



## NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

06/10/2010

Xp Power Inc  
Mr. Tac Pham  
Suite 150  
1241 E Dyer Rd  
Santa Ana Ca 92705, Us

Our Reference: File E139109, Vol. X2 Project Number 10SC03299

Your Reference: T PHAM

Project Scope: UL/cUL Revisions to Test Report, E139109-A30, Model GFR1K5RACK-0X:

1. Add alternate appliance inlets (Power Dynamics, Type 42R02-4XX and Adam Technologies, Type IEC-A-2)
2. Fuses made Optional
3. Addition of Option Codes 06, 07, and 09

Dear Mr. Tac Pham:

UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark only at authorized factories under UL's Follow-Up Service Program.

To provide the manufacturer with the intended authorization to use the UL Mark, the addressee must send a copy of this notice to each manufacturing location currently authorized in File E139109, Vol. X2.

This authorization is effective from the date of this Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. This letter authorizes application of the UL Mark for 90 days from the date of this letter.

Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn. UL may elect to withdraw use of the UL Mark if the Applicant or Manufacturer fails to comply with UL's requirements including ongoing compliance of the product, under UL's Follow-Up Service.

Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

The contents of this Letter are intended solely for the use of UL and the Applicant. The opinions and findings of UL represent its judgment given with due consideration to the necessary limitations of practical operation in accordance with UL's objectives and purposes. UL shall not otherwise be responsible for the use of or reliance upon the contents of this letter by anyone. UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages, arising out of or in connection with the use or reliance upon the contents of this letter to anyone other than the Applicant as provided in the agreement between UL and Applicant. Any use or reference to UL's name or certification mark(s) by anyone other than the Applicant in accordance with the agreement is prohibited without the express written approval of UL.

