

CERTIFICATE OF COMPLIANCE

Certificate Number 20181220-E317867
Report Reference E317867-20181211
Issue Date 2018-DECEMBER-20

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
Switching Power Supply, ECE40USXX (where XX can be
any number between 3 and 48
designating the output voltage), may also be provided with
suffix "S" and/or "D", "-" provided optionally.

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 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/>



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:	ECE40USXX (where XX can be any number between 3 and 48 designating the output voltage), may also be provided with suffix "S" and/or "D", "-" provided optionally.
Rating:	Input: 100-240 Vac, 1.2 A, 50-60 Hz Output: See Model differences 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.

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Prepared By: Adam Tangocci / Project Handler Reviewed By: Randy Johnson / 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 model covered in this report is a component power supply intended for use in Information Technology Equipment. The supply is intended for building-in in Class I or Class II end-products. Double insulated symbol is optionally provided.

Model Differences

All models in the Model ECE40USXX Series are identical with the exception of the Mains Transformer, T1, and minor secondary components that allow for different output voltage ratings. See below for Model Ratings Table for 50°C ambient below:

Model ECE40US03: Output Rated: 3.3 Vdc, 10 A

Model ECE40US05: Output Rated: 5 Vdc, 8 A

Model ECE40US09: Output Rated: 9 Vdc, 4.44A

Model ECE40US12: Output Rated: 12 Vdc, 3.33A

Model ECE40US15: Output Rated: 15 Vdc, 2.67 A

Model ECE40US24: Output Rated: 24 Vdc, 1.67 A

Model ECE40US48: Output Rated: 48 Vdc, 0.83 A

See Enclosure - Miscellaneous 7-03 for de-rating curve.

Additional Suffix "S" denotes units provided with Screw Terminals.

Additional Suffix "D" denotes units provided with DIN Rail mounting Clip.

Test Item Particulars

Classification of use by	Ordinary person
Supply Connection	AC Mains
Supply % Tolerance	+10%/-10%
Supply Connection – Type	Determined by end product
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	70 °C
IP protection class	IPX0
Power Systems	TN
Altitude during operation (m)	3048 except for China (evaluated up to 2000 m elevation) m
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	0.15 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 to 70 °C; (See De-rating Curve, Enclosure 7-03 for details)
- 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
- The unit was additionally evaluated for Class II.

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 output circuits are at ES1 energy levels : All output circuits
- The following output circuits are at PS3 energy levels : All output circuits
- The maximum investigated branch circuit rating is : 20 A
- The investigated Pollution Degree is : 2
- The following input terminals/connectors must be connected to the end-product supply neutral : ACN
- The following end-product enclosures are required : Electrical, Fire
- 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, 120 °C), L1 is suitable for up to 130 °C (Functional insulation)
- The equipment is suitable for direct connection to : AC mains supply
- The power supply was evaluated to be used at altitudes up to : 3048 m
- The power supply terminals and/or connectors are: Suitable for factory wiring only
- Touch current to be considered during end-product evaluation.
- The need to conduct the capacitance discharge test of 5.5.2.2 must be determined in the end product.
- The end-product Electric Strength Test is to be based upon the mains transient voltage of 2500Vpk
- Repeat of heating and dielectric test to be considered as part of end product
- Printed Wiring Board rated 130°C.
- When installed in a Class II end product, the power supply shall be mounted in a manner that provides sufficient clearance and creepage distance between the hazardous parts of the power supply and accessible conductive parts of the end product.

Additional Information

This report was based on testing performed under CBTR E317867-A49-CB-1 and CBTC US-21223-UL to IEC 60950-1:2005 (Second Edition), Am1:2009 + Am2:2013. Limited testing was considered necessary under this investigation to create this CB Test Report. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams, and previous datasheets, it has been determined that the product continues to comply with the standard IEC/UL/CSA 62368-1 (Second Edition).

The required clearance values have been assessed for suitability up to 3048 m elevation (1.15 correction factor as per IEC 60664-1, Table A2).

The need for the additional testing and evaluation shall be determined in the end product investigation.

The power supply series covered by this report employs Double/Reinforced Insulation between Primary and Secondary circuits.

Some IEC licenses may be older than 3 years, manufacturer to provide updated IEC licenses upon request.

The nameplate markings provided as an Enclosure - Marking Plate is considered representative of the entire series.

Report Correction:

Corrections to this report are considered not to affect compliance with the requirements of the standard.

Because of this and previously performed testing, no sample or additional testing was considered necessary.

Changes and notes:

-UL Only: Comp CCN QQQQ2/8 removed and volume changed from X16 to X15

Additional Standards

The product fulfills the requirements of: EN 62368-1:2014, UL 62368-1 2ND Ed, Issued December 1, 2014, 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
All Models	Transformer T1	N/A	Pri. to Sec.	2800	4000	1
BD1.2 Earthing Continuity Test Exemptions – This test is not required for the following models:						
All						
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