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Underwriters
Laboratories

NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

04/19/2011

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

Our Reference: File E146893, Vol. 1 Project Number 10ME02258
Your Reference: T PHAM 1-15-2010
Project Scope: New Power Supply Series, Model AHM85XXYY-ZZ Series, UL/cUL 3rd Edition

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 E146893, Vol. 1.

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. Until then, 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action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn.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.



Notice of Authorization - 10ME02258

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.

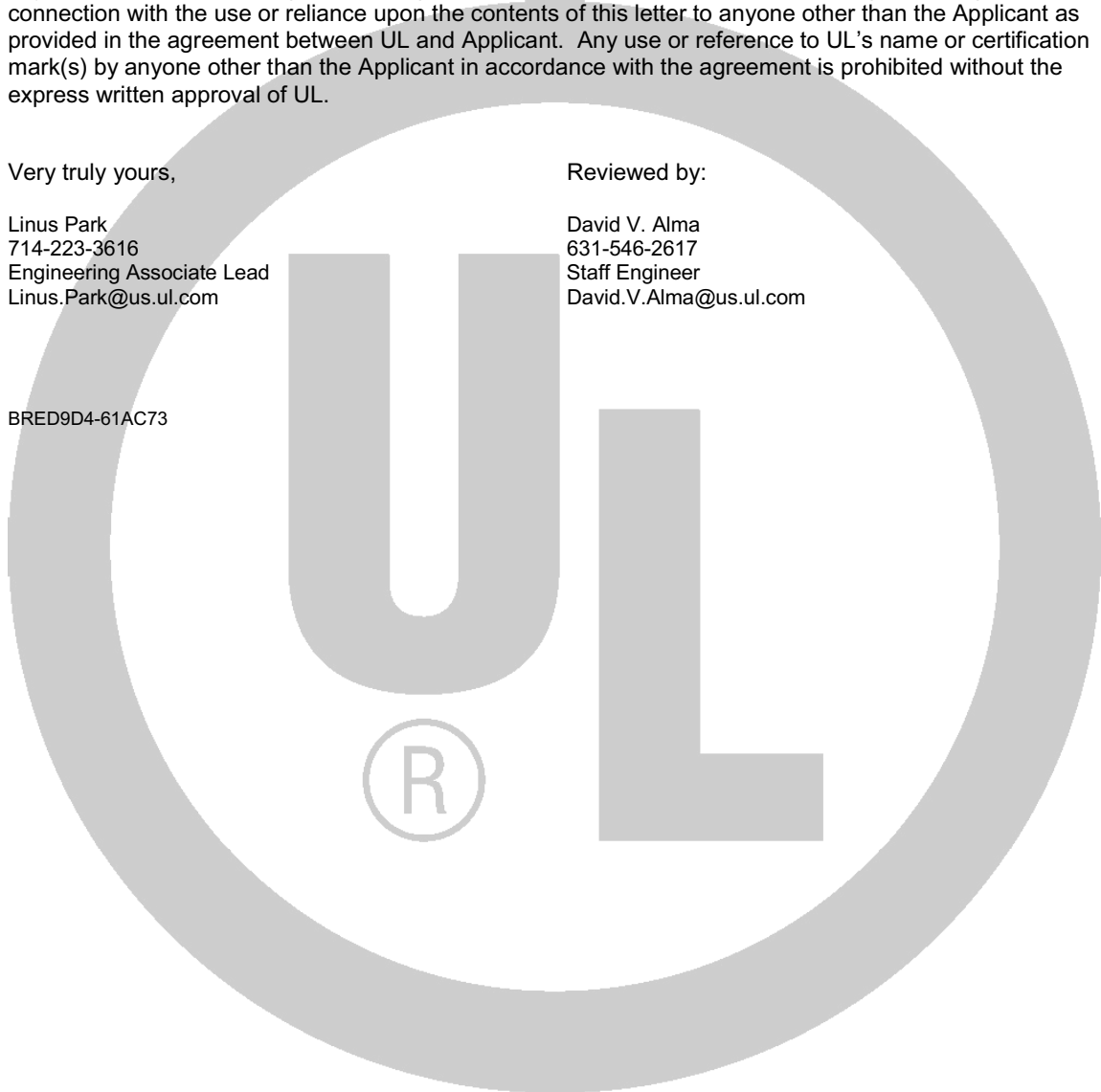
Very truly yours,

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Reviewed by:

David V. Alma
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Staff Engineer
David.V.Alma@us.ul.com

BRED9D4-61AC73



UL TEST REPORT AND PROCEDURE

Standard:	ANSI/AAMI ES 60601-1:2005 (Medical electrical equipment – Part 1: General requirements for basic safety and essential performance) CSA C22.2 No. 60601-1:08 (Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Product:	Switching Power Supply
Model:	AHM85PSXXYY-ZZ (where XX is any number between 12-24 designating output voltage and YY can be blank or "C2", -ZZ can be "-A", "-6", "-6A", "8", "-8A", or blank)
Rating:	Input Rated: 100-240 Vac, 50/60 Hz, 1.0 A Output Rated: See refer to output rating below and Model Differences for additional details.
	Model AHM85PS12: 12 Vdc, 7.08 A Model AHM85PS15: 15 Vdc, 5.67 A Model AHM85PS19: 19 Vdc, 4.47 A Model AHM85PS24: 24 Vdc, 3.54 A
Applicant Name and Address:	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 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 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 involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Prepared by: Linus Park

Issue Date: 2011-04-20 Page 2 of 15 Report Reference # E146893-V1-S8

Underwriters Laboratories Inc.

Reviewed by: David V. Alma
Underwriters Laboratories Inc.

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

Products covered are external power supplies intended to be used with Medical Electrical Equipment. Units may be either Class I or Class II. Double insulated symbol is optionally provided on units Class II units. Earthing symbol may only be provided for Class I power supplies.

Model Differences

All models in the Model AHM85PSXXYY-ZZ series are identical with exception to the Mains Transformer, T2, and minor secondary components that allow for different output voltage ratings. See below for Model Ratings Table Below for 40°C:

Model AHM85PS12: 12 Vdc, 7.08 A

Model AHM85PS15: 15 Vdc, 5.67 A

Model AHM85PS19: 19 Vdc, 4.47 A

Model AHM85PS24: 24 Vdc, 3.54 A

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

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

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) or C18 input connector (Class II construction);

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

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

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

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

"-8A" = C8 style input connector with optional IEC cable retention.

Technical Considerations

- Classification of installation and use : Transportable
- Supply connection : Appliance coupler

- Accessories and detachable parts included in the evaluation: None
- Options included: None
- The product was investigated to the following additional standards:: ANSI/AAMI ES60601-1:2005/C1:2009 (includes National Differences for USA); CAN/CSA-C22.2 No. 60601-1:08 (includes National Differences for Canada), EN 60601-1:2006
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product: Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 9 (ME Hazard), Clause 10 (Radiation), Clause 14 (PEMS), Clause 16 (ME Systems)
- Scope of Power Supply evaluation excludes the following:
 - Patient applied parts clauses: 4.6, 7.2.10, 8.3, 8.5.2, 8.5.5, 8.7.4.7-8.7.4.9, 8.9.1.15
 - Battery related clauses: 7.3.3, 15.4.3
 - Hand Control related clauses: 8.10.4
 - Oxygen related clauses: 11.2.2
 - Fluids related clauses: 11.6.2 – 11.6.4
 - Sterilization clause: 11.6.7
 - Biocompatibility Clause: 11.7 (ISO 10993)
 - Motor related clauses: 13.2.13.3, 13.4
 - Heating Elements related clause: 13.2
 - Flammable Anaesthetic Mixtures Protection: Annex G
- Supply connection: OVC II
- The product is Classified only to the following hazards: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is: Ordinary
- The mode of operation is: Continuous
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide: No
- Unit also complied with spacing requirements of UL60601-1 (1st), CSA C22.2 No. 60601-1 (2nd), and IEC 60601-1 (2nd) for Basic for 250 Vac from Primary to Ground, Double/Reinforced for 250Vac from Primary to Secondary, and Supplementary for 250 Vac from Secondary to Earth.

Risk Controls/Engineering Conditions of Acceptability

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:

- The component shall be installed in compliance with the Marking (clause 7) and Separation (clause 8) requirements of the end use application.
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{mra}) permitted by the manufacturer's specification of: 40°C output loaded to 100% rated, 60°C output loaded to 60% rated (See De-rating Curve, Enclosure 7-01 for details)
- Repeating leakage current testing should be considered in the end product application.
- This power supply was evaluated as having: One MOPP between Primary to Earth/Reference, Two MOPP between Primary and Secondary, One MOPP from Secondary to Earth/Reference.
- This power supply has been evaluated as a continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The end product should ensure that the requirements related to accompanying documents, clause 7.9, are met.
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions
- The output connectors are not acceptable for field connections; they are only intended for connection to mating connectors of the end-use machine.
- The Electric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal (Class I units): 416 Vpk, 240 Vrms; Primary-SEC: 416 Vpk, 240 Vrms.
- 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-L4, L6, and T1 are Class B (130°C)
- Accompanying documents to be provided as part of the end-product.
- Cleaning test to be considered as part of end product evaluation.
- Marking Durability was conducted, however the need for Marking Durability and Marking Legibility Testing to be considered as part of the end product installation.
- Power cord suitable for the application to be provided as part of the end product evaluation.



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NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

09/16/2010

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

Our Reference: File E139109, Vol. 1 Project Number 10CA04290
Your Reference: TAC PHAM
Project Scope: UL/cUL/CB: New Power Supply Series, MODEL AHM85PSXX SERIES

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. 1.

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. Until then, this letter authorizes application of the UL Mark for 90 days from the date of this letter.

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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.

