, PWB Trace (Models with T2 suffix)	420	250	1.5	2.5	2.5	2.5	
Primary to Earth, Before Fuse, PWB Trace (Models with T3 or T3A suffix)	420	250	2.0	3.2	2.5	3.2	
Primary to Secondary, 10N, D2 to U4 (Sec)	420	250	4.0	13.8	5.0	13.8	
Primary to Secondary, Under CY3, CY4, PWB Trace	420	250	4.0	11.7	5.0	11.7	
Primary to Secondary, Under U4, PWB Trace	420	250	4.0	7.9	5.0	8.0	
Primary to Secondary, Under T1, PWB Trace	456	256	4.2	13.7	5.2	13.7	
Primary to Secondary, T1	456	256	4.2	13.7	5.2	13.7	
Secondary to Core, T1	456	256	4.2	11	5.2	11	
supplementary information:							
See Test Record							

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)	
Mylar Sheet	420	3000	0.4	0.4	
Optical Isolator	420	3000	0.4	0.4	
supplementary information:					
Optical Isolator is UL approved - See Test Record					

4.5	TABLE: temperature rise measurements						Pass
	test voltage (V).....	90V (normal)	90V (Upside down)	90V (on side)	264V (normal)	--	—

IEC 60950-1						
Clause	Requirement + Test	Result - Remark				Verdict
	t1 (°C).....	--	--	--	--	—
	t2 (°C).....	--	--	--	--	—
maximum temperature T of part/at:		T (°C)				allowed Tmax (°C)
Model GT-81081-6012		--	--	--	--	--
Inlet pin		54.7	51.3	55.2	50.3	70
LF1 coil		115.3	110.3	114.5	90.0	130
LF3 coil		97.4	92.9	96.6	83.0	130
PCB under BD1		99.9	95.5	100.4	84.8	130
C1 body		98.9	93.9	98.5	85.7	105
H.S1 near Q1		109.8	103.7	108.1	95.9	130
T1 Primary coil		103.7	98.4	103.4	96.4	110
T1 Secondary coil		105.3	100.0	104.9	98.4	110
T1 core		98.8	93.5	98.1	92.8	110
U4 body		97.1	91.8	95.8	90.7	100
H.S2 near Q5		98.0	93.0	96.9	92.6	130
L3 coil		90.5	85.5	90.4	85.5	105
Inside Enclosure		80.1	74.7	83.8	74.9	100
Ambient air		40.0	40.0	40.0	40.0	--
Model GT-81081-6020		90VA C	90VAC	90VAC	264VAC	--
Inlet pin		57.8	57.7	56.7	52.6	70
LF1 coil		110.7	108.8	107.5	84.8	130
LF3 coil		91.8	90.7	89.1	77.7	130
PCB under BD1		91.7	91.3	89.3	79.3	130
C1 body		94.6	93.7	91.8	82.7	105
H.S1 near Q1		94.8	93.3	92.5	87.6	130
T1 Primary coil		94.8	94.8	92.4	90.6	110
T1 Secondary coil		95.3	95.0	92.9	91.9	110
T1 core		91.1	91.3	88.9	88.6	110
U4 body		91.5	90.6	88.7	87.3	100
H.S2 near Q5		91.3	91.0	89.1	87.1	130
L3 coil		82.8	82.4	80.3	80.5	105
Inside Enclosure		76.2	79.1	74.4	73.1	100
Surface Enclosure		67.2	73.4	65.5	64.2	95
Ambient air		40.0	40.0	40.0	40.0	--
temperature T of winding:		R ₁ (Ω)	R ₂ (Ω)	T (°C)	allowed Tmax (°C)	insulation class
--		--	--	--	--	--
supplementary information:						
Maximum normal load. Temperatures adjusted to reflect ambient of 40°C. See Test Record						

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Clause	Requirement + Test	Result - Remark	Verdict

4.5.2	TABLE: ball pressure test of thermoplastics		N/A
	allowed impression diameter (mm)		—
part		test temperature (°C)	impression diameter (mm)
supplementary information:			

4.7	TABLE: resistance to fire			Pass
part	manufacturer of material	type of material	thickness(mm)	flammability class
--	--	--	--	--
supplementary information:				
See Critical Components List.				

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
One layers of insulation to Polyester thickness=0.05mm		3000 V AC	No
Primary winding to SELV winding		3000 V AC	No
SELV winding to core		3000 V AC	No
Primary to SELV		4242 V DC	No
Primary to Enclosure with Foil		4242 V DC	No
Primary to Earth (Models with T3 or T3A suffix)		2400 V DC	No
supplementary information:			
--			

5.3	TABLE: fault condition tests					Pass
	ambient temperature (°C)		See Below			—
	model/type of power supply		See Models and Ratings			—
	manufacturer of power supply		See Models and Ratings			—
	rated markings of power supply.....		See models and Ratings			—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
Model GT-	--	--	--	--	--	--

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
81081-6024						
BD1	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(BD1), NT, NB, NC.
C1	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
T1 pin F-pin S	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
T1 pin 4-pin 6	Short	240	10min	F1	0.64 -> 0.05	Unit shut down, NT, NB, NC.
Q1 G-S	Short	240	10min	F1	0.64 -> 0.05	Unit shut down, NT, NB, NC.
Q1 G-D	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
Q1 D-S	Short	240	1sec	F1	0.64 -> 0	IP(F1), CD(Q1) , NT, NB, NC.
U4 primary	Short	240	10min	F1	0.64 -> 0.05	Unit shut down, NT, NB, NC.
U4 secondary	Short	240	10min	F1	0.64 -> 0.05 -> 0.28	Unit cycle protection, NT, NB, NC.
+24V	Overload	240	4.5h	F1	0.64 -> 0.72	CT at 3.5A output increased to 4A unit shut down, NT, NB, NC. T1: 95 degree C Ambient: 26 degree C
+24V	Overload	240	4.5h	F1	0.64 -> 0.65	CT at 3A output increased to 4A unit shut down, NT, NB, NC. T1: 88 degree C Ambient: 23 degree C
Model GT-81081-6012	--	--	--	--	--	--
T1 pin F-pin S	Short	240	1sec	F1	0.66 -> 0	IP(F1), CD(BD1), NT, NB, NC.
+12V After D5	Overload	240	4h	F1	0.66 -> 0.70	CT at 6.5A output increased to 7.5A unit shut down, NT, NB, NC. T1: 110 degree C Ambient: 25 degree C
+12V	Overload	240	4h	F1	0.66 -> 0.65	CT at 6A output increased to 7A unit shut down, NT, NB, NC. T1: 104 degree C Ambient: 29 degree C
supplementary information:						
See Test Record						

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Enclosure
National Differences

USA / Canada

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

USA / Canada - Differences to IEC 60950-1:2001, 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.	Interconnecting cables comply with the relevant requirements of this standard.	Pass
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.		N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC and CEC.		N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable.		N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.		N/A
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.		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	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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SubClause	Difference + Test	Result - Remark	Verdict
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.	Models with suffix T3 or T2 only.	Pass
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.		Pass
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.		Pass
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		N/A

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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.		N/A
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.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).		N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.		N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible.		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
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.	See Test Record for details.	Pass
5.3.6	Tests interrupted by opening of a component repeated two additional times.		Pass
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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SubClause	Difference + Test	Result - Remark	Verdict
	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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SubClause	Difference + Test	Result - Remark	Verdict

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