Ref. Certif. No.

US/14763A/UL

IEC SYSTEM FOR CONFORMITY TESTING AND CERTIFICATION OF ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ESSAIS DE CONFORMITE ET DE CERTIFICATION DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product *Produit*	Power Rack
Name and address of the applicant *Nom et adresse du demandeur*	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705, USA
Name and address of the manufacturer *Nom et adresse du fabricant*	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705, USA
Name and address of the factory *Nom et adresse de l'usine*	1. XP POWER INC 990 BENECIA AVE SUNNYVALE CA 94085, USA 2. XP POWER (KUNSHAN) LTD 230 BIN JIANG NAN RD ZHANGPU TOWN KUNSHAN JIANGSU 215321, CHINA
Rating and principal characteristics *Valeurs nominales et caractéristiques principales*	Input Rated: 100-240 Vac, 50/60 Hz, max. 12 A per cord. Output Model Rating: See model differences for details.
Trademark (if any) *Marque de fabrique (si elle existe)*	N/A
Type of Manufacturer's Testing Laboratories used *Type de programme du laboratoire d'essais constructeur*	
Model / Type Ref. *Ref. de type*	GFR1K5RACK-0X (where X can be any number from 1 to 9)
Additional information (if necessary) *Information complémentaire (si nécessaire)*	The CB Test Report comprises 7 enclosures. The CB Certificate and Test Report were amended on June 14, 2010 to add alternate components.
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 (2005) Second Edition** Additionally evaluated to EN60950-1 (2006) with Am. 11 (2009) to include Group and National Differences for European countries; other National Differences also specified in the CB Test Report.
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-A30-CB-1

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

Underwriters Laboratories

Underwriters Laboratories Inc. / GMA Certification Department, US
333 Pfingsten Road, Northbrook, IL 60062-2096
United States of America
TEL INT* +1 847 664 3008, FAX INT* +1 847 313 3008
email: jolanta.m.wroblewska@us.ul.com

Date: Issued: 2010 March 2
Amended: 2010 June 14 (Am. 1)

Signature:

Jolanta M. Wroblewska

Ref. Certif. No.

CA/9813/CSA

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	Component Power Supply
Name and address of the applicant Nom et adresse du demandeur	XP Power, Inc. 1590 S Sinclair Street, Anaheim, CA 92806, USA
Name and address of the manufacturer Nom et adresse du fabricant	Same as applicant.
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	☒ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input: 100-240 Vac, 50/60Hz, 16.5A ☒ Additional Information on page 2
Trademark (if any) Marque de fabrique (si elle existe)	XP
Model / Type Ref. Ref. De type	GFR1K5PSXX (where XX can be 12, 24, 48 or 56 designating the output voltage)
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	Prepared under SMT procedure (SMT-042) ☐ 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 60950-1:2005 (2nd Edition) including AT, CA, DE, DK, FI, FR, GB, IT, JP, KR, NL, NO, PL, SE, SI, US and Common Modifications per CB Bulletin 112A (Dec 2006); EN 60950-1:2006
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	CB 155548-2035526

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

CSA International
178 Rexdale Boulevard
Toronto, ON M9W 1R3

Date: July 2, 2008

Signature: Tiki Wong, P.Eng

	Ref. Certif. No.
	CA/9813/CSA

Output Ratings

Model	V1-Output			V-standby	
	Vdc	Low-V (100-180 Vac Input)	High-V (180-240 Vac Input)	Vdc	A
GFR1K5PS12	12	100 A; 1200 W max		5	1
GFR1K5PS24	24	50 A; 1200 W max	62.5 A; 1500 W max	5	1
GFR1K5PS48	48	25 A; 1200 W max	31 A; 1500 W max	5	1
GFR1K5PS56	56	22 A; 1200 W max	27 A; 1500 W max	5	1

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

F1 XP POWER INC
1590 S SINCLAIR ST
ANAHEIM, CA 92806, USA

F2 XP POWER INC
990 BENECIA AVE, UNIT 25
SUNNYVALE, CA 94085, USA

F3 UNIT 25, ZONE 37
BAO'AN, SHENZHEN,
GUANGDONG 518000,
P.R. CHINA

F4 JU-YUAN INDUSTRIAL PARK, TANG – WEI
FU-YONG TOWN, BAO'AN, SHENZHEN,
GUANGDONG 518103
P.R. CHINA

F5 230 BIN JIANG SOUTH ROAD
ZHANG PU TOWN, KUNSHAN CITY
JIANGSU PROVINCE, 215321
P.R. CHINA

Additional information (if necessary)
Information complémentaire (si nécessaire)

Date: July 2, 2008

Signature: Tiki Wong, P.Eng

Test Report issued under the responsibility of:

CSA INTERNATIONAL

TEST REPORT

IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006
Information technology equipment – Safety – Part 1: General requirements