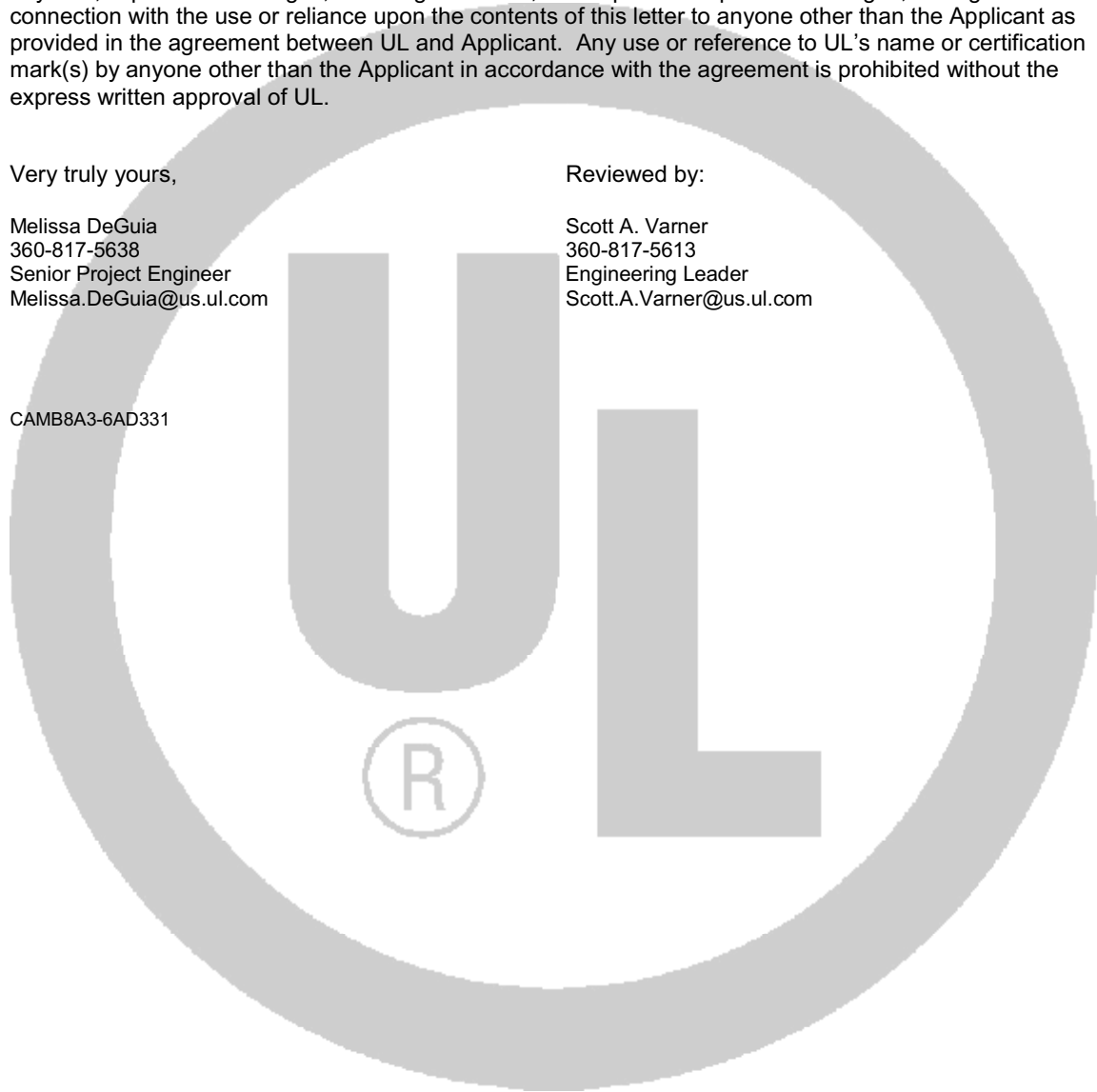
Very truly yours,

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Reviewed by:

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CAMB8A3-6AD331



UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
CCN:	QQGQ, QQGQ7
Product:	Switching Brick Power Supply
Model:	AHM85PSXXYY-ZZ (where XX is any number between 12-24 designating output voltage, YY can be blank or "C2" designating Class II configuration, and Z can be blank or "A", "6", "6A", "8", "8A")
Rating:	Input Rated: 100-240 Vac, 50/60 Hz, 1.0 A Output Rated: See Model Differences in CB Test Report for details.
Applicant Name and Address:	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 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 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.

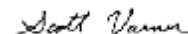
The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

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

Prepared by: Melissa DeGuia
Underwriters Laboratories Inc.



Reviewed by: Scott Varner
Underwriters Laboratories Inc.



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 devices are a series of brick power supplies to be used to power ITE equipment.

Model Differences

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

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

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

- blank designates a C14 input connector (Class I construction) or C18 input connector (Class II construction);
- "A" designates a C14 input connector with optional IEC cable retention;
- "6" designates a C6 input connector;
- "6A" designates a C6 input connector with optional IEC cable retention;
- "8" designates a C8 input connector;
- "8A" designates a C8 input connector with optional IEC cable retention.

Output Ratings:

Model AHM85PS12: 12 Vdc, 7.08 A

Model AHM85PS15: 15 Vdc, 5.67 A

Model AHM85PS19: 19 Vdc, 4.47 A

Model AHM85PS24: 24 Vdc, 3.54 A

Technical Considerations

- Equipment mobility : transportable
- 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 : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed) and Class II (double insulated)
- Considered current rating (A) : 20 A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : 2000 m
- Altitude of test laboratory (m) : < 2000 m
- Mass of equipment (kg) : 0.4
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 40°C (at 100% rated load); 60°C (at 60% rated load)
- The means of connection to the mains supply is: Detachable power cord, Pluggable A
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Appliance inlet
- The product was investigated to the following additional standards: EN 60950-1:2006 with Am. 11:2009 (which includes all European national differences, including those specified in this test report).
- The following are available from the Applicant upon request: 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 (configurations with a ground pin in the appliance inlet)

Additional Information

Required values for clearance are adjusted for 3000 m (1.14 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.

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
Warning to service personnel	"CAUTION: Double pole/neutral fusing"
1.7.1 - Power rating	Symbol for Class II construction [Image] (60417-2-IEC-5172) for units without Functional earthing.

Special Instructions to UL Representative

N/A



NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

01/07/2011

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

Our Reference: File E146893, Vol. X1 Project Number 10ME03006
Your Reference: T PHAM 2-15-2010
Project Scope: Power Supply Series, Model AHM250PSXX-ZZ Series

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 E146893, Vol. 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 in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date of this letter.

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Notice of Authorization - 10ME03006

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.

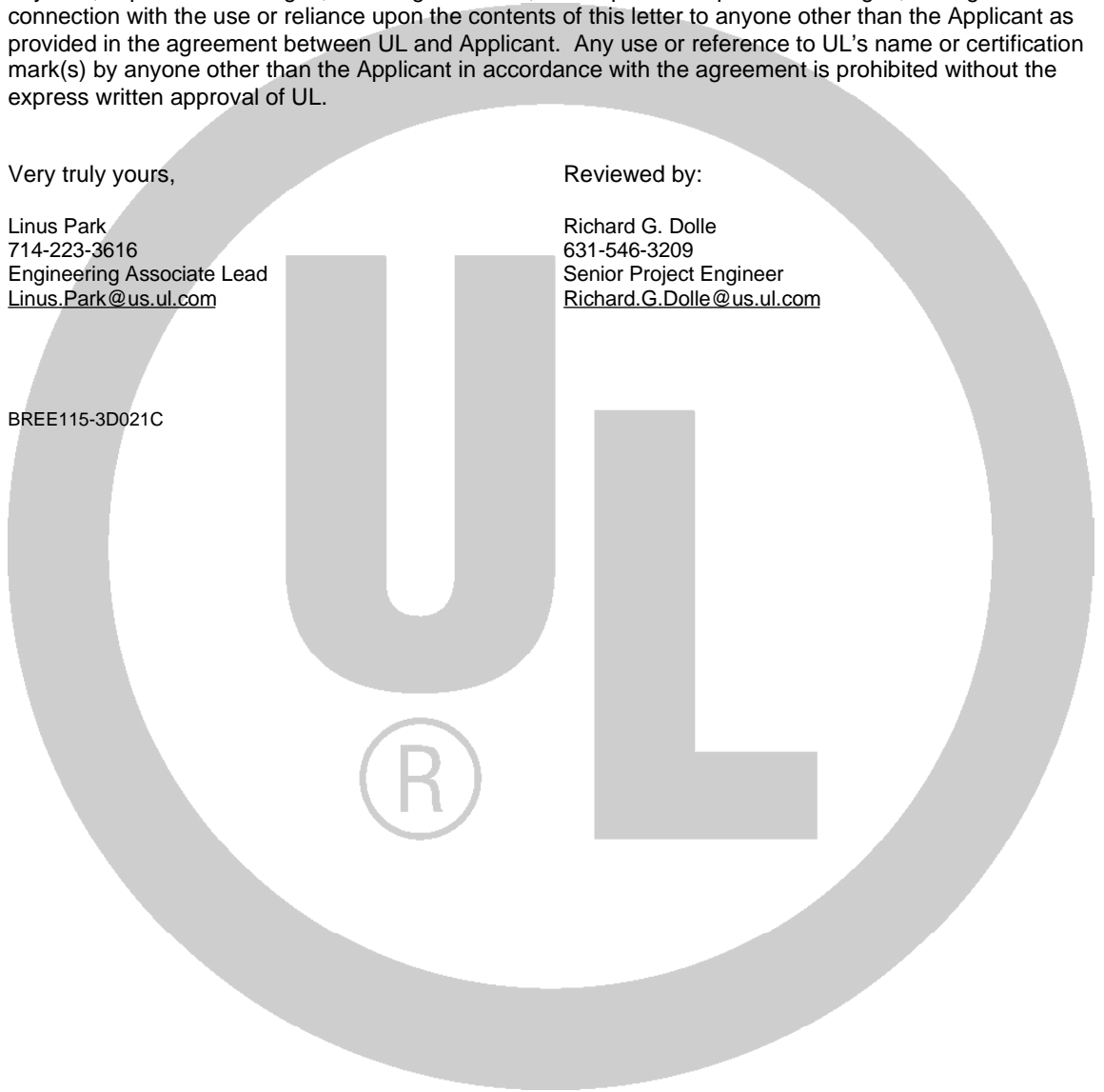
Very truly yours,

Linus Park
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Reviewed by:

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Richard.G.Dolle@us.ul.com

BREE115-3D021C



UL TEST REPORT AND PROCEDURE

Standard:	UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety) CAN/CSA-C22.2 No. 601.1-M90, 2005 (Medical Electrical Equipment - Part 1: General Requirements for Safety)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Product:	Switching Power Supply
Model:	AHM250PSXX-ZZ (where XX is any number between 12-48 designating output voltage, ZZ can be blank, "A", "6", or "6A")
Rating:	Input Rated: 100-240 Vac, 50/60 Hz, 3 A Output Rated: See output rating below and Model Differences for additional details. Model AHM250PS12: 12 Vdc, 17.5 A Model AHM250PS15: 15 Vdc, 16.67 A Model AHM250PS19: 19 Vdc, 13.16 A Model AHM250PS24: 24 Vdc, 10.42 A Model AHM250PS48: 48 Vdc, 5.21 A
Applicant Name and Address:	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 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 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.