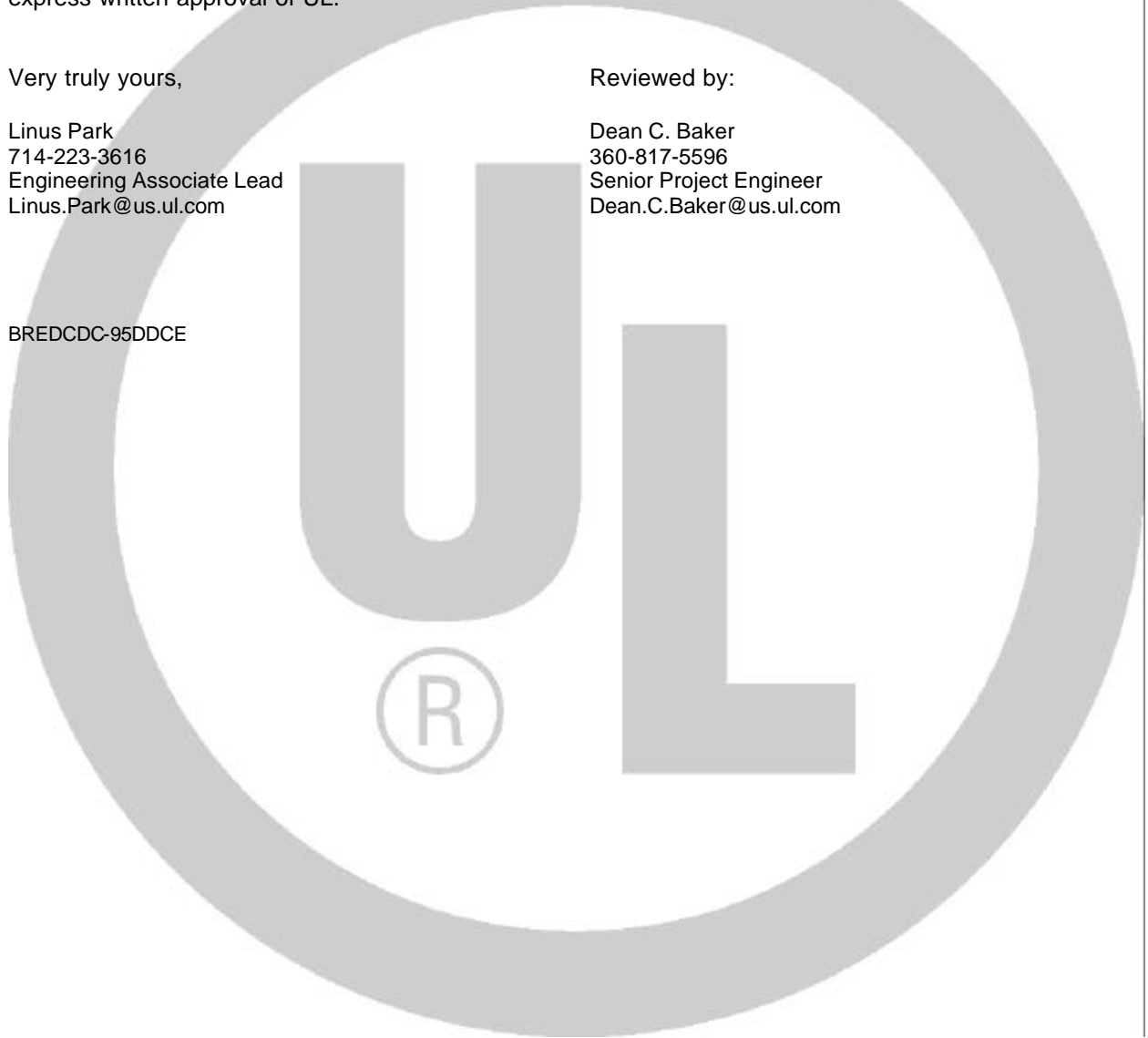
Very truly yours,

Linus Park  
714-223-3616  
Engineering Associate Lead  
Linus.Park@us.ul.com

Reviewed by:

Dean C. Baker  
360-817-5596  
Senior Project Engineer  
Dean.C.Baker@us.ul.com

BREDCDC-95DDCE





the standard in safety

Underwriters  
Laboratories

## NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

2008-09-10

Mr. Tac Pham  
Xp Power Inc  
1590 S. Sinclair St.  
Anaheim, CA 92806  
United States

E-mail: [tpham@xppower.com](mailto:tpham@xppower.com)

Reference: File E139109      Project 08CA36343      P.O. Number T Pham  
Product: USL/CNL- Component Power Supply, model GFR1K5PSXX, where XX can be 12, 24, 48 or 56

Dear Mr. Pham,

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

UL's investigation of your product has been completed under the above project number and the subject product was determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Listing Mark only at the factory under UL's Follow-Up Service Program to the subject product, which is constructed as described below:

Identical to the subject model, which was submitted to UL for this investigation. The UL Records covering the product will be in the Follow-Up Services Procedure, File E139109, Volume X1.

To provide the manufacturer with the intended authorization to use the UL Mark, the addressee must send a copy of this Notice and all attached material to each manufacturing location as currently authorized in File E139109, Volume X1.

This authorization is effective from the date of this Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent to the indicated manufacturing locations in the near future. Please note that Follow-Up Services Procedures are sent to the manufacturers only unless the Applicant specifically requests this document.

Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn.

Sincerely,

Can Nguyen  
Staff Engineer  
Department: 3011CBRE  
Tel: 1-714-223-3625  
E-mail: [CanQuoc.Nguyen@us.ul.com](mailto:CanQuoc.Nguyen@us.ul.com)

Reviewed by:

George J. Daverin  
Staff Engineer  
Department: 3819SBRE  
E-mail: [george.j.daverin@us.ul.com](mailto:george.j.daverin@us.ul.com)

