

CERTIFICATE OF COMPLIANCE

Certificate Number 20190121-E317867
Report Reference E317867-A6025-UL
Issue Date 2019-JANUARY-21

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, COMPONENT - POWER
SUPPLIES, INFORMATION TECHNOLOGY EQUIPMENT
INCLUDING ELECTRICAL BUSINESS EQUIPMENT

Refer to Addendum Page for Models/Product.

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 Standard
for 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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contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>




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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.

Models/Product

Switching Power Supply for building-in - UCP225PSXX-Y-Z-@@-##### (where XX can be any number between 12 and 48 designating the output voltage, Y can be "A" or blank to represent additional 5V standby output, Z can be "T" or blank to represent terminal block, @@ can be "TF" to represent Top Cover with Fan or "C" to represent Top cover or blank, ##### can be blank or alphanumeric character for marketing purposes only), may also be provided with suffix "SF".



Bruce Mahrenholz, Director North American Certification Program

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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:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	Switching Power Supply for building-in
Model:	UCP225PSXX-Y-Z-@@-##### (where XX can be any number between 12 and 48 designating the output voltage, Y can be "A" or blank to represent additional 5V standby output, Z can be "T" or blank to represent terminal block, @@ can be "TF" to represent Top Cover with Fan or "C" to represent Top cover or blank, ##### can be blank or alphanumeric character for marketing purposes only), may also be provided with suffix "SF"
Rating:	Input: 100-240 Vac, 50/60 Hz, 3 A Output: See Model Differences for Output Ratings 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: Robert Leon / Project Handler

Reviewed By: Walid Beytoughan / 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 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

All models in the Model UCP225PSXX series are identical with exception to the Mains Transformer, TR1, and minor secondary components that allow for different output voltage ratings.

Additional suffix as below

Additional Suffix Y- can be "A" to represent additional 5V standby output

Convection cooling - For Tma @50 °C, 70 °C - 5Vdc, 1A, for Tma @ 85 °C - 5Vdc, 0.5A

Forced cooling For Tma @50 °C - 5Vdc, 2A, for Tma @ 70 °C - 5V, 1A, for Tma @ 85 °C - 5Vdc, 0.8A

Additional Suffix Z - can be "T" to represent terminal block

Additional Suffix @@ - can be "TF" to represent Top Cover with Fan or "C" to represent Top cover

Additional Suffix ##### - can be alphanumeric for represent marketing purposes only

Additional Suffix "SF" denotes units provided with only a single line side fuse.

Model output ratings as follows.

Convection cooling

UCP225PS12: 12Vdc (10.1 - 13.5 Vdc), 12.5 A max, 150W max

UCP225PS15: 15Vdc (13.6 - 17 Vdc), 10 A max, 150W max

UCP225PS18: 18Vdc (17.1 - 21 Vdc), 8.33 A max, 150W max

UCP225PS24: 24Vdc (21.1 - 26 Vdc), 6.25 A max, 150W max

UCP225PS28: 28Vdc (26.1 - 31 Vdc), 5.36 A max, 150W max.

UCP225PS36: 36Vdc (31.1 - 42 Vdc), 4.16 A max, 150W max.

UCP225PS48: 48Vdc (42.1 - 52 Vdc), 3.1 A max, 150W max

Model Name (Forced cooling)

UCP225PS12: 12Vdc (10.1 - 13.5 Vdc), 18.75 A max, 225W max

UCP225PS15: 15Vdc (13.6 - 17 Vdc), 15 A max, 225W max

UCP225PS18: 18Vdc (17.1 - 21 Vdc), 12.5 A max, 225W max

UCP225PS24: 24Vdc (21.1 - 26 Vdc), 9.38 A max, 225W max

UCP225PS28: 28Vdc (26.1 - 31 Vdc), 8.04 A max, 225W max.

UCP225PS36: 36Vdc (31.1 - 42 Vdc), 6.25 A max, 225W max

UCP225PS48: 48Vdc (42.1 - 52 Vdc), 4.69 A max, 225W max

See Enclosure - Miscellaneous 7-02 for de-rating Table.

Test Item Particulars

Classification of use by	Skilled 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	50°C for 100% load; 70°C for 50% load, 85 °C for 25% load at convectional cooling and 40% at force air cooling. See Enclosure ID 7-02 for derating details. °C
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)	0.44kg kg

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of : 50°C for full load; 70°C for half load, 85 °C for 25% load at convectional cooling and 40% at force air cooling.
- The product is intended for use on the following power systems : TN
- Considered current rating of protective device as part of the building installation (A) : 20
- Mains supply tolerance (%) or absolute mains supply values : +10%/-10%
- The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual
- • According to IEC60664-1, Table A2, 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. 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.
- • The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Load side of CY7, CY8, CY9.

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 circuits
- The following output circuits are at PS3 energy levels : All circuits
- 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 when installed in a Class I end product.
- The following end-product enclosures are required : Fire, Electrical
- 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) : TR1 - Class F (155)
- The power supply was evaluated to be used at altitudes up to : "5,000 m"

Additional Information

This report was based on testing previously conducted under CBTR Ref. No. E317867-A92-CB-1, CB Test Certificate Ref. No. US-28841-UL to IEC 60950-1:2005 (Second Edition), Am1:2009 + Am2:2013. The required tests carried out as part of the previous investigation were used to determine compliance with 623368-1 requirements. Based on the results of previous evaluation, additional testing, and a current review of the product construction, it was determined that the products comply with the standards UL/IEC 62368-1.

Correction 1:

Corrected Client Testing Location: XP Power LLC, 15641 Red Hill Ave, Suite 100, Tustin, CA 92780, USA

Technical Amendment 1:

1. Added missing optional top covers fans
 2. Added an alternate Opto-Isolator, LITE-ON Technology, LTV-10XX series
- Due to the similarity of the ratings to the existing components, no testing was considered necessary.

Technical Amendment 2:

1. Added alternate bleeder resistor
- Due to being certified and similarity rated to the existing components, no testing was considered necessary.

Additional Standards

The product fulfills the requirements of: EN 62368-1:2014 + A11:2017, CSA CAN/CSA-C22.2 NO. 62368-1 2nd Ed, Issued December 1, 2014

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)"

Special Instructions to UL Representative

N/A

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
UCP225PSXX	TR1	N/A	Primary/Secondary	2800	4000	1-4
UCP225PSXX	N/A	N/A	Primary/Earth	1800	2500	1-4
BD1.2 Earthing Continuity Test Exemptions – This test is not required for the following models:						
N/A						
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 be 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					
Model	Component	Material	Test	Sample (s)	Test Specifics