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Prepared by: Linus Park
Underwriters Laboratories Inc.
Reviewed by: Richard Dolle
Underwriters Laboratories Inc.



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- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
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 - 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

Products covered are external power supplies intended to be used with Medical Electrical Equipment. Units are Class I. Earthing symbol may only be provided for Class I power supplies.

Model Differences

All models in the Model AHM250PSXX-ZZ series are identical with exception to the Mains Transformer, T2, and minor secondary components that allow for different output voltage ratings. See below for Model Ratings Table below for 40°C:

Model AHM250PS12: 12 Vdc, 17.5 A
Model AHM250PS15: 15 Vdc, 16.67 A
Model AHM250PS19: 19 Vdc, 13.16 A
Model AHM250PS24: 24 Vdc, 10.41 A
Model AHM250PS48: 48 Vdc, 5.21 A

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

Suffix -ZZ when provided denotes the following:

A - Optional Retention Clamp provided
6 - Optional C6 Type appliance inlet provided
6A - Both Optional Retention Clamp and C6 Type appliance inlet provided

Technical Considerations

- Classification of installation and use : Transportable
- Supply connection : Appliance coupler
- Accessories and detachable parts included in the evaluation : None
- Options included : None
- The product was investigated to the following additional standards:: UL 60601-1, 1st Edition, 2006-04-26 (includes National Differences for USA), EN 60601-1: 1990 + A1:1993 + A2:1995, CAN/CSA-C22.2 No. 601.1-M90 (R2005) (includes National Differences for Canada), (except EMC limitations, EN 60601-1-2, Biocompatibility, EN 10993-1, Programmable Electronic Systems, IEC 60601-1-4)
- The product was not investigated to the following standards or clauses:: Clause 36, Electromagnetic Compatibility (IEC 601-1-2), Clause 48, Biocompatibility (ISO 10993-1), Clause 52.1, Programmable Electronic Systems (IEC 601-1-4)
- The product is Classified only to the following hazards:: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is:: Ordinary
- The mode of operation is:: Continuous

- Software is relied upon for meeting safety requirements related to mechanical, fire and shock:: No
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:: No

Engineering Conditions of Acceptability

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:

- This component has been judged on the basis of the required spacings in the Second Edition of the Standards for Medical Electrical Equipment, Part 1: General Requirements for Safety, UL 60601-1, which covers the end use product for which the component is designed.
- Repeating leakage current testing should be considered in the end product application.
- This power supply was evaluated as having: Basic Insulation between Primary to Earth, Reinforced insulation between Primary and Secondary, Basic from Secondary to Earth.
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions.
- The end product should ensure that the requirements related to accompanying documents, clause 6.8, are met.
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{mra}) permitted by the manufacturer's specification of: 40°C (See De-rating Curve, Enclosure 7-01 for details)
- The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The Electric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal:: 240 Vrms, Primary-SEC: 267 Vrms.
- 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): L1, L2, L3, L4, and T1 are Class B (min. 130°C)
- Cleaning test to be considered as part of end product evaluation.

Additional Information

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.



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NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

07/28/2010

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

Our Reference: File E139109, Vol. 1 Project Number 10CA08427
Your Reference: TAC PHAM
Project Scope: E139109-UL/CUL/CB-NEW MODEL AHM250PSXX SERIES

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. 1.

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. Until then, 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.



Notice of Authorization - 10CA08427

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.

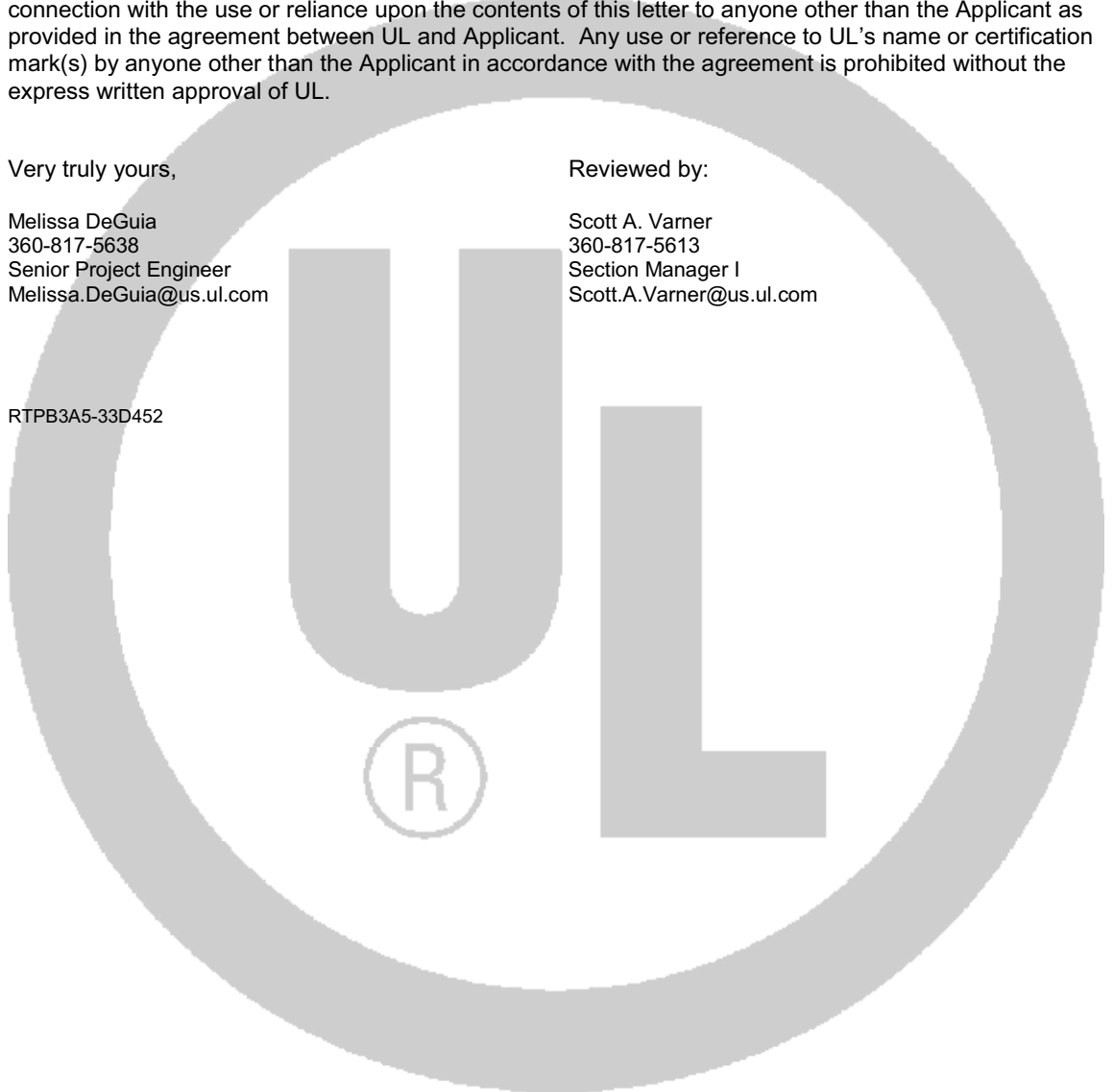
Very truly yours,

Melissa DeGuia
360-817-5638
Senior Project Engineer
Melissa.DeGuia@us.ul.com

Reviewed by:

Scott A. Varner
360-817-5613
Section Manager I
Scott.A.Varner@us.ul.com

RTPB3A5-33D452



UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
CCN:	QQGQ, QQGQ7
Product:	AC/DC Power Adapter
Model:	AHM250PSXX* (where XX is any number between 12-48 designating output voltage and * can be blank or "-" followed by a max of 7 alphanumeric digits)
Rating:	Input: 100-240Vac, 50/60 Hz, 3.0A Output: See Model Differences section
Applicant Name and Address:	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 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 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.

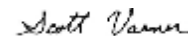
The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

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

Prepared by: Melissa DeGuia
Underwriters Laboratories Inc.



Reviewed by: Scott Varner
Underwriters Laboratories Inc.



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 devices are a series of brick power supplies to be used to power ITE equipment.

Model Differences

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

Output Ratings:

Model AHM250PS12: 12 Vdc, 17.5 A
Model AHM250PS15: 15 Vdc, 14.66 A
Model AHM250PS19: 19 Vdc, 12.63 A
Model AHM250PS24: 24 Vdc, 10.41 A
Model AHM250PS48: 48 Vdc, 5.21 A

Technical Considerations

- Equipment mobility : movable
- Connection to the mains : pluggable A
- Operating condition : continuous
- Over voltage category : OVC II
- Mains supply tolerance (%) : +10%, -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) : 0.97
- Pollution degree : PD 2
- IP protection class : IP X0
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 40°C (at 100% rated load); 60°C (at 60% rated load)
- The means of connection to the mains supply is: Pluggable A, Detachable power cord
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Appliance inlet
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 (which includes all European national differences, including those specified in this test report).
- 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 (configurations with a ground pin in the appliance inlet)

Additional Information

Required values for clearance are adjusted for 3000 m (1.14 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.

