Ref. Certif. No.

US-23991-UL

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Component Switching Power Supply
Name and address of the applicant Nom et adresse du demandeur	XP Power LLC Suite 150, 1241 E Dyer Road Santa Ana, CA 92705 USA
Name and address of the manufacturer Nom et adresse du fabricant	XP Power LLC Suite 150, 1241 E Dyer Road Santa Ana, CA 92705 USA
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	XP POWER LLC 990 BENECIA AVE SUNNYVALE CA 94085 USA ☒ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input Rating: 100-240 Vac, 50/60 Hz, 3A Output Rating: See test report for details
Trademark (if any) Marque de fabrique (si elle existe)	XP
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	SMT
Model / Type Ref. Ref. De type	GCS265PSxxyy See Page 2
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	Additionally evaluated to EN 60601-1:2006/ A1:2013; National Differences specified in the CB Test Report. ☐ Additional Information on page 2
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60601-1(ed.3), IEC 60601-1(ed.3);am1
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	4786535864-20140925 issued on 2014-09-25

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

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

For full legal entity names see www.ul.com/ncbnames

Date: 2014-09-30

Signature:

Jolanta M. Wroblewska

Ref. Certif. No.

US-23991-UL

Model Details:
GCS265PSxxyy (where xx can be any number between 12 and 56 and yy is "-C", "-TF", "-EF" or blank; all "-" considered optional; may also be provided with additional suffix "SF", "S", "R" or "L")

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

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

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

For full legal entity names see www.ul.com/ncbnames

Date: 2014-09-30

Signature:

Jolanta M. Wroblewska

Test Report issued under the responsibility of:

IEC 60601-1
Medical electrical equipment
Part 1: General requirements for basic safety and essential performance

Report Reference No.....:	**4786535864-20140925**
Date of issue .....:	**2014-09-25**
	Correction 1: 2014-11-21
Total number of pages.....:	**11**
CB Testing Laboratory.....:	**UL Camas**
Address .....:	**2600 NW Lake Rd., Camas, WA 98607, USA**
Applicant's name.....:	**XP Power LLC**
Address .....:	**Suite 150, 1241 E Dyer Road, Santa Ana, CA 92705 USA**
Test specification:	
Standard .....:	**IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)**
Test procedure.....:	**CB Scheme**
Non-standard test method…….:	
Test Report Form No.....:	**IEC60601_1J**
Test Report Form Originator .....:	**UL(US)**
Master TRF .....:	**2014-07**

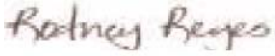
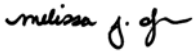
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB testing laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description .....:	Component Switching Power Supply
Trade Mark.....:	
Manufacturer.....:	XP Power LLC, Suite 150, 1241 E Dyer Road, Santa Ana, CA 92705 USA
Model/Type reference.....:	GCS265PSxxyy (where xx can be any number between 12 and 56 and yy is "-C", "-TF", "-EF" or blank; all "-" considered optional; may also be provided with additional suffix "SF", "S", "R" or "L")
Ratings.....:	Input Rating: 100-240 Vac, 50/60 Hz, 3A Output Rating: See Model Differences for details

Testing procedure and testing location:			
☐	**CB Testing Laboratory:**		
Testing location/ address			
☐	**Associated CB Testing Laboratory:**		
Testing location/ address			
Tested by (name + signature).....			
Approved by (name + signature)			
☐	**Testing procedure: TMP/CTF Stage 1:**		
Testing location/ address			
Tested by (name + signature).....			
Approved by (name + signature)			
☐	**Testing procedure: WMT/CTF Stage 2:**		
Testing location/ address			
Tested by (name + signature).....			
Witnessed by (name + signature)			
Approved by (name + signature)			
☒	**Testing procedure: SMT/CTF Stage 3 or 4:**		
Testing location/ address		XP POWER LLC/ SUITE 150, 1241 E DYER RD, SANTA ANA CA 92705, USA	

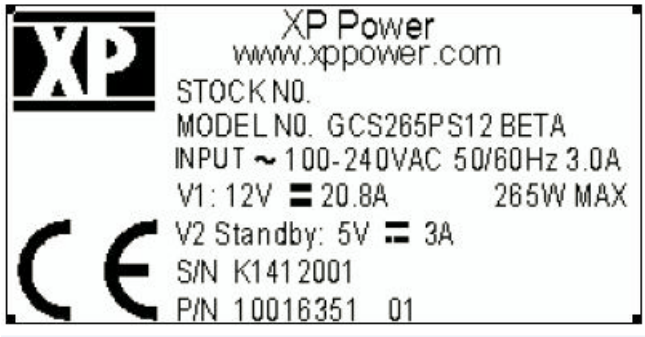
Tested by (name + signature).....	Rodney Reyes	
Witnessed by (name + signature)		
Approved by (name + signature)	Tac Pham	
Supervised by (name + signature).....	Melissa DeGuai	