## **COVER PAGE FOR TEST REPORT**

|  |   |
|--|---|
| Product Category:  | Information Technology Equipment Including Electrical Business Equipment  |
| Product Category CCN:  | NWGQ2, NWGQ8  |
| Test Procedure:  | Component Recognition   |
| Product:   | Component Power Supply  |
| Model/Type Reference:  | GFR1K5PSXX where XX can be 12, 24, 48 or 56 designating the output voltage  |
| Rating(s):   | Input: 100-240 V ac, 16.5 A, 50/60Hz;<br>Output: See Enclosure - Miscellaneous  |
| Standards:   | UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements)<br>CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements) |
| Applicant Name and Address:  | XP POWER INC<br>1590 S SINCLAIR ST<br>ANAHEIM CA 92806<br>UNITED STATES   |
| This Report includes the following parts, in addition to this cover page:  |   |
| <ol style="list-style-type: none"><li>1. Specific Inspection Criteria</li><li>2. Specific Technical Criteria</li><li>3. Clause Verdicts</li><li>4. Critical Components</li><li>5. Test Results</li><li>6. National Differences</li><li>7. Enclosures</li></ol> |   |

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 Underwriters Laboratories Inc. ('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.

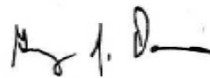
Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc(ULI) or any authorized license of ULI.

Test Report By:




Can Q. Nguyen  
Staff Engineer  
Underwriters Laboratories Inc.

Reviewed By:



George J. Daverin  
Staff Engineer  
Underwriters Laboratories Inc.

## SPECIFIC TECHNICAL CRITERIA

| <b>UL 60950-1:2005 (2nd Edition)</b><br><b>Information technology equipment - Safety -</b><br><b>Part 1: General requirements</b> |   |
|---|---|
| Report Reference No.....  | E139109-A21-UL-1  |
| Compiled by .....   | Can Q. Nguyen   |
| Reviewed by .....   | George J. Daverin   |
| Date of issue .....   | 2008-09-12  |
| Standards .....   | UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements)<br>CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements) |
| Test procedure .....  | Component Recognition   |
| Non-standard test method .....  | N/A   |
| <b>Test item</b> description .....  | Component Power Supply  |
| Trademark .....   | XP Power<br>   |
| Model and/or type reference .....   | GFR1K5PSXX where XX can be 12, 24, 48 or 56 designating the output voltage  |
| Rating(s) .....   | Input: 100-240 V ac, 16.5 A, 50/60Hz;<br>Output: See Enclosure - Miscellaneous  |

**Particulars: test item vs. test requirements**

|   |                                      |
|---|--------------------------------------|
| Equipment mobility .....                  | : for building-in                    |
| Connection to the mains .....             | : To be determined in the end system |
| Operating condition .....                 | : continuous                         |
| Over voltage category .....               | : OVC II                             |
| Mains supply tolerance (%) .....          | : +6%, -10%                          |
| Tested for IT power systems .....         | : No                                 |
| IT testing, phase-phase voltage (V) ..... | : N/A                                |
| Class of equipment .....                  | : Class I (earthed)                  |
| Mass of equipment (kg) .....              | : 3                                  |
| Pollution degree .....                    | : PD 2                               |
| IP protection class .....                 | : IP X0                              |

**Possible test case verdicts:**

- test case does not apply to the test object ..... : N / A
- test object does meet the requirement ..... : Pass
- test object does not meet the requirement ..... : Fail (acceptable only if a corresponding, less stringent national requirement is "Pass")

**General remarks:**

- "(see Enclosure #)" refers to additional information appended to the Test Report
- "(see appended table)" refers to a table appended to the Test Report
- Throughout the Test Report a point is used as the decimal separator



