

Test Report issued under
the responsibility of:

TEST REPORT
IEC 60950-1
Information technology equipment - Safety -
Part 1: General requirements

Report Reference No : E139109-A62-CB-3

Date of issue : 2015-08-28

Total number of pages : 69

CB Testing Laboratory : UL San Jose

Address : 455 E. Trimble Rd., San Jose, CA, 95131-1230, USA

Applicant's name : XP POWER L L C
15641 RED HILL AVE, SUITE 100Address : TUSTIN CA 92780
UNITED STATES**Test specification:**

Standard : IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC60950_1F

Test Report Form originator : SGS Fimko Ltd

Master TRF : Dated 2014-02

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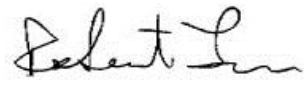
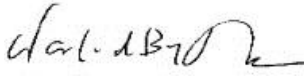
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Test item description	AC/DC Power Adapter
Trade Mark	
Manufacturer	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 UNITED STATES
Model/Type reference	AHM150PSXXYY-ZZ (where XX is any number between 12-48 designating output voltage, where YY can be "C2" or blank, and ZZ can be blank or "A", "6", "8", "6A", or "8A", may be provided with or without "-") AHM150PS12-XB0333
Ratings	Input: 100-240 Vac, 50/60 Hz, 1.8 A Output: See Model Differences section

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB Testing Laboratory	Testing location / address: UL San Jose 455 E. Trimble Rd., San Jose, CA, 95131-1230, USA
<input type="checkbox"/> Associated CB Test Laboratory	Testing location / address:
	Tested by (name + signature): Robert Leon 
	Approved by (name + signature).....: Walid Beytoughan 
<input type="checkbox"/> Testing Procedure: TMP/CTF Stage 1	Testing location / address:
	Tested by (name + signature): _____
	Approved by (name + signature).....: _____
<input type="checkbox"/> Testing Procedure: WMT/CTF Stage 2	Testing location / address:
	Tested by (name + signature): _____
	Witnessed by (name + signature) ...: _____
	Approved by (name + signature).....: _____
<input type="checkbox"/> Testing Procedure: SMT/CTF Stage 3 or 4	Testing location / address:
	Tested by (name + signature): _____
	Approved by (name + signature).....: _____
	Supervised by (name + signature) ..: _____
<input type="checkbox"/> Testing Procedure: RMT	Testing location / address:
	Tested by (name + signature): _____
	Approved by (name + signature).....: _____
	Supervised by (name + signature) ..: _____

List of Attachments

National Differences (55 pages)

Enclosures (43 pages)

Summary Of Testing

Unless otherwise indicated, all tests were conducted at UL San Jose 455 E. Trimble Rd., San Jose, CA, 95131-1230, USA.

Tests performed (name of test and test clause)	Testing location / Comments
Guide Information Page - Maximum Output Voltage,	Evaluated under original CB Scheme

Current, and Volt Ampere Measurement (1.2.2.1)	investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Input: Single-Phase (1.6.2)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Durability of Marking (1.7.11)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Energy Hazard Measurements (2.1.1.5, 2.1.2, 1.2.8.10)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Capacitance Discharge (2.1.1.7)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Limited Current Circuit Measurement (2.4.1, 2.4.2)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Protective Bonding II (2.6.3.4, 2.6.1)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Humidity (2.9.1, 2.9.2, 5.2.2)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Determination of Working Voltage; Working Voltage Measurement (2.10.2)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Thin Sheet Material (2.10.5.9, 2.10.5.10, 2.10.5.6)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Transformer and Wire /Insulation Electric Strength (2.10.5.13)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Strain Relief (3.2.6, 4.2.1, 4.2.7)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Steady Force (4.2.1 - 4.2.4)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Impact (4.2.5, 4.2.1, Part 22 10.2)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Drop (4.2.6, 4.2.1)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62

	(CBTC US-21343-UL).
Stress Relief (4.2.7, 4.2.1)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Heating (4.5.1, 1.4.12, 1.4.13)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Touch Current (Single-Phase; TN/TT System) (5.1, Annex D)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Electric Strength (5.2.2)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Component Failure (5.3.1, 5.3.4, 5.3.7)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Transformer Abnormal Operation (5.3.3, 5.3.7b, Annex C.1)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).
Power Supply Output Short-Circuit/Overload (5.3.7)	Evaluated under original CB Scheme investigation. See CBTR E139109-A62 (CBTC US-21343-UL).

Summary of Compliance with National Differences:

Countries outside the CB Scheme membership may also accept this report.

List of countries addressed: AT, AU, BE, BG, BY, CA, CH, CN, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IT, JP, KR, NL, NO, NZ, PL, PT, RO, SE, SG, SI, SK, UA, US

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011, EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011, UL 60950-1 2nd Ed. Revised 2011-12-19, IEC 60950-1:2005 + A1:2009

Copy of Marking Plate - Refer to Enclosure titled Marking Plate for copy.