Summary of testing No testing conducted
Summary of compliance with National Differences List of countries addressed: Austria, Canada, Republic of Korea, Sweden, United Kingdom and USA ☒ The product fulfils the requirements of IEC 60601-1, Edition 3.1 (2012)

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Marking plate below is considered representative of the entire series with the exception that “BETA” is not provided



GENERAL INFORMATION

Test item particulars (see also Clause 6):

Classification of installation and use ..... :	For building-in
Device type (component/sub-assembly/ equipment/ system) :	Component Power Supply
Intended use (Including type of patient, application location) :	To supply regulated power
Mode of operation .....:	Continuous
Supply connection	For building-in
Accessories and detachable parts included.....:	N/A
Other options include .....:	N/A

Testing

Date of receipt of test item(s) .....:	N/A
Dates tests performed .....:	N/A

Possible test case verdicts:

- test case does not apply to the test object .....:	N/A
- test object does meet the requirement.....:	Pass (P)
- test object was not evaluated for the requirement ..... :	N/E (collateral standards only)
- test object does not meet the requirement.....:	Fail (F)

Abbreviations used in the report:

- normal condition.....: N.C.	- single fault condition.....: S.F.C.
- means of Operator protection .....: MOOP	- means of Patient protection ....: MOPP

General remarks:

"(See Attachment #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.
The tests results presented in this report relate only to the object tested.
This report shall not be reproduced except in full without the written approval of the testing laboratory.
List of test equipment must be kept on file and available for review.
Additional test data and/or information provided in the attachments to this report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:2012

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

☒ **Yes**
☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies)	XP POWER LLC., 990 BENECIA AVE., SUNNYVALE CA 94085, UNITED STATES XP POWER (KUNSHAN) LTD., 230 BIN JIANG NAN RD., ZHANGPU TOWN, KUNSHAN, JIANGSU 215300 CHINA

General product information:

Report Summary
The original report was modified on 2014-11-21 to include the following changes/additions:
Correction 1: Correction to the V1 output current rating of Models GCS265PS15, GCS265PS18, GCS265PS33 and Model GCS265PS36 below.

The product is a component power supplies intended to be used as part of Medical Electrical Equipment. It is an open frame power supply intended for building-in Class I or Class II end-products.

Model Differences
All models in the Model GCS265PSXX series are identical with exception to the Mains Transformer (T1) and secondary components/circuitry that allow for different output voltage ratings.

See Enclosure – Miscellaneous (7-01) for max Power Outputs based on model, ambient, and forced air cooling.

See below for Model Output Ratings:

Model GCS265PS12:
V1: 10.1 Vdc - 13.5 Vdc, 20.8 A Max. (250 W Max);
V2: 5 Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS15:
V1: 13.6 Vdc - 17 Vdc, 16.7 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS18:
V1: 17.1 Vdc - 21 Vdc, 13.9 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS24:
V1: 21.1 Vdc - 26 Vdc, 10.4 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS28:
V1: 26.1 Vdc - 31 Vdc, 8.9 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS33:
V1: 31.1 Vdc - 33 Vdc, 7.6 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS36:
V1: 33.1 Vdc - 42 Vdc, 6.9 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS48:
V1: 42.1 Vdc - 54 Vdc, 5.2 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);

(Total Power: 265 W Max)

Model GCS265PS56:
V1: 54.1 Vdc - 63.2 Vdc, 4.5 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Units provided with suffix "C" is provided with cover.
Units provided with suffix "TF" is provided with top fan.
Units provided with suffix "EF" is provided with end fan.
Units provided without suffix "C", "TF" or "EF" is open frame (without cover).
Units provided with additional suffix "SF" to indicate single pole fusing.
Units provided with additional suffix "S" to indicate screw terminal block.
Units provided with suffix “R” is remote inhibit.
Units provided with additional suffix "L" to indicate fly leads.

Additional Information

The clearance distances have additionally been assessed for suitability up to 5000 m elevation

The need for the additional testing and evaluation shall be determined in the end product investigation.

