CERTIFICATE OF COMPLIANCE

Certificate Number	20191119-E317867
Report Reference	E317867-A6047-UL
Issue Date	2019-November-19
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 FOR USE WITH AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT Please see addendum page
	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 62368-1 and CAN/CSA C22.2 No. 62368-1-14, Audio/video, information and communication technology equipment Part 1: Safety 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

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Certificate Number	20191119-E317867
Report Reference	E317867-A6047-UL
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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Switching Power Supply

VCE40USXX
Where XX is a number between 03-48. Optionally provided with suffix "-P".

Bruce Mahrenholz, Director North American Certification Program

UL LLC

UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Ed-(Audio/video, information and communication technology equipment Part 1: Safety requirements)
Certification Type:	Component Recognition
CCN:	QQJQ2, QQJQ8 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
Complementary CCN:	N/A
Product:	Switching Power Supply
Model:	VCE20USXX Where XX is a number between 03-48. Optionally provided with suffix "-P".
Rating:	Input: Model VCE20US03: 100-277V~ 0.35-0.155A 50/60Hz All Models Except VCE20US03: 100-277V~ 0.40-0.17A 50/60Hz Output: See Model Differences section for details.
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 models covered in this report are component power supplies intended for building-in. They are either open frame type or provided with a non-safety and non-accessible enclosure.

Model Differences

All models in the VCE20USXX series are identical with exception to the Mains Transformer T1, and minor secondary components that allow for different output voltage ratings. Units for use in China only are to be provided with a certified conformal coating.

Model Nomenclature:

VCE20USXX

Where XX is a number between 03-48 representing output voltage.

Models provided with suffix "-P" indicate open frame type.

Models not provided with suffix "-P" indicate a non-safety and non-accessible enclosure is provided.

Output Ratings (Models with Tma = 45°C):

Model VCE20US03: 3.3Vdc 4.55A

Model VCE20US05: 5Vdc 4A

Output Ratings (Models with Tma = 50°C):

Model VCE20US09: 9Vdc 2.22A

Model VCE20US12: 12Vdc 1.67A

Model VCE20US15: 15Vdc 1.33A

Model VCE20US24: 24Vdc 0.83A

Model VCE20US48: 48Vdc 0.42A

Test Item Particulars

Classification of use by	Ordinary person
Supply Connection	AC Mains
Supply % Tolerance	+10%/-10%
Supply Connection – Type	For building-in

Considered current rating of protective device as part of building or equipment installation	20 A; building;
Equipment mobility	for building-in
Over voltage category (OVC)	OVC II
Class of equipment	Not classified
Access location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified maximum operating ambient (°C)	See Model Differences section.
IP protection class	IPX0
Power Systems	TN
Altitude during operation (m)	5000 m
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	Less than 0.2

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : See Model Differences section.
- The product is intended for use on the following power systems : TN
- The equipment disconnect device is considered to be : To be determined in the end product.
- The product was investigated to the following additional standards : UL/CSA 62368-1 2nd Ed
- Required clearances have been adjusted by multiplying the clearance at sea level by a factor of 1.48 for operating at an altitude of 5000 meters. 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 product-line tests are conducted for this product : Electric Strength
- The following output circuits are at ES1 energy levels : All Outputs
- The following output circuits are at PS3 energy levels : All Outputs
- 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 : Not required. This equipment is not provided with a terminal for bonding and is not required to be bonded when employed in Class I end products.
- The following input terminals/connectors must be connected to the end-product supply neutral : AC N
- The following end-product enclosures are required : Electrical, Fire, Mechanical
- 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) : T1 (Class B, 130°C)
- The power supply was evaluated to be used at altitudes up to : "5,000 m"
- A suitable main disconnect device shall be provided in the end product.
- Consideration to repeating the Touch Current test should be given in the end product evaluation.
- The power supplies in this report have been subjected to the capacitor discharge test of Clause 5.5.2.2. Additional capacitor discharge testing should not be needed if directly connected to mains (e.g. using an appliance inlet, wiring terminals, etc.).
- The Equipment Class of these power supplies is not applicable as they are for building-in. The Equipment Class must be determined in the end product. Class II requirements were additionally considered for this product as no earthing means is provided. The Class II marking (IEC 60417-5172 (2003-02)) is optionally provided on these power supplies.
- When installed in a Class I end product, the power supply shall be mounted in a manner that provides the minimum required creepage and clearance between the primary side of power supply and protectively earthed accessible conductive parts.
- When installed in a Class II end product, the power supply shall be mounted on insulating posts in a manner that provides the minimum required creepage and clearance between the power supply and any accessible conductive parts.

Additional Information

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Additional Standards

The product fulfills the requirements of: UL/CSA 62368-1 2nd Edition

Markings and Instructions

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listees or Recognized companys name, Trade Name, Trademark or File Number
Equipment identification marking – model identification	Model Number
Equipment rating marking – ratings	"Input Ratings (voltage, frequency/dc, current/power)", "Output Ratings (voltage, frequency/dc, current/power)"
F.3.6.2.1 - Class II Equipment with or without Functional Earth	The Class II marking (IEC 60417-5172 (2003-02)) is optionally provided on these power supplies.

Special Instructions to UL Representative

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BD1.0	TABLE: Production-Line Testing Requirements					
BD1.1	Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.					
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
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				
Model	Component	Material	Test	Sample (s)	Test Specifics