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Fuses - Non-operator	

access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
Warning to service personnel	"CAUTION: Double pole/neutral fusing"
Special Instructions to UL Representative	
N/A	

Production-Line Testing Requirements						
<u>Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.</u>						
Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
N/A						
<u>Earthing Continuity Test Exemptions - This test is not required for the following models:</u>						
<u>Electric Strength Test Exemptions - This test is not required for the following models:</u>						
<u>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:</u>						
<u>Sample and Test Specifics for Follow-Up Tests at UL</u>						
Model	Component	Material	Test	Sample(s)	Test Specifics	
N/A						

TABLE: List of Critical Components

Object/part No.	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Enclosure - Top	SABIC Innovative Plastics	PC945	Overall dimension 224 mm by 885 mm by 197 mm, rated V-0, 105°C min.	QMFZ2 (E45329)	UL
Enclosure - Bottom	SABIC Innovative Plastics	PC945	Overall dimension 224mm by 885mm by 195 mm, rated V-0, 105°C min.	QMFZ2 (E45329)	UL
Insulating Sheet	LongHua	PP-BK	Rated 23.2 by 27.6 cm. Min. 0.4 mm thick.	QMFZ2 (E254551)	UL
Appliance Inlet - Alternate	Various	Various	Rated 250V, 15A, 3 pins. Soldered to Printed Circuit Board	AXUT2	UL
Fuses (F1, F2)	Walter Electric	ICP series	Rated 250Vac, 6.3A	JDYX (E56092)	UL
Fuses (F1, F2) – Alternate	Various	Various	Rated 250Vac, 6.3A	JDYX	UL
Varistor (MOV1)	Thinking Electronics	TVR series	Rated min. 300 V, 5 A, min. 105°C	VZCA2 (E314979)	UL
Thermistor (R46) not relied for safety	Thinking Electronics	SCK series	Type NTC, 5 ohms, 25°C min, 4A min. steady state current	XGPU2 (E138827)	UL
Capacitor, Across the Line (C55)	Faratronic (Xiamen) Co. Ltd	MKP62 series, type C42	X2 class, 0.68uF max, 275V ac, 110°C	FOKY2 (E186662)	UL
Capacitor, Across the Line (C40)	Faratronic (Xiamen) Co. Ltd	MKP62 series, type C42	X2 class, 0.22uF max, 275V ac, 110°C	FOKY2 (E186662)	UL
Capacitor, Line to Ground (CY2, CY3)	Murata	KX series	Y1 class, 470pF max, 275V ac, 105°C	FOWX2 (E37921)	UL
Capacitor, Pri to Sec (CY2, CY3)-Alternate	Success Electronics Co. Ltd.	SB Series	Y1 class, rated 470pF max., 250V, 105°C min.	FOWX2 (E114280)	UL
Capacitor, Pri to Sec (CY2, CY3)-Alternate	Panasonic	NS-A	Y1 class, rated 470pF max., 250V, 105°C min.	FOWX2 (E62674)	UL
Capacitor, Pri to Sec (CY1, CY5)	Vishay	WKP series	Y1 class, 2200pF max, 275V ac, 105°C	FOWX2 (E183844)	UL
Capacitor, Pri to Sec (CY1, CY5)-Alternate	Murata	KX series	Y1 class, 2200pF max, 275V ac, 105°C	FOWX2 (E37921)	UL
Capacitor, Pri to Sec (CY1, CY5)-Alternate	Success Electronics Co. Ltd.	SE Series	Y1 class, rated 2200pF max., 250V, 105°C min.	FOWX2 (E114280)	UL
Bleeder Resistor (R10, R11)	Various	Various	Rated 1/4W min 3M ohm max	-	-
Diode Bridge (BD1)	Shindengen America Inc or Various	US10KB80 or Various	Rated V-0, 800V, 10A min., 150°C	QQQX2 (E142422) or	UL

Object/part No.	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Capacitor (C8, C9)	Various	Various	Rated 82uF max, 450V, 105°C. Provided with integral pressure relief.	QQIJ2	--
Mosfet (Q11, Q12)	ST Mircoelectronics	STF25NM50N	Rated 22A, 550V min, 150°C	--	--
Mosfet (Q11, Q12)	Various	Various	Rated 22A, 550V min, 150°C	--	--
Mosfet (Q13, Q14)	ST Mircoelectronics	STF12NM50N	Rated 11A, 500V min, 150°C	--	--
Mosfet (Q13, Q14)	Various	Various	Rated 11A, 500V min, 150°C	--	--
Mosfet (Q19)	Toshiba America Elect. Inc.	2SK3568 (Q)	Rated 12A, 500V min, 150°C	--	--
Mosfet (Q19) - Alternate	Various	Various	Rated 12A, 500V min, 150°C	--	--
Optical Isolators (U4, U5)	Fairchild Semiconductor	FOD817 series	Double protection, isolation voltage 5000 V	FPQU2 (E90700)	UL
Inductor (L1)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010063 represents the entire series)	Copper magnet wire wound on toroid core. Rated min. 130 °C.	--	--
Inductor (L10)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010093 represents the entire series)	Copper magnet wire wound on toroid core. Rated min. 130 °C.	--	--
Inductor (L11)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010094 represents the entire series)	Copper magnet wire wound on toroid core. Rated min. 130 °C.	--	--
Inductor (L6)	XP Power	1001xxxx (x can be any number from 0 to 9,	Copper magnet wire wound on bobbin. Rated min 130°C	--	--

Object/part No.	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Inductor (L3)	XP Power	Construction of 10010092 represents the entire series) 1001xxxx (x can be any number from 0 to 9, Construction of 10010064 represents the entire series)	Copper magnet wire wound on bobbin. Rated min 130°C	--	--
Inductor (L4)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010065 represents the entire series)	Copper magnet wire wound on bobbin. Rated min 130°C	--	--
Inductor (L7)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010066 represents the entire series)	Copper magnet wire wound on bobbin. Rated min 130°C	--	--
Transformer (T1)	XP Power	1001xxxx (x can be any number from 0 to 9, Construction of 10010055 represents the entire series)	Open type, concentrically wound. Core approx. 42 mm by 28mm by 21 mm Provided with Class 130 (B) or Class 155(F) insulation system. See Enclosures –Diagrams for details.	--	--
Transformer (T1) - Insulation System	Bolo JinHanBang Electronics Co. Ltd	JHB-B	Class 130 (B) insulation system, rated 130°C	OBJY2 (E328486)	UL
Transformer (T1) - Insulation System	XP Power.	Class F / Class B	Class 130 (B) or Class 155 (F) insulation system, rated 130°C	OBJY2 (E324960)	UL

Object/part No.	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Alternate					
Transformer (T1) - Core	Various	Various	Ferrite Core	--	--
Transformer (T1) - Bobbin	Hitachi Chemical Co., Ltd.	CP-J-8800	Rated V-0, 155°C, min. 0.8 mm thick. Insulation System designated Class B (130°C).	QMFZ2 (E42956)	UL
Transformer (T1) - Bobbin - Alternate	Sumitomo Bakelite Co., Ltd.	PM-9820	Rated V-0, 155°C, min. 0.8 mm thick. Insulation System designated Class F (155°C).	QMFZ2 (E41429)	UL
Transformer (T1) - Triple Insulation Wire (Primary)	Cosmolink Co. Ltd	TIW-M	Reinforced Insulation, rated 130°C (Class B), 1000 Vpk used in Insulation System designated Class B (130°C)	OBJT2 (E213764)	UL
Transformer (T1) - Triple Insulation Wire (Primary) Alternate	Rubadue Wire Co., Ltd.	TxxAxxFxxx-x TxxAxxPxxx-x TxxAxxTxxx-x, where x can be any number between 0 - 9.	Reinforced Insulation, rated 155°C (Class F), 1000 Vpk used in Insulation System designated Class F (155°C)	OBJT2 (E206198)	UL
Transformer (T1) - Copper Wire	Various	Various	Copper magnet wire, ANSI MW28 or MW75, MW80, MW82, MW83 rated 130 °C min	OBMW2	UL
Transformer (T1) - Insulating Tape	Permacel	P256 or equivalent	Insulation System designated Class F (155°C)	OANZ2 (E20392)	UL
Transformer (T1) - Insulating Tape - Alternate	Jing Jiang	CT-280 or equivalent	Insulation System designated Class B (155°C)	OANZ2 (E165111)	UL
Printed Wiring Board	Various	Various	Overall approx. 19.0 by 8.8 cm, min. 1.5 mm thick. Rated min. V-1, 130°C. rated for direct support of live parts.	ZPMV2	UL
Heatsink 1 (used to secure BD1, Q8, Q9, Q17)	Various	Aluminum	Approximate dimensions 115mm x25mm	--	--
Heatsink 1 (used to secure BD1)	Various	Aluminum	Approximate dimensions 121mm x20mm,	--	--
Heatsink 2 (used to secure D7, Q11- Q14, D6, Q19)	Various	Aluminum	Approximate dimensions 171mm x21mm	--	--
RTV	Momentive Performance Materials Japan	TSE3941	Rated V-0, 105°C	QMFZ2 (E56745)	UL

Object/part No.	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
	L.L.C				
Output wire	Various	Style 20668	Marked VW-1 or FT-1, 90°C, 300V. Strain relief molded. Refer to drawing 10009907 for typical specification.	AVLV2	UL
Output wire - Alternate	Various	Style 2661	Marked VW-1 or FT-1, rated 105°C 300V.	AVLV2	UL
Label	Brady	B-434 or B-428	Rated min. 80°C and Subjected to the Durability of Markings Test	PGDQ2 (MH10939)	UL
Label - Alternate	Various	Various	Rated min. 80°C and suitable for application to polymeric enclosure	PGDQ2 or PGJ12	UL
Strain Relief (output wire)	KUNSHAN GUANGLONG PLASTIC CO.,LTD	PVC	See Enclosures - Diagrams for details.	-	--

Enclosures

<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
Photographs	3-01	Overall External View (Top/Side/Front)
Photographs	3-02	Overall External View (Bottom/Side/Rear)
Photographs	3-03	Top Internal View (with EMI shield and Insulating Sheet)
Photographs	3-04	Bottom Internal View (with EMI shield and Insulating Sheet)
Photographs	3-05	Internal View of PWB (Top)
Photographs	3-06	Internal View of PWB (Bottom)
Diagrams	4-01	T1 Specification Sheet for AHM250PS12
Diagrams	4-02	T1 Specification Sheet for AHM250PS15
Diagrams	4-03	T1 Specification Sheet for AHM250PS19
Diagrams	4-04	T1 Specification Sheet for AHM250PS24
Diagrams	4-05	T1 Specification Sheet for AHM250PS48
Diagrams	4-06	L1 Specification Sheet for Model AHM250PSXX
Diagrams	4-07	L3 Specification Sheet for Model AHM250PSXX
Diagrams	4-08	L4 Specification Sheet for Model AHM250PSXX
Diagrams	4-09	L7 Specification Sheet for Model AHM250PSXX
Diagrams	4-10	L8 Specification Sheet for Model AHM250PSXX
Diagrams	4-11	L9 Specification Sheet for Model AHM250PSXX
Diagrams	4-12	L6 Specification Sheet for Model AHM250PSXX
Diagrams	4-13	L10 Specification Sheet for Model AHM250PSXX
Diagrams	4-14	L11 Specification Sheet for Model AHM250PSXX
Diagrams	4-15	Strain Relief
Schematics + PWB	5-01	PWB Component and Trace Layouts
Manuals		
Miscellaneous	7-01	Danish National Differences
Miscellaneous	7-02	Manufacturer Letter of Assurance



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NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

06/07/2011

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

Our Reference: File E146893, Vol. 1 Project Number 10ME03009
Your Reference: T PHAM 2-15-2010
Project Scope: UL/cUL/CB: Power Supply Series, Model AHM180PSXX SERIES

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 E146893, Vol. 1.