The schematics are kept in file at the CBTL and can be provided by the manufacturer upon request by NCB's/CBTL's.

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.

Technical Considerations

- The product was investigated to the following additional standards:: ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10+A1(R2012)) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) (includes Deviations for United States), CAN/CSA-C22.2 No. 60601-1 (2008)+A1 (2014) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) (includes National Differences for Canada), IEC 60601-1: Edition 3.1, 2012-08, EN 60601-1: 2006 + CORR: 2010+A1 (2013) (Medical electrical equipment Part 1: General requirements for basic safety and essential performance.
- The product was not investigated to the following standards or clauses:: Electromagnetic Compatibility (IEC 60601-1-2), Biocompatibility (ISO 10993-1)
- 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)
- 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 anaesthetics mixture with air or oxygen or with nitrous oxide: No

Risk Controls/ Engineering Condition 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 product was submitted and evaluated for use at the maximum ambient temperature (Tma)

permitted by the manufacturer's specification of: 50°C at 100% of Output Rating, 70°C at 50% of Output Rating. See ILL. 19 (Miscellaneous enclosure 7-01) Power Output Table for additional information regarding power output and the various configurations.

- The maximum continuous power supply output (Watts) relied on forced air cooling from: 7 cfm fan applied 1 inch from input side, blowing inward.
- The component shall be considered for compliance with the Marking (clause 7) and Separation (clause 8) requirements as part of the end use application evaluation.
- 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)
- Repeat of leakage current testing and consideration of non-frequency weighted leakage current (clause 8.7.3e) to be considered as part of the end product.
- The end product shall ensure that the requirements related to accompanying documents, clause 7.9, are met.
- The input/output connectors are not acceptable for field connections; they are only intended for connection to mating connectors of the end-use equipment.
- Power supply provides the following MOPP (means of patient protection):2 MOPP based upon a working voltage 336 Vpk, 240 Vrms between Primary to Secondary, one MOPP based upon a working voltage 352Vpk, 244 Vrms between Primary and Earth/Enclosure, and 1 MOPP based upon a working voltage 250Vac between secondary to earth trace on PWB.
- The Dielectric Strength Test conducted on this power supply was based upon a maximum working voltage of 352Vpk, 244 Vrms from Primary-Earthed Dead Metal, 336 Vpk, 240 Vrms from Primary-Secondary.
- Cleaning test shall be considered as part of end product evaluation.
- The need for Marking Durability and Marking Legibility Testing shall be considered as part of the end product installation.
- Fire/ Mechanical/ Electrical Enclosure to be provided as part of the end product.
- Temperature, Leakage Current, Protective Earthing, Dielectric Voltage Withstand, and Interruption of the Power Supply tests should be considered as part of the end product evaluation.
- The products were tested on a 20 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.
- 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, T1 and 5V Standby-Transformer (T1) are Class F, 155°C.
- The PWB is rated 130°C.
- For Class I applications: Unit to be properly bonded to end product main protective earth.
- Unit has been subjected to 5 day humidity condition test at 93%, 40°C.
- Fans: For models with the suffix "EF", the fan provided in this sub-assembly is not intended for operator access., For models with the suffix "TF", the fan provided in this sub-assembly is provided

with a fan guard to reduce the risk of operator contact with the stator.

- Heatsinks are floating and considered live. They should not be accessible in the end-product.
- Clearance spacing evaluated for 5000 m altitude. Additional consideration maybe necessary in the end-use product.
- Heating test was not conducted on unit with input/output leads. If unit is provided with input and/or output leads, then temperature on leads must be measured and cannot exceed 105°C.
- The following components require special consideration during end-product Thermal (Heating) tests due to the indicated maximum temperature measurements during component-level testing: Model GC265PS12: PCB@Q1 coil (130°C); C22 (Stand-by board) (105°C); C27 (105°C).
- An investigation of the protective bonding terminals has: Not been conducted
- Overcurrent releases of adequate breaking capacity must be employed in the end product.

Ref. Certif. No.

