CERTIFICATE OF COMPLIANCE

Certificate Number	20190411-E317867
Report Reference	E317867-A38-UL
Issue Date	2019-APRIL-11
Issued to:	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780
This certificate confirms that representative samples of	COMPONENT - POWER SUPPLIES, INFORMATION TECHNOLOGY EQUIPMENT INCLUDING ELECTRICAL BUSINESS EQUIPMENT; COMPONENT - POWER SUPPLIES FOR USE WITH AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT Switching Power Supply for building-in, Model VCS70USXX, where XX is 05, 12, 15, 24, 36, 48.
	Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.
Standard(s) for Safety:	UL 60950-1 and CAN/CSA C22.2 No. 60950-1-07, Information Technology Equipment - Safety - Part 1: General Requirements.
Additional Information:	See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Complementary CCN:	QQJQ2, QQJQ8 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
Product:	Switching Power Supply for building-in
Model:	VCS70USXX Where XX is 05, 12, 15, 24, 36, 48.
Rating:	INPUT : 100-240Vac1.4A 50/60Hz VCS70US05 OUTPUT: 5V dc 10.00A VCS70US12 OUTPUT: 12V dc 5.83A VCS70US15 OUTPUT: 15V dc 4.67A VCS70US24 OUTPUT: 24V dc 2.92A VCS70US36 OUTPUT: 36V dc 1.94A VCS70US48 OUTPUT: 48V dc 1.46A
Applicant Name and Address:	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 UNITED STATES

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 UL LLC ('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 UL LLC (UL) or any authorized licensee of UL.

Prepared by: Adam Tangocci / Project Handler Reviewed by: Gregory Ray / Reviewer

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 unit is a switching type open frame power supply which electronic components mounted on PWB for installing to Information Technology Equipment (ITE).

Model Differences

All Models are similar in construction except for output ratings, transformer secondary windings, some trimming secondary components, and model designation.

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : building-in component, connection type should be consider in end product
- Operating condition : continuous
- Access location : operator accessible
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10% (manufacturer declared)
- Tested for IT power systems : Yes
- IT testing, phase-phase voltage (V) : 230V
- Class of equipment : Class I (earthed)
- Considered current rating of protective device as part of the building installation (A) : 20A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 3048m
- Altitude of test laboratory (m) : Up to 2000m
- Mass of equipment (kg) : 0.112 kg
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 50°C (100% full load) and 70°C (50% full load)
- The means of connection to the mains supply is: Building-in component, connection type should be consider in end product.
- The product is intended for use on the following power systems: IT, TT and TN

- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (which includes all European national differences, including those specified in this test report).
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: After CY05 and CY06
- LEDs provided in the product are considered low power devices: Yes
- The combination pulse of 2.5kV/1.25kA is selected from sub-clause 2.3.6 of IEC 61051-2:1991 with Amendment 1:2009
- Clearance requirements were adjusted using the correction factor of 1.15 per Table A2 of IEC 60664-1:1992+A1: 2000+A2:2002 overvoltage category II for operation at 3048 m altitude. Additional requirements need to be considered if the product is to be used above 3048 m. If the calculated clearance exceeded the creepage, the creepage was adjusted to the value of clearance.

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. 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 and Earthing Continuity Tests,
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 246 Vrms, 450 Vpk
- The following secondary output circuits are SELV: All secondary output
- The following secondary output circuits are at non-hazardous energy levels: All secondary output
- The following output terminals were referenced to earth during performance testing: T01 Pin 10,11
- The power supply terminals and/or connectors are: Suitable for factory wiring only
- The maximum investigated branch circuit rating is: 20 A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: Required
- An investigation of the protective bonding terminals has: Been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: CZ01 Pin 2
- 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 T01 (Class B)
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- The equipment is suitable for direct connection to: AC mains supply
- The following LEDs operate within the exempt group per IEC 62471: Risk Exempt Group
- Earthing test is necessary to be considered in end system.
- Heatsink HS01 and HS02 temperature exceed 70°C during heating test at Tma=70°C, half load condition. These 2 points shall be considered at end product evaluation as symbol 60417-1-IEC-5041 might be required.

Additional Information

This CBTR is a upgrade/reissue of CBTR Ref. No. E317867-A38-CB-2 with Cert. US-21400-UL issued on 2013-04-18 to upgrade the standard from IEC 60950-1:2005 (2nd Edition); Am 1:2009 to IEC 60950-1 2nd Edition (2005) + A1 (2009) + A2 (2013). Based on review of the CBTR, additional samples or testing were not considered necessary to re-issue the report under this investigation. All required tests were carried out

under the original investigation and transferred to this CBTR.

In addition, three alternate label systems were added to report (Brady Worldwide, Type B-423, 3M, Types 7816 or 7818, and a generic alternate description of the label systems) based on previous evaluation for this manufacturer.

Nameplate Markings are representatives for all models described in this report.
The products may be sold under either trademark noted.
The label is a draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

Technical Amendment 1:
-Models and ratings sections were updated for clarity.
-Bleeder resistors were updated for 60950 and 62368 in the critical components table.
-UL: The manufacturer submitted representative production samples of these models for construction review and testing. Evaluation and testing were performed for compliance to UL 62368-1 Edition 2 and CSA C22.2 NO. 62368-1-14 - Edition 2. Evaluation specifics can be found under CBTR E317867-A6034-CB-1.

Additional Standards

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 2nd Ed. Revised 2014-10-14, EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013, IEC 60950-1:2005 + A1:2009 + A2:2013, UL 60950-1 2nd Ed. Revised 2014-10-14

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 - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.

Special Instructions to UL Representative

Inspect the transformer(s) listed in BD1.1 per AA1.1- (C). When the tests are conducted at other location, inspect test record and specification sheet provided by the component manufacturer. Verify the specification sheet indicates 100% routine test specified in BD1.1 be conducted at the component manufacturer.

Production-Line Testing Requirements

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

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
All Models	T01	--	Primary Pin to Secondary Pin	3000	4242	1

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

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

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

N/A

Sample and Test Specifics for Follow-Up Tests at UL

Model	Component	Material	Test	Sample(s)	Test Specifics
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