

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT  
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC

**CB TEST CERTIFICATE****CERTIFICAT D'ESSAI OC**

Product  
Produit

Switch Mode Power Supply

Name and address of the applicant  
Nom et adresse du demandeur

XP POWER L L C  
SUITE 150  
1241 E DYER RD  
SANTA ANA CA 92705 UNITED STATES

Name and address of the manufacturer  
Nom et adresse du fabricant

XP POWER L L C  
SUITE 150  
1241 E DYER RD  
SANTA ANA CA 92705 UNITED STATES

Name and address of the factory  
Nom et adresse de l'usine

XP POWER L L C  
990 BENEZIA AVE  
SUNNYVALE CA 94085  
UNITED STATES

Note: When more than one factory, please report on page 2  
Note: Lorsque il y plus d'une usine, veuillez utiliser la 2<sup>ème</sup> page

Additional Information on page 2

Ratings and principal characteristics  
Valeurs nominales et caractéristiques principales

Input: 100-240 Vac, 50/60 Hz, 3.0 A Max  
Output: See Model Differences for details.

Trademark (if any)  
Marque de fabrique (si elle existe)



Type of Manufacturer's Testing Laboratories used  
Type de programme du laboratoire d'essais  
constructeur

EMA212PSXX  
See Page 2

Model / Type Ref.  
Ref. De type

Additional information (if necessary may also be  
reported on page 2)  
Les informations complémentaires (si nécessaire,,  
peuvent être indiqués sur la 2<sup>ème</sup> page

Additionally evaluated to EN 60950-1:2006/ A11:2009/ A1:2010/  
A12:2011; National Differences specified in the CB Test Report.

Additional Information on page 2

A sample of the product was tested and found  
to be in conformity with  
Un échantillon de ce produit a été essayé et a été  
considéré conforme à la

IEC 60950-1(ed.2), IEC 60950-1(ed.2);am1

As shown in the Test Report Ref. No. which forms  
part of this Certificate  
Comme indiqué dans le Rapport d'essais numéro de  
référence qui constitue partie de ce Certificat

E139109-A46-CB-2 issued on 2013-04-30

This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**



- UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
- UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
- UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
- UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see [www.ul.com/ncbnames](http://www.ul.com/ncbnames)

Date: 2013-04-30

Signature:

Jolanta M. Wroblewska



Ref. Certif. No.

**US-21482-UL**

**Model Details:**

EMA212PSXX (Where XX = 12, 24 or 48, may also be followed by suffix -F)

**Factories:**

XP POWER (S) PTE LTD  
LIPO BLDG, #05-01  
621 ALJUNIED RD  
SINGAPORE 389834  
SINGAPORE

XP POWER (KUNSHAN) LTD  
230 BIN JIANG NAN RD  
ZHANGPU TOWN  
KUNSHAN JIANGSU 215300  
CHINA

**Additional information (if necessary)**

**Information complémentaire (si nécessaire)**



- UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
- UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
- UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
- UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see [www.ul.com/ncbnames](http://www.ul.com/ncbnames)

Date: 2013-04-30

Signature:

Jolanta M. Wroblewska



Test Report issued under  
the responsibility of:



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

**Report Reference No** .....: E139109-A46-CB-2

Date of issue .....: 2013-04-30

Total number of pages .....: 65

**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

SUITE 150  
Address .....: 1241 E DYER RD  
SANTA ANA CA 92705  
UNITED STATES

**Test specification:**

Standard .....: IEC 60950-1:2005 (2nd Edition); Am 1:2009

Test procedure .....: CB Scheme

Non-standard test method .....: N/A

**Test Report Form No.** .....: IEC60950\_1B

Test Report Form originator .....: SGS Fimko Ltd


Master TRF .....: 2010-04

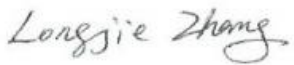
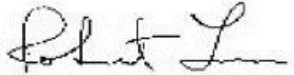
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If this test Report is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

<b>Test item description</b> .....	Switch Mode Power Supply
Trade Mark .....	
Manufacturer .....	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Model/Type reference .....	EMA212PSXX (Where XX = 12, 24 or 48, may also be followed by suffix -F)
Ratings .....	Input: 100-240 Vac, 50/60 Hz, 3.0 A Max  Output: See Model Differences for details.