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. Until then, 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.



Notice of Authorization - 10ME03009

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,

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Reviewed by:

David V. Alma
631-546-2617
Staff Engineer
David.V.Alma@us.ul.com

CAMA531-35D8BD

UL TEST REPORT AND PROCEDURE

Standard:	ANSI/AAMI ES 60601-1:2005 (Medical electrical equipment – Part 1: General requirements for basic safety and essential performance) CSA C22.2 No. 60601-1:08 (Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Product:	Switching Power Supply
Model:	AHM180PSXX-ZZ (where XX is any number between 12-48 designating output voltage and -ZZ can be "-A", "-6", "-6A", "8", "-8A", or blank)
Rating:	Input Rated: 100-240 Vac, 50/60 Hz, 2.2 A Output Rated: See refer to output rating below and Model Differences for additional details. Model AHM180PS12: 12 Vdc, 13.75 A Model AHM180PS15: 15 Vdc, 12.0 A Model AHM180PS19: 19 Vdc, 9.47 A Model AHM180PS24: 24 Vdc, 7.5 A Model AHM180PS48: 48 Vdc, 3.75 A
Applicant Name and Address:	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 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 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 involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Issue Date: 2011-06-07 Page 2 of 14 Report Reference # E146893-V1-S10

Prepared by: Linus Park
Underwriters Laboratories Inc.

Reviewed by: David V. Alma
Underwriters Laboratories Inc.

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

Products covered are external power supplies intended to be used with Medical Electrical Equipment. Units are Class I. Earthing symbol may only be provided for Class I power supplies.

Model Differences

All models in the Model AHM180PSXXYY-ZZ Series are identical with exception to the Mains Transformer, T2, and minor secondary components that allow for different output voltage ratings. See below for Model Ratings Table Below for 40°C:

Model AHM180PS12: 12 Vdc, 13.75 A
Model AHM180PS15: 15 Vdc, 12.0 A
Model AHM180PS19: 19 Vdc, 9.47 A
Model AHM180PS24: 24 Vdc, 7.5 A
Model AHM180PS48: 48 Vdc, 3.75 A

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)
"-8A" = C8 style input connector with optional IEC cable retention.

Technical Considerations

- Classification of installation and use : Transportable
- Supply connection : Appliance coupler

- Accessories and detachable parts included in the evaluation: None
- Options included: None
- The product was investigated to the following additional standards: ANSI/AAMI ES60601-1:2005/C1:2009 (includes National Differences for USA); CAN/CSA-C22.2 No. 60601-1:08 (includes National Differences for Canada), EN 60601-1:2006
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product: Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 9 (ME Hazard), Clause 10 (Radiation), Clause 14 (PEMS), Clause 16 (ME Systems)
- Supply connection: OVC II
- The product is Classified only to the following hazards: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is: Ordinary
- The mode of operation is: Continuous
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide: No
- Unit also complied with spacing requirements of UL60601-1 (1st), CSA C22.2 No. 60601-1 (2nd), and IEC 60601-1 (2nd) for Basic for 250 Vac from Primary to Ground, Double/Reinforced for 250Vac from Primary to Secondary, and Supplementary for 250 Vac from Secondary to Earth.

Risk Controls/Engineering Conditions of Acceptability

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:


- The component shall be installed in compliance with the Marking (clause 7) and Separation (clause 8) requirements of the end use application.
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{mra}) permitted by the manufacturer's specification of: 40°C output loaded to 100% rated, 60°C output loaded to 60% rated (See De-rating Curve, Enclosure 7-01 for details)
- Repeating leakage current testing should be considered in the end product application.

- This power supply was evaluated with Two MOPP between Primary and Secondary; One MOPP primary and Earth/Secondary Reference Conductor; and One MOPP between Secondary and Earth/Secondary Reference Conductor.
- This power supply has been evaluated as a continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The end product should ensure that the requirements related to accompanying documents, clause 7.9, are met.
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions
- The output connectors are not acceptable for field connections; they are only intended for connection to mating connectors of the end-use machine.
- The Electric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal (Class I units): 440 Vpk, 240 Vrms; Primary-SEC: 440 Vpk, 240 Vrms.
- 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-L5, L7, and T1 are min. Class B (130°C)
- Accompanying documents to be provided as part of the end-product.
- Cleaning test to be considered as part of end product evaluation.
- Marking Durability was conducted, however the need for Marking Durability and Marking Legibility Testing to be considered as part of the end product installation.
- Power cord suitable for the application to be provided as part of the end product evaluation.

Additional Information

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.

Markings and instructions

Clause Title	Marking or Instruction Details
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Model	Model number
Alternating current	
Supply Connection	Voltage range, ac/dc, phases if more than single phase



NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

01/26/2011

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

Our Reference: File E139109, Vol. 1 Project Number 10CA08424
Your Reference: TAC PHAM
Project Scope: UL/cUL New Power Supply Series, Model AHM180PSXX-ZZ Series

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. 1.

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. Until then, 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.



Notice of Authorization - 10CA08424

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.

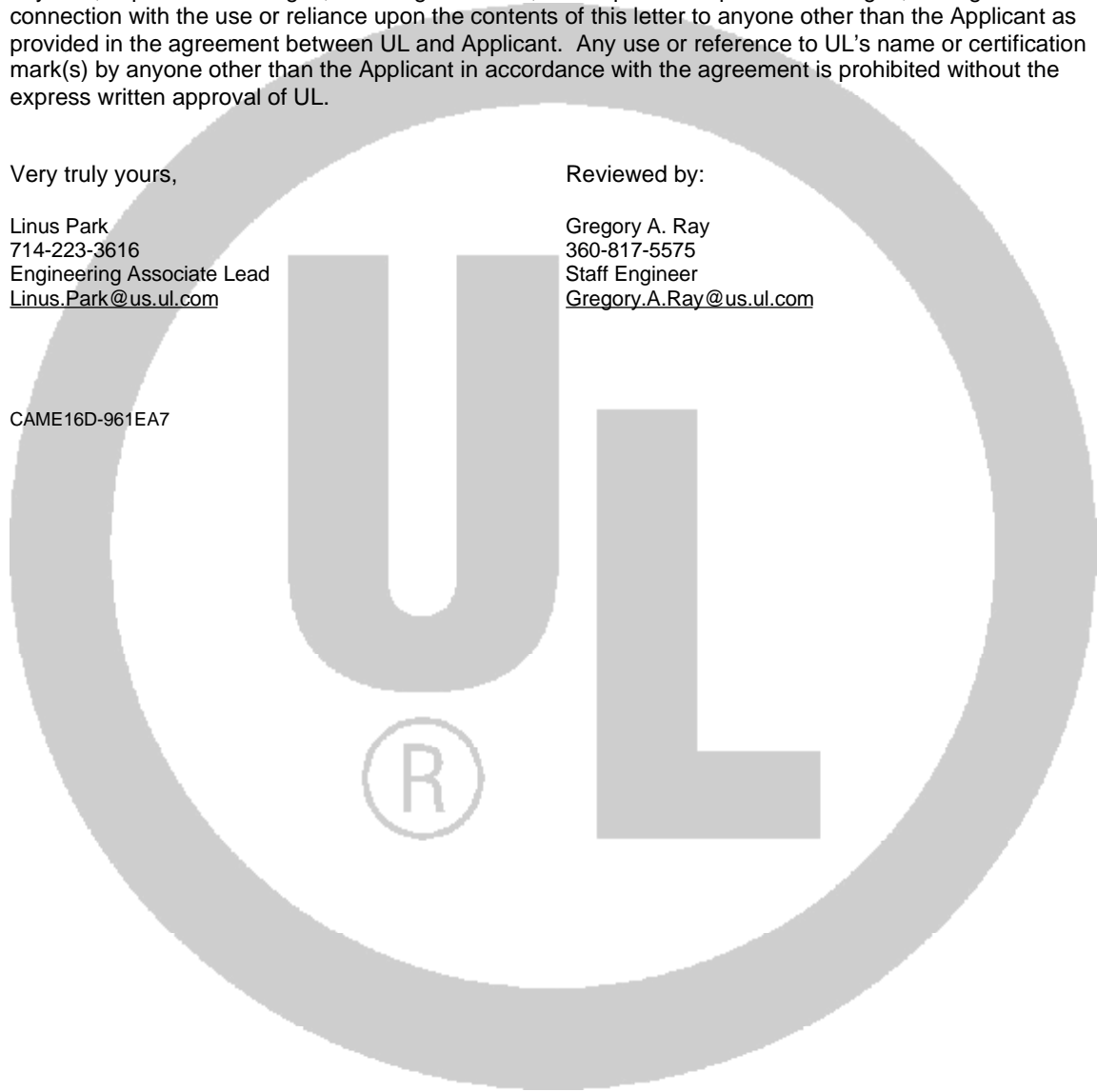
Very truly yours,

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

Reviewed by:

Gregory A. Ray
360-817-5575
Staff Engineer
Gregory.A.Ray@us.ul.com

CAME16D-961EA7



UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	Power supply , switch mode type
Model:	AHM180PSXX-ZZ (where XX is any number between 12-48 designating output voltage, Z can be blank or "A" designating optional clamp retention, or "6" or "6A" designating optional type C6 appliance inlet and clamp retention)
Rating:	Input: 100-240 Vac, 2.2 A, 50/60 Hz Output: See Enclosure - Miscellaneous Ratings Table for details.
Applicant Name and Address:	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES

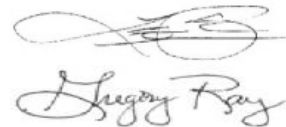
This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up 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 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.

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

Prepared by: Linus Park
Underwriters Laboratories Inc.

Reviewed by: Gregory Ray
Underwriters Laboratories Inc.



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 models covered in this report are 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 in the Model AHM180PSXX-ZZ Series are identical with exception of the Main Transformer, T1, and minor secondary components changes that allow for different output voltage ratings. See below for Models and Ratings for 40°C ambient.

Model AHM180PS12: Output Rated: 12 Vdc, 13.75 A

Model AHM180PS15: Output Rated: 15 Vdc, 12 A

Model AHM180PS19: Output Rated: 19 Vdc, 9.47 A

Model AHM180PS24: Output Rated: 24 Vdc, 7.5 A

Model AHM180PS48: Output Rated: 48 Vdc, 3.75 A

See Enclosure 7-01 for details.