**XP Power**  
[www.xppower.com](http://www.xppower.com)



MODEL NO. GFR1K5PS12  
SERIAL NO. A0808001  
CUSTOMER P/N  
P/N 10005147 B

INPUT ~ 100-240VAC 50/60Hz 16.5A  
OUTPUT: 12V = 100A



**XP Power**  
[www.xppower.com](http://www.xppower.com)



MODEL NO. GFR1K5PS24  
SERIAL NO. A0808001  
CUSTOMER P/N  
P/N 10008282 B

INPUT ~ 100-240VAC 50/60Hz 16.5A  
OUTPUT: 24V = 62.5A



**XP Power**  
[www.xppower.com](http://www.xppower.com)



MODEL NO. GFR1K5PS48  
SERIAL NO. A0822003  
CUSTOMER P/N  
P/N 10008284 A

INPUT ~ 100-240VAC 50/60Hz 16.5A  
OUTPUT: 48V = 31A



**XP Power**  
[www.xppower.com](http://www.xppower.com)



MODEL NO. GFR1K5PS58  
SERIAL NO. A0822003  
CUSTOMER P/N  
P/N 10007351 A

INPUT ~ 100-240VAC 50/60Hz 16.5A  
OUTPUT: 56V = 27A



| <b>GENERAL PRODUCT INFORMATION:</b> |   |
|-------------------------------------|---|
| CA1.0                               | <b>Report Summary</b>   |
| CA1.1                               | N/A   |
| CB1.0                               | <b>Product Description</b>  |
| CB1.1                               | <p>The product is a component type AC-DC power supply for building in, provided with an overall metal enclosure, incorporating primary and SELV components.</p> <p>The main PCB is secured to the chassis bottom by multiple machine screws. An insulating sheet 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.</p> <p>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.</p> |
| CC1.0                               | <b>Model Differences</b>  |
| CC1.1                               | The power supplies in the series are differentiated by the output voltage and current ratings, number of turns of primary/secondary windings in the Transformers (T2 (Power)) and minor differences in the secondary circuit components and PWB layout.   |
| CD1.0                               | <b>Additional Information</b>   |
| CD1.1                               | Required values for creepage/clearance are adjusted for 3000 m (1.14 correction factor as per IEC 60664-1, Table A2).   |
| CE1.0                               | <b>Technical Considerations</b>   |
| CE1.2                               | The product was submitted and tested for use at the maximum ambient temperature (T <sub>ma</sub> ) permitted by the manufacturer's specification of: Full-rated output load: 50°C Half-rated output load: 70°C 75% of output load: 60°C   |
| CE1.4                               | The product is intended for use on the following power systems: TN  |
| CE2.0                               | The clearance and creepage distances of the equipment have additionally been assessed for suitability up to 3000m elevation. --   |
| CF1.0                               | <b>Engineering Conditions of Acceptability</b>  |
| CF1.1                               | For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.   |
|                                     | When installed in an end-product, consideration must be given to the following:   |
| CF1.2                               | The following Production-Line tests are conducted for this product: Electric Strength   |

|        |   |
|--------|---|
| CF1.3  | The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed Dead Metal: 235Vrms, 494 Vpk, Primary-SELV: 254 Vrms, 644 Vpk  |
| CF1.5  | The following secondary output circuits are SELV: All   |
| CF1.6  | The following secondary output circuits are at hazardous energy levels: All   |
| CF1.11 | The power supply terminals and/or connectors are: Suitable for factory wiring only  |
| CF1.12 | The maximum investigated branch circuit rating is: 20 A   |
| CF1.13 | The investigated Pollution Degree is: 2   |
| CF1.16 | An investigation of the protective bonding terminals has: Not been conducted. The suitability of the protective bonding terminal shall be evaluated in the end system   |
| CF1.18 | 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): L1, L2, L4, L5, L6, L7, L8, T1(Bias), T2(Power), T1 (Drive), T3 (Drive), T4 (Current), T5 (Current) are Class F (155°C) |
| CF1.19 | The following end-product enclosures are required: Fire, Electrical   |
| CF2.0  | Installation instruction and equipment markings related to safety shall be provided in a language acceptable in the country in which the equipment is to be installed.  |
| CF2.1  | Class I installations inside metal enclosures, the power supply shall be reliably connected to protective earth.  |
| CF2.2  | Suitable disconnect device is to be provided in the end system.   |
| CF2.3  | Leakage and Dielectric Strength testing shall be considered in the end system.  |
| CF2.4  | The power supply was evaluated as Class I (earthed equipment)   |
| CF2.5  | The power supply provided with input/output connector for connection to the mating connector of internal wiring inside in the end product. Compliance shall be evaluated in the end product.  |