<b>Testing procedure and testing location:</b>	
<input checked="" type="checkbox"/>	<p><b>CB Testing Laboratory</b>                  Testing location / address..... : UL San Jose 455 E. Trimble Rd., San Jose, CA, 95131-1230, USA</p> <p><input type="checkbox"/> <b>Associated CB Test Laboratory</b>                  Testing location / address..... :                  Tested by (name + signature) ..... : Longjie Zhang <span style="float: right;"></span></p> <p>Approved by (name + signature) ... : Robert Leon <span style="float: right;"></span></p>
<input type="checkbox"/>	<p><b>Testing Procedure: TMP</b>                  Tested by (name + signature) ..... : _____                  Approved by (+ signature) ..... : _____                  Testing location / address..... : _____</p>
<input type="checkbox"/>	<p><b>Testing Procedure: WMT</b>                  Tested by (name + signature) ..... : _____                  Witnessed by (+ signature)..... : _____                  Approved by (+ signature) ..... : _____                  Testing location / address..... : _____</p>
<input type="checkbox"/>	<p><b>Testing Procedure: SMT</b>                  Tested by (name + signature) ..... : _____                  Approved by (+ signature) ..... : _____                  Supervised by (+ signature) ..... : _____                  Testing location / address..... : _____</p>
<input type="checkbox"/>	<p><b>Testing Procedure: RMT</b>                  Tested by (name + signature) ..... : _____                  Approved by (+ signature) ..... : _____                  Supervised by (+ signature) ..... : _____                  Testing location / address..... : _____</p>

<p><b>List of Attachments</b>                  National Differences (35 pages)                  Enclosures (38 pages)</p>
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<p><b>Summary of Testing:</b>                  All Applicable tests according to the referenced standard(s) have been carried out</p>
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<p><b>Summary of Compliance with National Differences:</b>                  Countries outside the CB Scheme membership may also accept this report.                  List of countries addressed: AT, BE, CA, CH, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IT, JP, KR, NL, PL, PT, SE, SI, SK, US</p>
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The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011, EN 60950-1:2006 + A11:2009 + A1:2010, IEC 60950-1:2005 + A1:2009

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

**Test item particulars :**

Equipment mobility .....	Component for building-in
Connection to the mains .....	Component for building-in
Operating condition .....	continuous
Access location .....	restricted access location
Over voltage category (OVC) .....	OVC II
Mains supply tolerance (%) or absolute mains supply values .....	+6%, -10%
Tested for IT power systems .....	No
IT testing, phase-phase voltage (V) .....	N/A
Class of equipment .....	Class I (earthed)
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) .....	Up to 3048m
Altitude of test laboratory (m) .....	less than 2000m
Mass of equipment (kg) .....	0.3

**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 .....	2007-02-09, 2010-02-01
Date(s) of Performance of tests .....	2007-02-09, 2007-03-23

**General remarks:**

The test results presented in this report relate only to the object tested.  
This report shall not be reproduced, except in full, without the written approval of the testing laboratory.

"(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 6.25 of IEC60950-1:**

Yes

The application for obtaining a CB Test Certificate includes more than one factory and a declaration form 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.