US-23730-UL

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Power supply for building-in, switch mode type
Name and address of the applicant Nom et adresse du demandeur	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Name and address of the manufacturer Nom et adresse du fabricant	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	XP POWER LLC 990 BENECIA AVE SUNNYVALE CA 94085 UNITED STATES ☒ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input: 100-240 Vac, 50/60 Hz, 3A Output: See the test report for details.
Trademark (if any) Marque de fabrique (si elle existe)	XP
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	SMT
Model / Type Ref. Ref. De type	GCS265PSxxyy See Page 2
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	Additionally evaluated to EN 60950-1:2006 /A11:2009 /A1:2010 /A12:2011. National Differences specified in the CB Test Report. ☐ Additional Information on page 2
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1(ed.2), IEC 60950-1(ed.2);am1
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	E139109-A139-CB-1 issued on 2014-08-11

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

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

For full legal entity names see www.ul.com/ncbnames

Date: 2014-08-11

Signature:

Jolanta M. Wroblewska

Ref. Certif. No.

US-23730-UL

Model Details:
GCS265PSxxyy (where xx can be any number between 12 and 56 and yy is "-C", "-TF", "-EF" or blank; all "-" considered optional; may also be provided with additional suffix "SF", "S", "R" or "L")

Factories:
XP POWER (KUNSHAN) LIMITED
230, BIN JIANG NAN ROAD, ZHANG PU TOWN KUNSHAN, JIANGSU 215300
CHINA

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

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

For full legal entity names see www.ul.com/ncbnames

Date: 2014-08-11

Signature:

Jolanta M. Wroblewska

Test Report issued under the responsibility of:

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

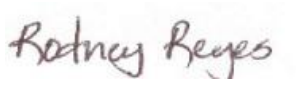
Report Reference No ..... :	E139109-A139-CB-1
Date of issue ..... :	2014-08-11
Total number of pages ..... :	110
CB Testing Laboratory ..... :	UL San Jose
Address ..... :	455 E. Trimble Rd., San Jose, CA, 95131-1230, USA
Applicant's name ..... :	XP POWER L L C
Address ..... :	SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Test specification:	
Standard ..... :	IEC 60950-1:2005 (2nd Edition); Am 1:2009
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60950_1C
Test Report Form originator ..... :	SGS Fimko Ltd
Master TRF ..... :	2012-08

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

General disclaimer

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	Power supply for building-in, switch mode type
Trade Mark ..... :	
Manufacturer ..... :	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES
Model/Type reference ..... :	GCS265PSxxyy (where xx can be any number between 12 and 56 and yy is "-C", "-TF", "-EF" or blank; all "-" considered optional; may also be provided with additional suffix "SF", "S", "R" or "L")
Ratings ..... :	Input: 100-240 Vac, 50/60 Hz, 3A Output: See Model Differences for details

Testing procedure and testing location:			
[ ]	**CB Testing Laboratory**		
	Testing location / address..... :		
[ ]	**Associated CB Test Laboratory**		
	Testing location / address..... :		
	Tested by (name + signature) ..... :		
	Approved by (name + signature) ... :		
[ ]	**Testing Procedure: TMP/CTF Stage 1**		
	Tested by (name + signature) ..... :		
	Approved by (+ signature) ..... :		
	Testing location / address..... :		
[ ]	**Testing Procedure: WMT/CTF Stage 2**		
	Tested by (name + signature) ..... :		
	Witnessed by (+ signature)..... :		
	Approved by (+ signature) ..... :		
	Testing location / address..... :		
[x]	**Testing Procedure: SMT/CTF Stage 3 or 4**		
	Tested by (name + signature) ..... :	Rodney reyes	
	Approved by (+ signature) ..... :	Tac Pham	
	Supervised by (+ signature) ..... :	David E. Drewes	
	Testing location / address..... :	XP Power, LLC, 1241 E Dyer Rd, Suite 150, Santa Ana, CA, 92705 USA	
[ ]	**Testing Procedure: RMT**		
	Tested by (name + signature) ..... :		
	Approved by (+ signature) ..... :		
	Supervised by (+ signature) ..... :		
	Testing location / address..... :		

List of Attachments

National Differences (41 pages)

Enclosures (71 pages)

Summary Of Testing

Unless otherwise indicated, all tests were conducted at XP Power, LLC, 1241 E Dyer Rd, Suite 150, Santa Ana, CA, 92705 USA.

