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)
Product:	Switching Power Supply
Model:	VCTXUSY (X = 40, 60; Y = 05, 053, 12, 15, 16, 18, 19, 20, 24, 30) when X = 40 is for Y = 05, 053 and X = 60 is for Y = 12, 15, 16, 18, 19, 20, 24, 30.
Rating:	For Model VCT40US05 I/P: 100-240 Vac, 1.0 A, 50-60/400 Hz. O/P: 5 Vdc / 8 A. For Model VCT40US053 I/P: 100-240 Vac, 1.0 A, 50-60/400 Hz. O/P: 5.3 Vdc / 7.55 A. For Model VCT60US12 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz. O/P: 12 Vdc / 5 A. For Model VCT60US15 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz. O/P: 15 Vdc / 4 A. For Model VCT60US16 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz. O/P: 16 Vdc / 3.75 A. For Model VCT60US18 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz O/P: 18 Vdc / 3.33 A. For Model VCT60US19 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz O/P: 19 Vdc / 3.16 A. For Model VCT60US20 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz. O/P: 20 Vdc / 3 A. For Model VCT60US24 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz. O/P: 24 Vdc / 2.5 A. For Model VCT60US30 I/P: 100-240 Vac, 1.7 A, 50-60/400 Hz. O/P: 30 Vdc / 2 A.

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: Nikon Li Reviewed by: Rock Long

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 is a AC/DC switching mode power supply with open-frame type, and it is intended for building-in from factory installation as a component of the end product Information Technology Equipment (ITE).

Model Differences

Models VCTXUSY series are similar to each other except for model designations, output ratings transformer secondary construction and frequency (50-60Hz/400Hz). The detailed description of model nomenclature are as follows:

Model nomenclature:
Models VCTXUSY, where X can be 40, 60; Y can be 05, 053, 12, 15, 16, 18, 19, 20, 24, 30.
-- X can be 40, 60 which represents output power (i.e. 40 = 40 W, 60 = 60 W).
-- Y can be 05, 053, 12, 15, 16, 18, 19, 20, 24, 30 which represents output voltage (i.e. 05 = 5 Vdc, 12 = 12 Vdc, 18 = 18 Vdc).

Technical Considerations

- Equipment mobility : movable
- Connection to the mains : To be determined by end product
- Operating condition : continuous
- Access location : for building in
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10% (manufacturer declared)
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I or Class II (Determined by end product)
- Considered current rating of protective device as part of the building installation (A) : 20 A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 3048m
- Altitude of test laboratory (m) : Less than 2000m
- Mass of equipment (kg) : 0.14 kg

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 50 degree C
- The product is intended for use on the following power systems: TN
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: CY3
- According to IEC60664-1, Table A2, required Clearances have been adjusted by multiplying the clearance at sea level by a factor of 1.15 for operating at an altitude of 3048 meters. The correction factor is based on barometric pressure of 70kPa and Overvoltage Category II. 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 end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 260 Vrms, 492 Vpk
- The following secondary output circuits are SELV: All power outputs
- The following secondary output circuits are at non-hazardous energy levels: All power outputs
- The following secondary output circuits are Limited Current Circuits: CY3
- 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
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class 105(A): T1 - Class 130(B)
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- The equipment is suitable for direct connection to: AC mains supply
- Clearances and Creepage Distances have additionally been assessed for suitability up to 3048 m elevation. An additional evaluation shall be necessary if installed at an altitude above 3048 meters.
- Printed Wiring Board rated 130°C.

Additional Information

The clearance and creepage distances have additionally been assessed for suitability up to 3048 m elevation.

Markings and instructions

Clause Title	Marking or Instruction Details
1.7.1 Power rating - Ratings	Ratings (voltage, frequency/dc, current)
1.7.1 Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
1.7.1 Power rating - Model	Model Number

1.7.6 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 Production-Line Testing Requirements per Production - Line Testing Requirement. 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 Production-Line Testing Requirements be conducted at the component manufacturer.
The earthing continuity shall be done on 100% of production with acceptable results.

Verify the Specification Sheet indicates 100% routine test specified in Electric Strength Test Special Constructions be conducted at the component manufacturer.