

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
CCN:	QQGQ2, QQGQ8
Product:	Power Supply for building-in, switch mode type
Model:	ePCSA-650P-.... "." = Space, 0 to 9 or A to Z
Rating:	Input: 100-240 Vac, 7.5-3.3 A, 50/60 Hz Output Rating: DC 3.3 V, 24 A; DC 5 V, 24 A; DC 12V1, 18 A; DC 12V2, 12 A; DC 12V3, 12 A; DC -12 V, 0.5 A; DC 5VSB, 2.5 A (Maximum 550 W)
Applicant Name and Address:	NIPRON CO LTD 3-1-9 MATABEEAZAKIZAEMONSHINDEN AMAGASAKI-SHI HYOGO-KEN 660-0000 JAPAN

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.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.


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Report Reference # E161936-A7-UL

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Supporting Documentation

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

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

Product Description

The product covered in this Test Report is box type switching power supply with an Appliance Inlet.

Power Supply is intended for use in Personal Computer.

Cooling DC Fan operates as temperature dependent or independent by selecting a switch position.

Load derating characteristic and Tma were as follow:

100% load at 40°C ambient and 70% load at 60°C ambient.

See Enclosure #7-01 for details.

Model Differences

". " = Space, 0 to 9 or A to Z.

These suffixes in model designation denotes minor variation in SELV circuitry and output lead wire length.

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : N/A
- Operating condition : continuous
- Access location : N/A
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A

- Class of equipment : Class I (earthed).
- Considered current rating (A) : 20A
- Pollution degree (PD) : PD 2
- IP protection class : IPX0
- Altitude of operation (m) : < 2000m
- Altitude of test laboratory (m) : Approximate 10m
- Mass of equipment (kg) : 1.9 kg
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40 to 60°C. See Product Description for details.
- The means of connection to the mains supply is: Pluggable A, Detachable power cord,
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Appliance inlet

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc. When installed in an end-product, consideration must be given to the following:


- The following Production-Line tests are conducted for this product: Electric Strength, Earthing Continuity
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 406 Vrms, 646 Vpk, Primary-Earthed Dead Metal: 356 Vrms, 646 Vpk
- The following secondary output circuits are SELV: DC 3.3 V, DC 5 V, DC 12V1, DC 12V2, DC 12V3, DC -12V, and DC 5VSB
- The following secondary output circuits are at hazardous energy levels: DC 12V1, DC 12V2, and DC 12V3
- The following secondary output circuits are at non-hazardous energy levels: DC 3.3 V, DC 5 V, DC 5 VSB, and DC -12 V
- The maximum investigated branch circuit rating is: 20 A
- The investigated Pollution Degree is: 2

- The front bezel complies with the requirements for a: 5V flame rating
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): Transformer (T201) (Class B)
- The following end-product enclosures are required: Fire, Electrical
- The following components require special consideration during end-product Thermal (Heating) tests due to the indicated maximum temperature measurements during component-level testing: Transformers (T201, T202)
- The equipment is suitable for direct connection to: AC mains supply
- Front Cover has not been evaluated as bottom enclosure.
- Switch (SW201) selects DC Fan speed either fixed high speed or variable dependent on temperature. Position of switch shall be considered in end product.
- Steady Force Test, Impact Test and Stress Relief Test for "Front Cover" were not evaluated in this report., If the evaluation is necessary in end-product, the Front Cover should be tested.

Additional Information

This Test Report was transferred from Volume X1 to Volume X2.

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
Symbols - On/Off switch	All other controls to be marked with symbol for "ON" (60417-2-IEC-5007) and 

	symbol for "OFF" (60417-2-IEC-5008)
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Special Instructions to UL Representative

Inspect the transformers listed in Electric Strength Test Special Constructions of Production-Line Testing Requirements. When the tests are conducted at other location, inspect test record and specification sheet provided by the component manufacturer. Verify the specification sheet indicates 100% routine test specified in Electric Strength Test Special Constructions be conducted at the Component manufacturer.

Production-Line Testing Requirements

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

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
ePCSA-650P-....	Transformer T202:MT6063	N/A	Primary to Secondary	300 0	4242	1
ePCSA-650P-....	Transformer T201:MT6062	N/A	Primary to Secondary	300 0	4242	1

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

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

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:

Sample and Test Specifics for Follow-Up Tests at UL

Model	Component	Material	Test	Sample(s)	Test Specifics
N/A					