Tests performed (name of test and test clause)	Testing location / Comments
Guide Information Page - Maximum Output Voltage, Current, and Volt Ampere Measurement (1.2.2.1)	
Input: Single-Phase (1.6.2)	
Capacitance Discharge (2.1.1.7)	
SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1)	
Limited Current Circuit Measurement (2.4.1, 2.4.2)	
Protective Bonding I (2.6.3.4, 2.6.1).7)	
Humidity (2.9.1, 2.9.2, 5.2.2)	
Determination of Working Voltage; Working Voltage Measurement (2.10.2)	
Thin Sheet Material (2.10.5.9, 2.10.5.10, 2.10.5.6)	
Transformer and Wire /Insulation Electric Strength (2.10.5.13)	
Heating (4.5.1, 1.4.12, 1.4.13)	
Ball Pressure (4.5.5, 4.5)	
Touch Current (Single-Phase; TN/TT System) (5.1, Annex D)	
Touch Current (Polyphase; TN/TT System) (5.1, Annex D)	
Electric Strength (5.2.2)	
Component Failure (5.3.1, 5.3.4, 5.3.7)	
Abnormal Operation (5.3.1 - 5.3.9)	
Transformer Abnormal Operation (5.3.3, 5.3.7b, Annex C.1)	
Power Supply Output Short-Circuit/Overload (5.3.7)	

Summary of Compliance with National Differences:

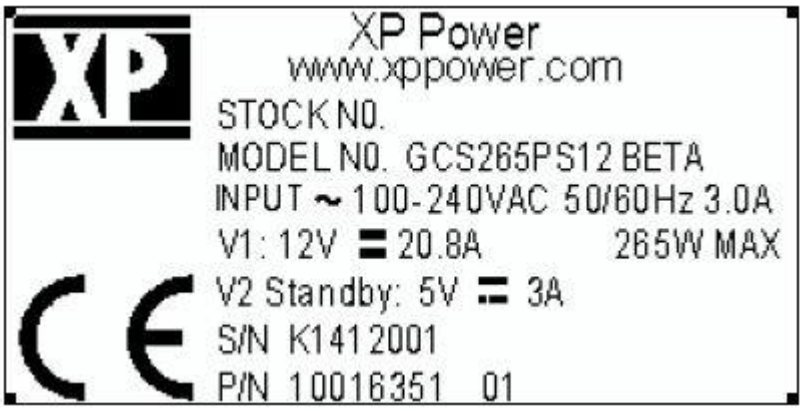
Countries outside the CB Scheme membership may also accept this report.

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

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

Copy of Marking Plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Test item particulars :	
Equipment mobility ..... :	for building-in
Connection to the mains ..... :	To be determined in end-use product
Operating condition ..... :	continuous
Access location ..... :	To be determined in end-use product
Over voltage category (OVC) ..... :	OVC II
Mains supply tolerance (%) or absolute mains supply values ..... :	+10%, -10%
Tested for IT power systems ..... :	Yes
IT testing, phase-phase voltage (V) ..... :	230
Class of equipment ..... :	Class I or Class II (Determined by end product)
Considered current rating of protective device as part of the building installation (A) ..... :	20
Pollution degree (PD) ..... :	PD 2
IP protection class ..... :	IPX0
Altitude of operation (m) ..... :	5000
Altitude of test laboratory (m) ..... :	less than 2000 meters
Mass of equipment (kg) ..... :	0.6 kg
Possible test case verdicts:	
- test case does not apply to the test object ..... :	N / A
- test object does meet the requirement ..... :	P(Pass)
- test object does not meet the requirement ..... :	F(Fail)
Testing:	
Date(s) of receipt of test item ..... :	2014-02-05
Date(s) of Performance of tests ..... :	2014-02-19 to 2014-05-30
General remarks: "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a point is used as the decimal separator.	
Manufacturer's Declaration per Sub Clause 4.2.5 of IECEE 02:	Yes
The application for obtaining a CB Test Certificate includes more than one factory and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... When differences exist, they shall be identified in the General Product Information section.	
Name and address of Factory(ies):	XP POWER LLC 990 BENECIA AVE SUNNYVALE CA 94085 UNITED STATES

XP POWER (KUNSHAN) LIMITED
230, BIN JIANG NAN ROAD,
ZHANG PU TOWN
KUNSHAN,
JIANGSU 215300 CHINA

GENERAL PRODUCT INFORMATION:

Report Summary

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

Product Description

The model covered in this report is a component power supply intended for use in Information Technology Equipment. It is an open frame power supply intended for building-in Class I or Class II end-products. Double insulated symbol is optionally provided. Earthing symbol may only be provided for Class I power supplies.

Model Differences

All models in the Model GCS265PSXX series are identical with exception to the Mains Transformer, T1, and secondary components/circuitry that allow for different output voltage ratings.