<b>Name and address of Factory(ies):</b>	XP POWER L L C 990 BENECIA AVE SUNNYVALE CA 94085 UNITED STATES
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XP POWER (S) PTE LTD  
LIPO BLDG, #05-01  
621 ALJUNIED RD  
SINGAPORE 389834 SINGAPORE

XP POWER (KUNSHAN) LTD  
230 BIN JIANG NAN RD  
ZHANGPU TOWN  
KUNSHAN JIANGSU 215300 CHINA

## GENERAL PRODUCT INFORMATION:

### Report Summary

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

### Product Description

The equipment is a component open frame switch mode power supply for building-in. The power supply consists of 3 outputs, one main output and two auxiliary outputs (fan and Vsb).

### Model Differences

Models are similar, except V1 output voltage/current rating and T7 secondary windings. Output terminal (CON2) provided with terminal block or fast-on connector, represented by -F suffix.

Output rating for 50°C provided below:

For Model EMA212PS12: V1 = 12 Vdc, 16.7 A

For Model EMA212PS24: V1 = 24 Vdc, 8.3 A

For Model EMA212PS48: V1 = 48 Vdc, 4.0 A

Output rating for 70°C provided below:

For Model EMA212PS12: V1 = 12 Vdc, 8.35 A

For Model EMA212PS24: V1 = 24 Vdc, 4.15 A

For Model EMA212PS48: V1 = 48 Vdc, 2.0 A

For all models: V2: 12 Vdc (fan), 1.0 A; V3: 5 Vsb, 0.1 A

Max 212.5 W

### Additional Information

This is a CBTR Reissue/Standard Upgrade from Report Reference No. E139109-A46-CB-1, CB Test Certificate Reference No. US/14782/UL. All data extracted from the original report (including related CB Amendments). No sample was deemed necessary to be reviewed and no additional testing was required based on engineering judgment to reissue/upgrade this Report. Previous tests were still applicable and test data was transferred to this report reference.

Based upon the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, has been determined that the product continues to comply



with the standard.

### Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 50°C at full load (212.5 W), 70°C at 50% load (100.8 W)
- The product is intended for use on the following power systems: TN
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 (which includes all European national differences, including those specified in this test report).
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Load side of bridging capacitor C95
- The clearance distances of the equipment have additionally been assessed for suitability up to 3048m elevation. --

### Engineering Conditions of Acceptability

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: 357 Vrms, 608 Vpk
- The following secondary output circuits are SELV: All outputs
- The following secondary output circuits are at hazardous energy levels: V1 (main output)
- The following secondary output circuits are at non-hazardous energy levels: V2 (fan) and V3 (Vsb)
- 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
- Proper bonding to the end-product main protective earthing termination is: Required
- An investigation of the protective bonding terminals has: Not been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: Input connector (CON1), Pin 1
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJ2 insulation system with the indicated rating greater than Class A (105°C): T1, T3, T4 and T7 Class F (155°C). Inductors L1, L2, L3, L4, L5 and L7 suitable for up to 130°C (Functional insulation)
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- The maximum continuous power supply output (Watts) relied on forced air cooling from: 212.5 W with 10.67 cfm fan applied to the primary side.
- The equipment is suitable for direct connection to: AC mains supply
- Printed Wiring Boards are rated minimum 130°C. Electrolytic capacitors are rated minimum 105°C. --
- Fuse provided with unambiguous cross-reference to servicing instructions (FS1). End product servicing instructions to contain fuse type and ratings; 5.0 A, 250 V, Type T. --
- Clearance values have been evaluated for an operating altitude of max. 3048 m, based on IEC-60664-1 altitude correction factor. Consideration should be given to altitude correction for additional Clearances introduced during final installation. The equipment is not for use in aircraft. --

- The X and Y capacitors shall be located within an enclosure having openings limited as follows: The projected area of any opening in the top, back, sides or front of the overall enclosure, onto a plane perpendicular to a line passing through the center of the opening and any point on the central axis of the X and Y capacitors, does not exceed 0.20 in.2 (1.3 cm2) unless the minor dimension of the projected area is not more than 3/8 in. (9.5 mm). --
- Humidity testing to be conducted as part of the end product evaluation. --

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)