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)

Technical Considerations

- 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 : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed)
- Considered current rating (A) : 20
- Pollution degree (PD) : PD 2
- IP protection class : IPX0
- Altitude of operation (m) : 2000
- Altitude of test laboratory (m) : 107
- Mass of equipment (kg) : 0.62
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 40°C full load. De-rated to 60% load at 60°C
- The means of connection to the mains supply is: Detachable power cord, Pluggable A
- The product is intended for use on the following power systems: TN
- 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 CY3 (Pri to Sec bridging capacitor)
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual., Specific data sheets for LED indicators that are class I and operate at wavelength in the 400-710 nm range.
- 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: Reinforced

Additional Information

Required values for clearance are adjusted for 3000 m (1.14 correction factor as per IEC 60664-1, Table A2).

Light Emitting Diodes (LED's) employed on the units are for use as visual indicators only, and operate within Class 1 limits in accordance to IEC 60825 Standard. The LED's operate in the visible range of 400 to 710 nm. Applicant to furnish LED specifications upon request.

The attached label is a draft of artwork for marking plate pending approval by National Certification Bodies. The artwork provided is representative of all models in the Series.

The attached Licenses for the Critical Components effective for three years from the date of issue noted on the License. A Recognizing National Certification Body (NCB) may challenge the CB Test Certificate when it is more than three years old.

Current Licenses for critical components to be furnished by applicant upon request.

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Disconnect device - Pluggable equipment	Statement indicating that the socket-outlet shall be installed near the equipment and shall be easily accessible. (Instruction)
Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
Warning to service personnel	"CAUTION: Double pole/neutral fusing"

Special Instructions to UL Representative

N/A

NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

06/01/2011

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

Our Reference: File E146893, Vol. 1 Project Number 10ME03010
Your Reference: T PHAM 2-15-2010
Project Scope: UL/cUL (CB): Power Supply Series, Model AHM150PSXX SERIES

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 E146893, Vol. 1.

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. Until then, 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.

Notice of Authorization - 10ME03010

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,

Sal Oseguera
714-223-3601
Engineer Project Associate
Sal.Oseguera@us.ul.com

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

Reviewed by:

David V. Alma
631-546-2617
Staff Engineer
David.V.Alma@us.ul.com

CAM9DCC-34CB65

UL TEST REPORT AND PROCEDURE

Standard:	ANSI/AAMI ES 60601-1:2005 (Medical electrical equipment – Part 1: General requirements for basic safety and essential performance) CSA C22.2 No. 60601-1:08 (Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Product:	Switching Power Supply
Model:	AHM150PSXX-ZZ (where XX is any number between 12-48 designating output voltage and YY can be blank or "C2", -ZZ can be "-A", "-6", "-6A", "8", "-8A", or blank)
Rating:	Input Rated: 100-240 Vac, 50/60 Hz, 1.8 A Output Rated: See refer to output rating below and Model Differences for additional details. Model AHM150PS12: 12 Vdc, 12.5 A Model AHM150PS15: 15 Vdc, 10.0 A Model AHM150PS19: 19 Vdc, 7.89 A Model AHM150PS24: 24 Vdc, 6.25 A Model AHM150PS48: 48 Vdc, 3.13 A
Applicant Name and Address:	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 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 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 involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Issue Date: 2011-06-01 Page 2 of 14 Report Reference # E146893-V1-S9

Prepared by: Linus Park
Underwriters Laboratories Inc.

Reviewed by: David V. Alma
Underwriters Laboratories Inc.

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

Products covered are external power supplies intended to be used with Medical Electrical Equipment. Units are Class I. Earthing symbol may only be provided for Class I power supplies.

Model Differences

All models in the Model AHM150PSXX-ZZ Series are identical with exception to the Mains Transformer, T2, and minor secondary components that allow for different output voltage ratings. See below for Model Ratings Table Below for 40°C:

Model AHM150PS12: 12 Vdc, 12.5 A
Model AHM150PS15: 15 Vdc, 10.0 A
Model AHM150PS19: 19 Vdc, 7.89 A
Model AHM150PS24: 24 Vdc, 6.25 A
Model AHM150PS48: 48 Vdc, 3.13 A

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)
"-8A" = C8 style input connector with optional IEC cable retention.

Technical Considerations

- Classification of installation and use : Transportable
- Supply connection : Appliance coupler

- Accessories and detachable parts included in the evaluation: None
- Options included: None
- The product was investigated to the following additional standards:: ANSI/AAMI ES60601-1:2005/C1:2009 (includes National Differences for USA); CAN/CSA-C22.2 No. 60601-1:08 (includes National Differences for Canada), EN 60601-1:2006
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product: Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 9 (ME Hazard), Clause 10 (Radiation), Clause 14 (PEMS), Clause 16 (ME Systems)
- Scope of Power Supply evaluation excludes the following:
 - Patient applied parts clauses: 4.6, 7.2.10, 8.3, 8.5.2, 8.5.5, 8.7.4.7-8.7.4.9, 8.9.1.15
 - Battery related clauses: 7.3.3, 15.4.3
 - Hand Control related clauses: 8.10.4
 - Oxygen related clauses: 11.2.2
 - Fluids related clauses: 11.6.2 – 11.6.4
 - Sterilization clause: 11.6.7
 - Biocompatibility Clause: 11.7 (ISO 10993)
 - Motor related clauses: 13.2.13.3, 13.4
 - Heating Elements related clause: 13.2
 - Flammable Anaesthetic Mixtures Protection: Annex G
- Supply connection: OVC II
- The product is Classified only to the following hazards: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is: Ordinary
- The mode of operation is: Continuous
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide: No
- Unit also complied with spacing requirements of UL60601-1 (1st), CSA C22.2 No. 60601-1 (2nd), and IEC 60601-1 (2nd) for Basic for 250 Vac from Primary to Ground, Double/Reinforced for 250Vac from Primary to Secondary, and Supplementary for 250 Vac from Secondary to Earth.

Risk Controls/Engineering Conditions of Acceptability

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:

- The component shall be installed in compliance with the Marking (clause 7) and Separation (clause 8) requirements of the end use application.
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{mra}) permitted by the manufacturer's specification of: 40°C output loaded to 100% rated, 60°C output loaded to 60% rated (See De-rating Curve, Enclosure 7-01 for details)
- Repeating leakage current testing should be considered in the end product application.
- This power supply was evaluated with Two MOPP between Primary and Secondary; One MOPP primary and Earth/Secondary Reference Conductor; and One MOPP between Secondary and Earth/Secondary Reference Conductor.
- This power supply has been evaluated as a continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The end product should ensure that the requirements related to accompanying documents, clause 7.9, are met.
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions
- The output connectors are not acceptable for field connections; they are only intended for connection to mating connectors of the end-use machine.
- The Electric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal (Class I units): 432 Vpk, 244 Vrms; Primary-SEC: 432 Vpk, 244 Vrms.
- 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-L5, L7, and T1 are min. Class B (130°C)
- Accompanying documents to be provided as part of the end-product.
- Cleaning test to be considered as part of end product evaluation.
- Marking Durability was conducted, however the need for Marking Durability and Marking Legibility Testing to be considered as part of the end product installation.
- Power cord suitable for the application to be provided as part of the end product evaluation.



NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

01/26/2011

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 10CA08426
Your Reference: tac pham
Project Scope: UL/CUL/CB-NEW POWER SUPPLY SERIES, MODEL AHM150PSXX SERIES

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. Until then, 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.

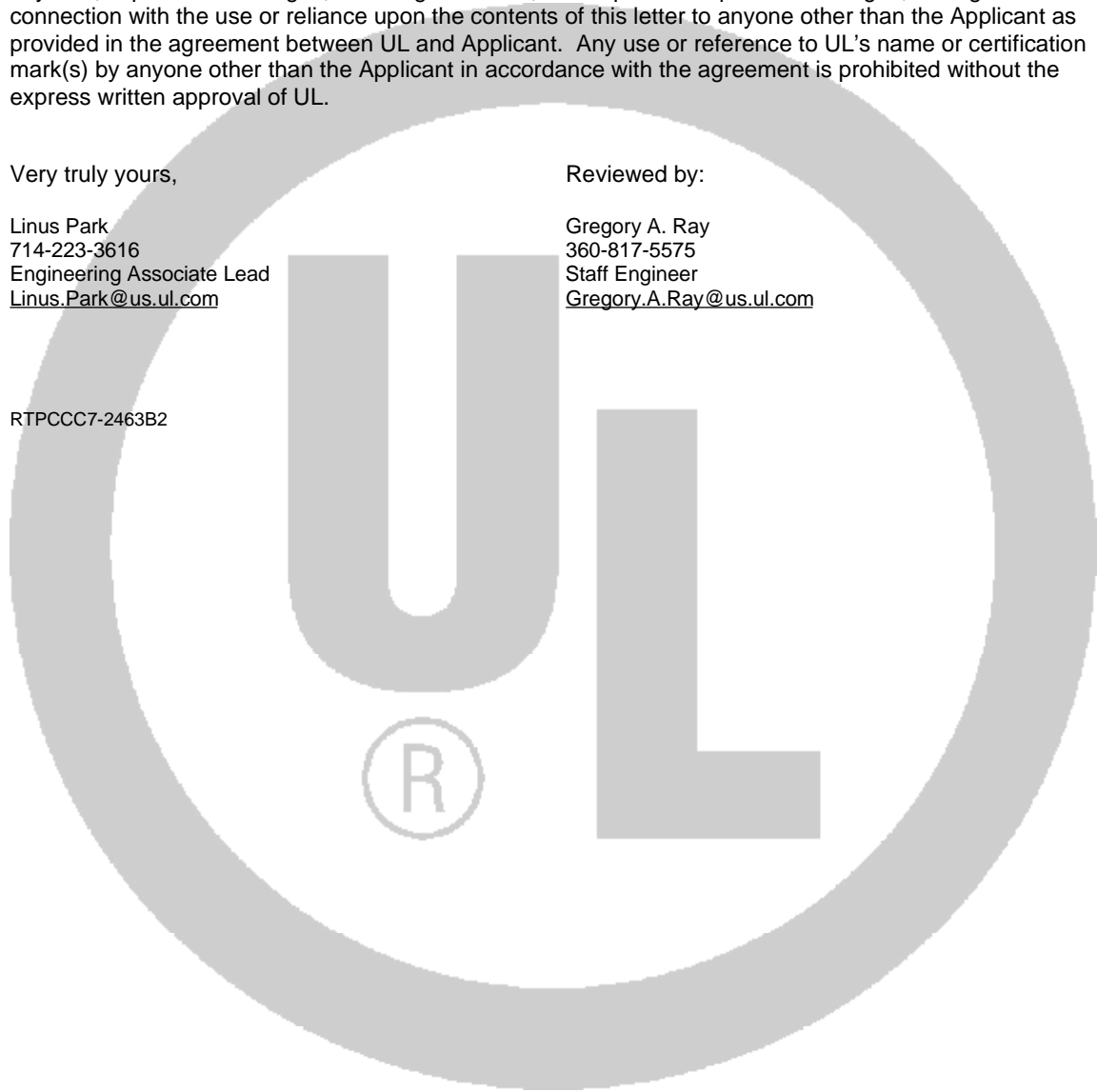
Very truly yours,

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

Reviewed by:

Gregory A. Ray
360-817-5575
Staff Engineer
Gregory.A.Ray@us.ul.com

RTPCCC7-2463B2



UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	AC/DC Power Adapter
Model:	AHM150PSXX-ZZ (where XX is any number between 12-48 designating output voltage, Z can be blank or "A" designating optional clamp retention, or "6" or "6A" designating optional type C6 appliance inlet and clamp retention)
Rating:	Input: 100-240Vac, 50/60 Hz, 1.8 A Output: See Model Differences section
Applicant Name and Address:	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES

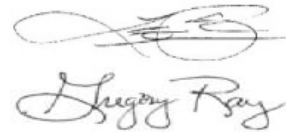
This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up 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 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.