Report Reference No.....:	CB155548-2035526
Date of issue.....:	June 25, 2008
Total number of pages.....	48
CB/CCA Testing Laboratory.....:	CSA International
Address.....:	13799 Commerce Parkway, Richmond (Vancouver), B.C. V6V 2N9 Canada
Applicant's name.....:	XP Power, Inc.
Address.....:	1590 S Sinclair St., Anaheim, CA 92806, USA
Manufacturer's name .....:	XP Power, Inc.
Address.....:	1590 S Sinclair St., Anaheim, CA 92806, USA
Factory's name .....:	XP Power, Inc.
Address.....:	1590 S Sinclair St., Anaheim, CA 92806, USA
Test specification:	
Standard .....:	☒ IEC 60950-1:2005 (2nd Edition) and/or ☒ EN 60950-1:2006
Test procedure .....:	CB/CCA, National Deviations: AT, CA, DE, DK, FI, FR, GB, IT, JP, KR, NL, NO, PL, SE, SI, US and Common Modifications per CB Bulletin 112A (Dec 2006)
Non-standard test method……..:	N/A
Test Report Form No.....:	IECEN60950_1C
Test Report Form(s) Originator .....:	SGS Fimko Ltd
Master TRF.....:	Dated 2007-06

If this Test Report Form 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.

If this Test Report Form is used by non-CCA members, the CIG logo and the reference to the CCA Procedure shall be removed.
This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA

Test item description..... :	Component AC-DC Power Supply
Trade Mark .....:	
Manufacturer .....:	XP Power
Model/Type reference.....:	GFR1K5PSXX (where XX can be 12, 24, 48 or 56 designating the output voltage)
Ratings.....:	Input: 100-240 V ac, 50/60Hz, 16.5A

Outputs:

Model	V1-Output			V-standby	
	V dc	Low-V (100-180 V ac Input)	High-V (180-240 V ac Input)	V dc	A
GFR1K5PS12	12	100 A; 1200 W max		5	1
GFR1K5PS24	24	50 A; 1200 W max	62.5 A; 1500 W max	5	1
GFR1K5PS48	48	25 A; 1200 W max	31 A; 1500 W max	5	1
GFR1K5PS56	56	22 A; 1200 W max	27 A; 1500 W max	5	1

Testing procedure and testing location:	
☐ **CB/CCA Testing Laboratory:**	CSA International
Testing location/ address .....:	13799 Commerce Parkway, Richmond (Vancouver), B.C. V6V 2N9 Canada
☐ **Associated CB Laboratory:**	
Testing location/ address .....:	
Tested by (name + signature).....:	
Approved by (+ signature).....:	Shane Stevenson
☐ Testing procedure: TMP	
Tested by (name + signature).....:	
Approved by (+ signature)..... :	
Testing location/ address .....:	
☐ Testing procedure: WMT	
Tested by (name + signature).....:	
Witnessed by (+ signature)..... :	
Approved by (+ signature).....:	
Testing location/ address .....:	
☒ Testing procedure: SMT	
Tested by (name + signature).....:	Rodney Reyes
Approved by (+ signature).....:	Tac Pham
Supervised by (+ signature).....:	Eugen Velea
Testing location/ address ..... :	XP Power, Inc.; 1590 S Sinclair St., Anaheim, CA 92806, USA
☐ Testing procedure: RMT	
Tested by (name + signature).....:	
Approved by (+ signature).....:	
Supervised by (+ signature).....:	
Testing location/ address .....:	

CB Report Contents

CB Report	*48 pages*
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Copy of marking plate	*Page 7*
Test item particulars	*Page 8*
General product information and Conditions of Acceptability	*Page 9*
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Appendices		
1	***National Deviations and Group Differences***	*36 pages*

Attachments		
1	***Enclosure Details and List of Critical Components***	*4 pages*
2	***Photographs***	*11 pages*
3	***Schematic Diagrams and Printed Wiring Board Drawings***	*17 pages*
4	***Transformer and Inductor Specifications/Drawings***	*39 pages*
5	***Technical Specifications***	*5 pages*
6	***Test Data***	*39 pages*

Report Revision Record

Edition 1: *June 25, 2008; CSA Application No. CB 155548-2035526 (Vancouver Office)*
Issued by Eugen Velea; Reviewed by Shane Stevenson.

CB Certificate CA/9813/CSA issued July 2, 2008

Summary of testing:

Tests performed (name of test and test clause):

Tests performed on	
Model	**Manufacturer's Serial No (or Prototype Control No) of equipment tested**
GFR1K5PS12	GFR1K5PS1208-01
GFR1K5PS24	GFR1K5PS2408-01
GFR1K5PS48	GFR1K5PS4808-01
GFR1K5PS56	GFR1K5PS5608-01

Clause	Name of Test
1.6.2	Power Interface (Input) Test
2.1.1.5	Energy Hazard Measurement (20 Joules and 240 VA)
2.1.1.7	Discharge of Capacitors
2.2	SELV (Single Fault Simulation)
2.6.3.4	Protective Earthing Resistance
2.10	Creepage/Clearance Measurements
4.5.1	Heating Test
5.1	Touch and Protective Conductor Current
5.2	Electrical Strength Test
5.3	Abnormal (component failure)
5.3.3	Transformer Test (see Annex C)
5.3.7	Overload/Short Circuit Test (Power Supply Outputs)
Annex C	Transformer (Overload)