Test item particulars :

Equipment mobility: movable

Connection to the mains: pluggable A

Operating condition: continuous

Access location: operator accessible

Over voltage category (OVC): OVC II

Mains supply tolerance (%) or absolute mains supply values: +10%, -10%

Tested for IT power systems: Yes

IT testing, phase-phase voltage (V): 230

Class of equipment: Class I (earthed) and Class II (double insulated)

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): 5000m

Altitude of test laboratory (m): less than 2000 meters

Mass of equipment (kg): 0.62

Possible test case verdicts:

- test case does not apply to the test object: N / A

- test object does meet the requirement: P(Pass)

- test object does not meet the requirement: F(Fail)

Testing:

Date(s) of receipt of test item: 2013-05-10, 2010-05-28

Date(s) of Performance of tests: 2013-05-15 to 2013-05-20, 2010-11-01 to 2010-12-28

General remarks:

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

Manufacturer's Declaration per Sub Clause 4.2.5 of IECEE 02:

Yes

The application for obtaining a CB Test Certificate includes more than one factory and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

When differences exist, they shall be identified in the General Product Information section.

Name and address of Factory(ies): XP POWER (KUNSHAN) LTD
230 BIN JIANG NAN RD
ZHANGPU TOWN
KUNSHAN
JIANGSU 215321 CHINA

XP POWER INC
990 BENECIA AVE
US
SUNNYVALE CA 94085-2804
UNITED STATES

XP POWER (VIETNAM) CO LTD
LOT D - 4Q - CN
MY PHUOC 3 INDUSTRIAL PARK
BEN CAT DISTRICT
BINH DUONG VIET NAM

GENERAL PRODUCT INFORMATION:

Report Summary

All applicable tests according to the referenced standard(s) have been carried out.

Product Description

The models covered in this report are Class I or Class II power supplies intended for use with Information Technology Equipment. They are enclosed power supplies housed within a thermoplastic enclosure. The units connect to mains via a detachable power supply cord and grounded appliance inlet. The output is through a PVC jacketed output cord terminating in a molded-on polarized connector.

Model Differences

All models within the series are identical with exception of the power transformer (T1) winding and other minor changes to secondary circuit to accommodate different output voltages and current ratings.

Output Ratings for 40°C:

Model AHM150PS12: 10.1-13.5 Vdc, 12.5 A max. (150W max)
Model AHM150PS15: 13.6-17.0 Vdc, 10.0 A max. (150W max)
Model AHM150PS19: 17.1-21.0 Vdc, 7.89 A max. (150W max)
Model AHM150PS24: 21.1-26.0 Vdc, 6.25 A max. (150W max)
Model AHM150PS28: 26.1-31.0 Vdc, 5.36 A max. (150W max)
Model AHM150PS33: 31.1-33.0 Vdc, 4.55 A max. (150W max)
Model AHM150PS36: 33.1-42.0 Vdc, 4.17 A max. (150W max)
Model AHM150PS48: 42.1-54.0 Vdc, 3.13 A max. (150W max)

See Enclosure - Miscellaneous for de-rated output values for higher ambient.

Models may have an additional -ZZ identifier which can be "-A", "-6", "-6A", "-8", "-8A", or blank to designate the type of input connector:

blank = C14 style input connector (Class I construction);

"-A" = C14 style input connector with optional IEC cable retention;

"-6" = C6 style input connector (Class I);

"-6A" = C6 style input connector with optional IEC cable retention;

"-8" = C8 style input connector (Class I)

Models may have an additional YY identifier which can be blank or "C2". Units designate "C2" have a Class II

configuration.

Model AHM150PS12-XB0333 is identical to AHM150PS12.

Additional Information

This report is a Standard upgrade/reissue of CBTR Ref. No.: E139109-A62-CB-2, CB Test Certificate Ref. No.US-21343-UL and No.US-21343-A1-UL to IEC 60950- 1:2005 (Second Edition), Am1:2009 + Am2:2013. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, only the construction review and the review of previous tests was deemed necessary. All required tests were carried out under the original investigation. A second Humidity Test at tropical conditions was witnessed at the clients test facilities in Singapore. The test equipment used for the humidity test is enclosed.

Required values for clearance are adjusted for 5000 m (1.48 correction factor as per IEC 60664-1, Table A2).

Marking label is representative of all models. The nameplate labels included in this report depict the draft artwork for the marking plate pending approval by National Certification Bodies and it will not be affixed to products prior to such approval.

Technical Considerations

- 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 product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40°C (at 100% rated load); 60°C (at 60% rated load) --
- The product is intended for use on the following power systems: TN IT --
- The equipment disconnect device is considered to be: Appliance inlet --
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Load side of Capacitor CY3 and CY4 --
- The means of connection to the mains supply is: Pluggable A Detachable power cord --
- The following are available from the Applicant upon request: Specific data sheets for LED indicators that are class I and operate at wavelength in the 400-710 nm range. Installation (Safety) Instructions / Manual. --
- The equipment employs Functional Earthing per 2.6.2. As anticipated by the NOTE for 1.2.4, it does not conform to one of the common Classes (I, II, or III). The following insulation is provided between the primary and accessible dead metal parts and circuits: Double/Reinforced (configuration with a ground pin in the appliance inlet) --
- LEDs provided in the product are considered low power devices: Yes --
- 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. --

Abbreviations used in the report:

- normal condition	N.C.	- single fault condition	S.F.C
- operational insulation	OP	- basic insulation	BI
- basic insulation between parts of opposite polarity:	BOP	- supplementary insulation	SI
- double insulation	DI	- reinforced insulation	RI

Indicate used abbreviations (if any)