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

Prepared by: Linus Park
Underwriters Laboratories Inc.

Reviewed by: Gregory Ray
Underwriters Laboratories Inc.



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 devices are a series of brick power supplies to be used to power ITE equipment.

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: 12 Vdc, 12.5 A

Model AHM150PS15: 15 Vdc, 10.0 A

Model AHM150PS19: 19 Vdc, 7.89 A

Model AHM150PS24: 24 Vdc, 6.25 A

Model AHM150PS48: 48 Vdc, 3.13 A

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)

Technical Considerations

- 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 : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed)
- Considered current rating (A) : 20A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Less than 2000 m
- Altitude of test laboratory (m) : 107 m
- Mass of equipment (kg) : 0.62
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 40°C (at 100% rated load); 60°C (at 60% rated load)
- The means of connection to the mains supply is: Pluggable A, Detachable power cord
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Appliance inlet
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 (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 Capacitor CY3 and CY4
- 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)

Additional Information

Required values for clearance are adjusted for 3000 m (1.14 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.

The above label is a draft of artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval. The artwork provided is representative of all models in the Series.

This product contains only visible indicator LEDs (Class 1) operating in the range of 400 - 710 nm wavelength. No IEC60825-1 evaluation was deemed necessary. Additional review may be required at the discretion of the accepting NCB. Non-lasing LEDs provided for indicating only.

The attached label is a draft of artwork for marking plate pending approval by National Certification Bodies. The artwork provided is representative of all models in the Series.

The attached Licenses for the Critical Components effective for three years from the date of issue noted on the License. A Recognizing National Certification Body (NCB) may challenge the CB Test Certificate when it is more than three years old.

Current Licenses for critical components to be furnished by applicant upon request.

Testing to applicable collateral standards was not conducted by UL and no supporting evidence of compliance has been presented. When submitting this Test Report to other Certification Body, the manufacturer is responsible for providing any additional information that the Body may need in order to issue its Mark, including testing for compliance with the applicable collateral standards.

Additional Standards

The product fulfills the requirements of: EN 60950-1:2006 + A11:2009 (which includes all European national differences, including those specified in this test report).

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number



NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

05/10/2010

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

Our Reference: File E139109, Vol. 1 Project Number 10CA04286
Your Reference: TAC PHAM
Project Scope: E139109-UL/CUL- MODEL SERIES AHM 100W

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. 1.

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.

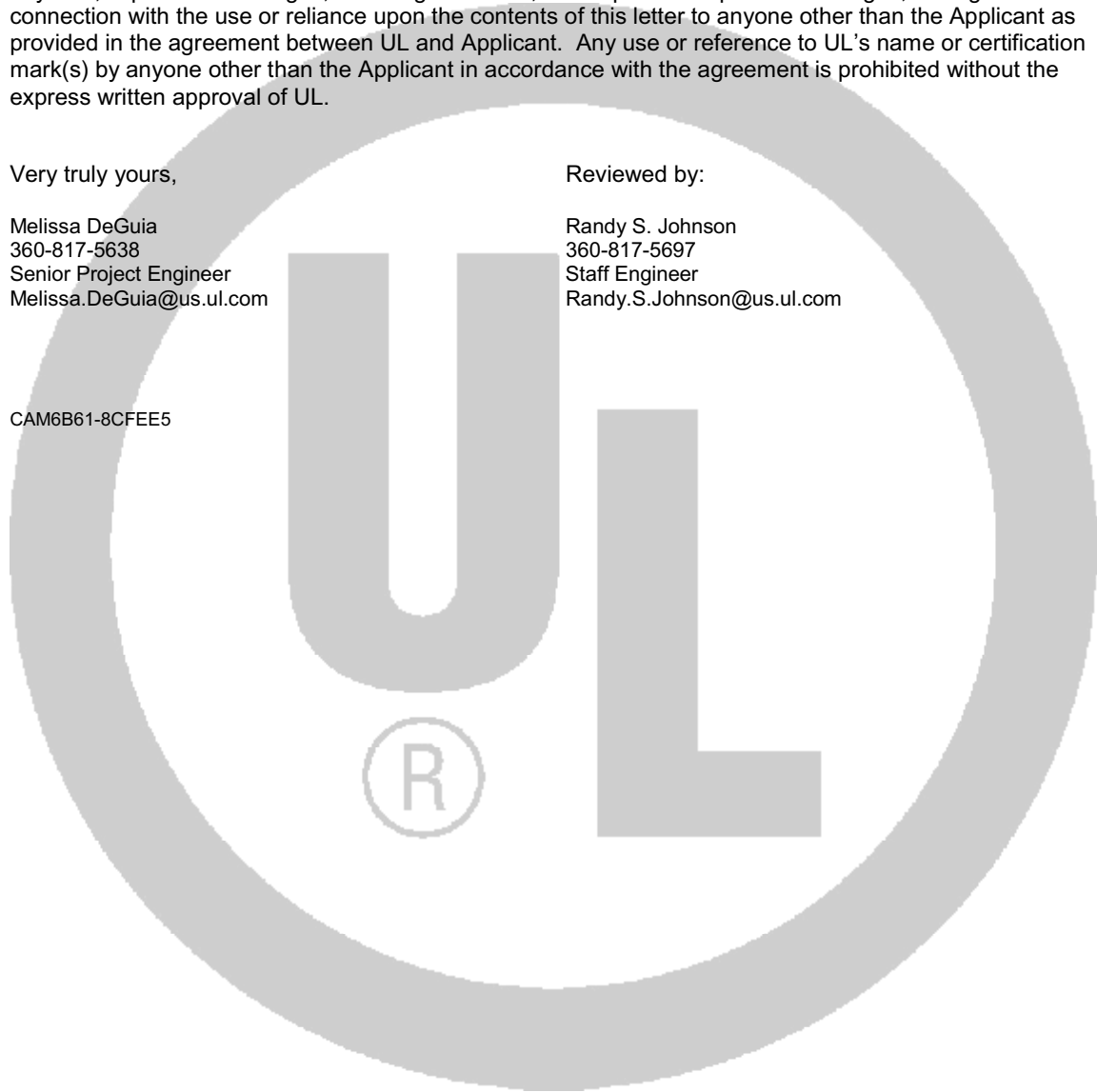
Very truly yours,

Melissa DeGuia
360-817-5638
Senior Project Engineer
Melissa.DeGuia@us.ul.com

Reviewed by:

Randy S. Johnson
360-817-5697
Staff Engineer
Randy.S.Johnson@us.ul.com

CAM6B61-8CFEE5





the standard in safety

Underwriters
Laboratories

MR. TAC PHAM
XP POWER INC
SUITE 150
1241 E DYER RD
SANTA ANA CA 92705

Date: 05/11/2010
Subscriber: 317268001
PartySite: 75031
File No: E139109
Project No: 10CA04286
PD No: 10M23342
Type: R
PO Number: TAC PHAM

Subject: UL Certification Documents For Applicant

This authorization is effective from the date of this Notice and only for products produced at the manufacturing location(s) specified on the current Authorization Page. Records in the Follow-Up Services Procedure covering the product are identified on the Addendum and attached.

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 compliance 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 Services.

The contents of this Letter are intended solely for the use of UL, the Applicant and specified Manufacturers. The opinions and findings of UL represent its judgment given with due consideration to the limitations of practical operation in accordance with UL's objectives and purposes.

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.

This material is provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

The following material resulting from the investigation under the above numbers is enclosed.

<u>Document</u>	<u>Volume</u>	<u>Report Reference</u>	<u>Status</u>	<u>Date</u>
<u>Index</u>	X2			
UL Test Report	X2	E139109-A45-UL-1	New	05/11/10

Please file revised Authorizations, Indices, and General Inspection Instructions in place of material of like identity. New Test Reports should be filed immediately following the last Test Report. Amendments or Corrections should be filed immediately before the Test Report to which they relate. Re-issued Test Reports should be filed immediately before all material related to the Test Report that it replaces.

NOTE: Manufacturers receive only the following sub-sections of the Applicant's complete Test Report, where applicable: Cover Page, Specific Inspection Criteria (BA through BE), Specific Technical Criteria (through section CF), Critical Components table, and Enclosures containing image supplements. Manufacturers do not receive Test Report information related to standard clause compliance or testing results.

NOTE: Manufacturers that require an Initial Product Inspection (IPI) have received their copy of the Follow-Up Service Procedure, but are instructed they are not allowed to ship products bearing the UL Mark until their UL Representative has successfully conducted the Initial Production Inspection.

Please review this material and report any inaccuracies to our Customer Experience Center, PHONE: 1-877-UL Helps (877-854-3577), FAX: 1-360-817-6000, E-MAIL: CECC@us.ul.com, referring to the above Project and/or PD Numbers.