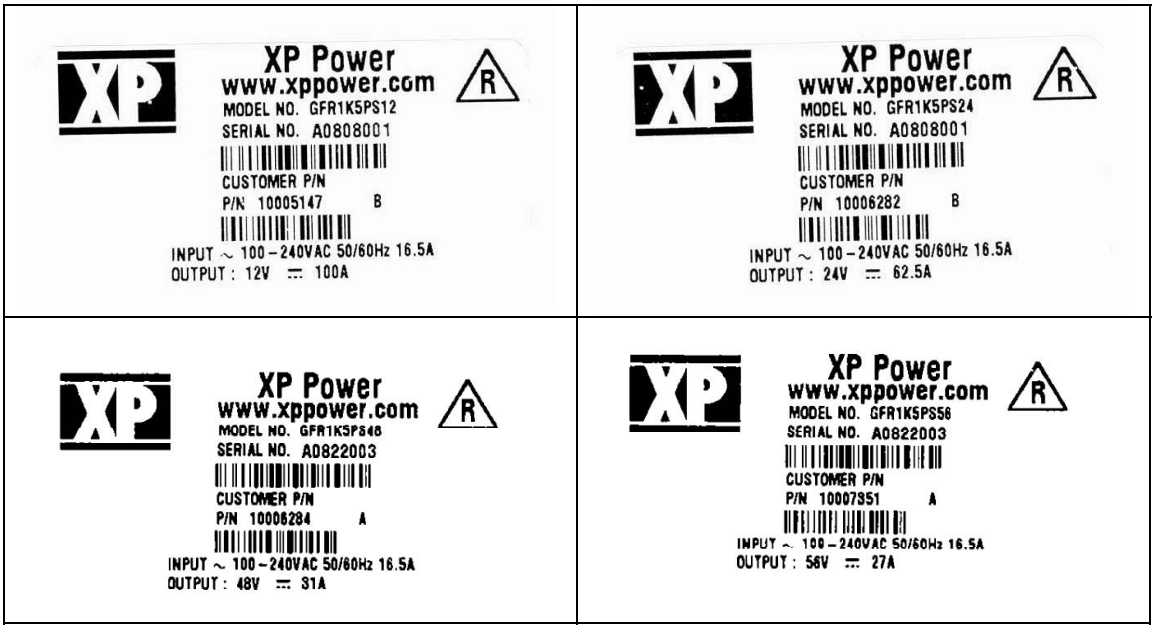
Testing location:

XP Power, Inc.; 1590 S Sinclair St., Anaheim, CA 92806, USA

Summary of compliance with National Differences:

Refer to App.1

Copy of marking plate:



Test item particulars :	
Equipment mobility ..... :	for building-in
Connection to the mains ..... :	To be determined in the end system
Operating condition ..... :	Continuous
Access location ..... :	To be determined in the end system
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
Considered current rating (A) ..... :	20 A (branch circuit)
Pollution degree (PD) ..... :	PD 2
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	3000
Altitude of test laboratory (m) ..... :	N/A
Mass of equipment (kg) ..... :	3 Kg
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 of receipt of test item..... :	Apr 18, 2008
Date(s) of performance of tests..... :	June 18, 2008 (evaluation completion)

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 Issuing testing laboratory.
"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.

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

General product information:

The subject model is a component type AC-DC power supply, provided with an overall metal enclosure, containing components operating at hazardous and SELV voltages.
The main PCB is fastened to the chassis bottom by multiple machine screws; an insulating foil is installed between PWB and chassis, wrapped around the board assembly, covering the sides and extending over the top. The control PWB is mounted vertically on the side of the main PWB and secured by multi-pin soldering.
The unit is provided with 3 LED status indicators and 2 cooling fans mounted internally behind the front panel acting as fan guard.
Input/output connector is soldered directly to the PWB and divided into two sections, one containing the primary inputs for AC mains and Protective Earth, the other containing the SELV output pins.

For additional construction details refer to Attachments.

Conditions of Acceptability

1. The power supply is to be installed only by trained service personnel, according to manufacturer installation instructions provided with each unit.

2. Installation instructions and equipment markings related to safety shall be provided in a language acceptable in the country in which the equipment is to be installed.

3. Evaluated as Class I (earthed equipment). Reliable earth connection shall be provided in the end use installation.

4. Suitability of the equipment enclosure as a fire enclosure is to be determined in the end use installation.

5. Maximum temperatures have been evaluated based on the temperature derating curves specified by the manufacturer and are comprised between 50 °C and 70 °C, with 50% derating for the higher limit (refer to Att. 5). Temperature tests shall be considered for the specific installation conditions in the end system.

6. Suitable disconnect device is to be provided in the end system.

7. Input/output connector is not acceptable for field connections; it is only intended for connection to mating connector of internal wiring inside the end system.

8. Measurement for Radio Frequency interference has not been done during this evaluation. Compliance with the CISPR requirements is to be determined by the Recognizing NCB.