This material is provided on behalf of Underwriters Laboratories Inc.(UL) or any authorized licensee of UL.

c: CAM File

File		Volume	Page	Date:
E139109	Index	X2	1	11-May-10

Index

<u>Product Type</u>	<u>Model/Type Reference</u>	<u>Report Reference #</u>
Power Rack	GFR1K5RACK-0X (where X can be any number from 1 to 9)	E139109-A30-UL-1
Switching Brick Power Supply	AHM100PSXXYY (where XX is any number between 12-48 designating output voltage and YY can be blank or "C2" designating Class II configuration)	E139109-A45-UL-1

File		Volume	Page	Date:
E139109	Index	X2	2	11-May-10

COVER PAGE FOR TEST REPORT

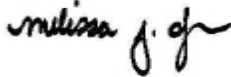
Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ, QQGQ7
Test Procedure:	Listing
Product:	Switching Brick Power Supply
Model/Type Reference:	AHM100PSXXYY (where XX is any number between 12-48 designating output voltage and YY can be blank or "C2" designating Class II configuration)
Rating(s):	Input Rated: 100-240 Vac, 50/60 Hz, 1.2 A Output Rated: See Model Differences in CB Test Report for details.
Standards:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) 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 SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
This Report includes the following parts, in addition to this cover page:	
<ol style="list-style-type: none">1. Specific Inspection Criteria2. Specific Technical Criteria3. Clause Verdicts4. Critical Components5. Test Results6. National Differences7. Enclosures	

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.

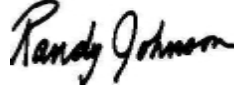
Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc(ULI) or any authorized license of ULI.

Test Report By:



Melissa DeGuia
Senior Project Engineer
Underwriters Laboratories Inc.

Reviewed By:



Randy Johnson
Staff Engineer
Underwriters Laboratories Inc.

SPECIFIC INSPECTION CRITERIA

BA1.0	Special Instructions to UL Representative
BA1.1	N/A


BB1.0	Supporting Documentation
BB1.1	<p>The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:</p> <p>A. Authorization - The Authorization page may include additional Factory Identification Code markings.</p> <p>B. Generic Inspection Instructions -</p> <p style="margin-left: 20px;">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.</p> <p style="margin-left: 20px;">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.</p> <p style="margin-left: 20px;">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.</p>

BC1.0	Markings and instructions	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements).	
Standard Clause	Clause Title	Marking or Instruction Details
1.7.1	Power rating - Ratings	Ratings (voltage, frequency/dc, current)
	Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
	Power rating - Model	Model Number
1.7.6	Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
2.7.6	Warning to service personnel	"CAUTION: Double pole/neutral fusing"
Other	1.7.1 - Power rating	Symbol for Class II construction [Image] (60417-2-IEC-5172) for units without Functional earthing.

BD1.0	Production-Line Testing Requirements						
BD1.1	Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.						
					Test Potential		
	Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
	AHM100P Sxx	Transformer (T2)	-	Primary to Secondary	1000	1414	1
BD1.2	Earthing Continuity Test Exemptions - This test is not required for the following models:						
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:						
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:						

BE1.0	Sample and Test Specifics for Follow-Up Tests at UL					
BE1.1	Model	Component	Material	Test	Sample(s)	Test Specifics
	N/A					

SPECIFIC TECHNICAL CRITERIA

UL 60950-1:2005 (2nd Edition) Information technology equipment - Safety - Part 1: General requirements	
Report Reference No	E139109-A45-UL-1
Compiled by	Melissa DeGuia
Reviewed by	Randy Johnson
Date of issue	2010-05-11
Standards	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Test procedure	Listing
Non-standard test method	N/A
Test item description	Switching Brick Power Supply
Trademark	
Model and/or type reference	AHM100PSXXYY (where XX is any number between 12-48 designating output voltage and YY can be blank or "C2" designating Class II configuration)
Rating(s)	Input Rated: 100-240 Vac, 50/60 Hz, 1.2 A Output Rated: See Model Differences in CB Test Report for details.

Particulars: test item vs. test requirements

Equipment mobility	: transportable
Connection to the mains	: pluggable A
Operating condition	: continuous
Over voltage category	: OVC II
Mains supply tolerance (%)	: +10%, -10%
Tested for IT power systems	: No
IT testing, phase-phase voltage (V)	: N/A
Class of equipment	: Class I (earthed) or Class II (double insulated)
Mass of equipment (kg)	: 0.45
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

GENERAL PRODUCT INFORMATION:	
CA1.0	Report Summary
CA1.1	N/A
CB1.0	Product Description
CB1.1	The devices are a series of brick power supplies to be used to power ITE equipment.
CC1.0	Model Differences
CC1.1	<p>All models within the series are identical with exception to power transformer (T2) winding and other minor changes to secondary circuit to accommodate different output voltages and current ratings.</p> <p>Models may have an additional YY identifier which can be blank or "C2" to designate a Class II configuration.</p> <p>Output Ratings:</p> <p>Model AHM100PS12: 12 Vdc, 8.33 A Model AHM100PS15: 15 Vdc, 6.67 A Model AHM100PS19: 19 Vdc, 5.26 A Model AHM100PS24: 24 Vdc, 4.16 A Model AHM100PS48: 48 Vdc, 2.08 A</p>
CD1.0	Additional Information
CD1.1	<p>Required values for clearance are adjusted for 3000 m (1.14 correction factor as per IEC 60664-1, Table A2).</p> <p>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.</p>
CE1.0	Technical Considerations
CE1.2	The product was submitted and evaluated for use at the maximum ambient temperature (T _{ma}) permitted by the manufacturer's specification of: 40°C (at 100% rated load); 60°C (at 60% rated load)
CE1.3	The means of connection to the mains supply is: Detachable power cord, Pluggable A
CE1.4	The product is intended for use on the following power systems: TN
CE1.5	The equipment disconnect device is considered to be: Appliance inlet
CE1.7	The product was investigated to the following additional standards: EN 60950-1:2006 with Am. 11:2009 (which includes all European national differences, including those specified in this test report).
CE1.13	The following are available from the Applicant upon request: Installation (Safety) Instructions /

	Manual
CE1.15	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 (configurations with a ground pin in the appliance inlet)



the standard in safety

Underwriters
Laboratories

NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

07/02/2010

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

Our Reference: File E146893, Vol. X1 Project Number 10ME02280
Your Reference: T PHAM 1-15-2010
Project Scope: USR, CNR; Power Supply, model AHM100PSXXYY (where XX is any number between 12-48 designating output voltage and YY can be blank or "C2")

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 E146893, Vol. 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 in the near future. Until then, 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.



Notice of Authorization - 10ME02280

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:

Jack H. Voorbrood
+31 26 376 4839
Senior Project Engineer
Jack.Voorbrood@nl.ul.com

NBKB898-344314



UL TEST REPORT AND PROCEDURE

Standard:	UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety) CAN/CSA-C22.2 No. 601.1-M90, 2005 (Medical Electrical Equipment - Part 1: General Requirements for Safety)
Certification Type:	Power Supplies, Medical and Dental
CCN:	QQHM2, QQHM8
Product:	Switching Power Supply
Model:	AHM100PSXXYY (where XX is any number between 12-48 designating output voltage and YY can be blank or "C2")
Rating:	Input Rated: 100-240 Vac, 50/60 Hz, 1.2 A Output Rated: See refer to output rating below and Model Differences for additional details. Model AHM100PS12: 12 Vdc, 8.33 A Model AHM100PS15: 15 Vdc, 6.67 A Model AHM100PS19: 19 Vdc, 5.26 A Model AHM100PS24: 24 Vdc, 4.16 A Model AHM100PS48: 48 Vdc, 2.08 A
Applicant Name and Address:	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 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 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 involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Issue Date: 2010-07-06

Page 2 of 14

Report Reference #

E146893-A6-UL

Prepared by: Linus Park
Underwriters Laboratories Inc.



Reviewed by: Jack Voorbrood
Underwriters Laboratories Inc.



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

Products covered are external power supplies intended to be used with Medical Electrical Equipment. Units may be either Class I or Class II. Double insulated symbol is optionally provided on units Class II units. Earthing symbol may only be provided for Class I power supplies.

Model Differences

All models in the Model AHM100PSXXYY series are identical with exception to the Mains Transformer, T2, and minor secondary components that allow for different output voltage ratings. See below for Model Ratings Table Below for 40°C:

Model AHM100PS12: 12 Vdc, 8.33 A

Model AHM100PS15: 15 Vdc, 6.67 A

Model AHM100PS19: 19 Vdc, 5.26 A

Model AHM100PS24: 24 Vdc, 4.16 A

Model AHM100PS48: 48 Vdc, 2.08 A

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

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

Technical Considerations

- Classification of installation and use : Transportable
- Supply connection : Appliance coupler
- Accessories and detachable parts included in the evaluation : None
- Options included : None
- The product was investigated to the following additional standards:: UL 60601-1, 1st Edition, 2006-04-26 (includes National Differences for USA), EN 60601-1: 1990 + A1:1993 + A2:1995, CAN/CSA-C22.2 No. 601.1-M90 (R2005) (includes National Differences for Canada), (except EMC limitations, EN 60601-1-2, Biocompatibility, EN 10993-1, Programmable Electronic Systems, IEC 60601-1-4)
- The product was not investigated to the following standards or clauses:: Clause 36, Electromagnetic Compatibility (IEC 601-1-2), Clause 48, Biocompatibility (ISO 10993-1), Clause 52.1, Programmable Electronic Systems (IEC 601-1-4)
- The product is Classified only to the following hazards:: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is:: Ordinary
- The mode of operation is:: Continuous
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock:: No
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:: No

Engineering Conditions of Acceptability

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:

- This component has been judged on the basis of the required spacings in the Second Edition of the Standards for Medical Electrical Equipment, Part 1: General Requirements for Safety, UL 60601-1, which covers the end use product for which the component is designed.
- Repeating leakage current testing should be considered in the end product application.
- This power supply was evaluated as having: Basic Insulation between Primary to Earth (For Class I units), Reinforced insulation between Primary and Secondary, Basic from Secondary to Earth (For Class I units).
- The available voltage for the secondary outputs does not exceed 25 Vac or 60 Vdc, under normal and single fault conditions.
- The end product should ensure that the requirements related to accompanying documents, clause 6.8, are met.
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{mra}) permitted by the manufacturer's specification of: 50°C (See De-rating Curve, Enclosure 7-01 for details)
- The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).
- The Electric Strength Test conducted on this power supply was based upon a maximum working voltage of: Primary-Earthed Dead Metal (Class I units): 240 Vrms, Primary-SEC: 243 Vrms.
- 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, L3, L4, and T2 are Class B (130°C)
- Accompanying documents to be provided as part of the end-product.
- Cleaning test to be considered as part of end product evaluation.

Additional Information

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.

Multiple Location Manufacturer Codes:

"K" XP Power, Jiangsu, China