See below for Model Output Ratings:

Model GCS265PS12:
V1: 10.1 Vdc - 13.5 Vdc, 20.8 A Max. (250 W Max);
V2: 5 Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS15:
V1: 13.6 Vdc - 17 Vdc, 16.66 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS18:
V1: 17.1 Vdc - 21 Vdc, 14.7 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS24:
V1: 21.1 Vdc - 26 Vdc, 10.4 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS28:
V1: 26.1 Vdc - 31 Vdc, 8.9 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS33:
V1: 31.1 Vdc - 33 Vdc, 7.5 A Max. (250 W Max);

V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS36:
V1: 33.1 Vdc - 42 Vdc, 6.94 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS48:
V1: 42.1 Vdc - 54 Vdc, 5.2 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

Model GCS265PS56:
V1: 54.1 Vdc - 63.2 Vdc, 4.5 A Max. (250 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 265 W Max)

V2: 5Vdc Standby

Units provided with suffix "C" is provided with cover.
Units provided with suffix "TF" is provided with top fan.
Units provided with suffix "EF" is provided with end fan.
Units provided without suffix "C", "TF" or "EF" is open frame (without cover).
Units provided with additional suffix "SF" to indicate single pole fusing.
Units provided with additional suffix "S" to indicate screw terminal block.
Units provided with suffix “R” is remote inhibit.
Units provided with additional suffix "L" to indicate fly leads.

See Enclosure - Miscellaneous for max Power Outputs based on model, ambient, and forced air cooling.

Additional Information

The clearance distances have additionally been assessed for suitability up to 5000 m elevation (1.48 correction factor as per IEC 60664-1, Table A2).

The need for the additional testing and evaluation shall be determined in the end product investigation.

The power supply series covered by this report employ Double/Reinforced Insulation between Primary and Secondary circuits.

Licenses older than 3 years to be provided by the manufacturer upon request.

Marking label is representative of all models.

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 50°C at 100% of Output Rating, 70°C at 50% of Output Rating. See Miscellaneous enclosure Power Output Table for additional information regarding power output and the various configurations.

- The means of connection to the mains supply is: for building-in, to be determined in the end product.
- The product is intended for use on the following power systems: TN, IT
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 (which includes all European national differences, including those specified in this test report).
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Load side of C21 (Pri to Sec bridging capacitor),
- Power supplies covered by this report were evaluated for both Class I and Class II (double insulated). Double insulated symbol is optionally provided. See Conditions of Acceptability for insulation required for Class II. Earthing symbol may only be provided for Class I power supplies. --

Engineering Conditions of Acceptability

When installed in an end-product, consideration must be given to the following:

- The following Production-Line tests are conducted for this product: Electric Strength
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Earthed Dead Metal: 240 Vrms, 352 Vpk, Primary-SELV: 256 Vrms, 450 Vpk,
- The following secondary output circuits are SELV: All outputs
- The following secondary output circuits are at hazardous energy levels: All outputs
- The power supply terminals and/or connectors are: Suitable for factory wiring only
- The maximum investigated branch circuit rating is: 20 A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: required when the power supply is used in a Class I end product. The power supply will be considered Class II only when protection against electric shock does not rely on Basic Insulation.
- An investigation of the protective bonding terminals has: Not been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: J1
- 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 and T1 (Class F, 155°C) , 5V Standby - Transformer (T1) (Class F, 155°C) ,
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- The following components require special consideration during end-product Thermal (Heating) tests due to the indicated maximum temperature measurements during component-level testing: Model GC265PS12: PCB@Q1 coil (130°C); C22 (Stand-by board) (105°C); C27 (105°C),
- The maximum continuous power supply output (Watts) relied on forced air cooling from: 7 cfm fan applied 1 inch from input side, blowing inward.,
- The equipment is suitable for direct connection to: AC mains supply. Means of connection willl need to be evaluated in the end product.,
- Fans: For models with the suffix "EF", the fan provided in this sub-assembly is not intended for operator access., For models with the suffix "TF", the fan provided in this sub-assembly is provided with a fan guard to reduce the risk of operator contact with the stator.
- Printed Wiring Board rated 130°C. --
- Heatsinks are floating and considered live. They should not be accessible in the end-product. --
- Touch Current test to be conducted in the end-product evaluation. --

- Clearance spacing evaluated for 5000 m altitude. Additional consideration maybe necessary in the end-use product. --
- End product to determine the need for "Double Pole Fuse" Marking for units provided with double , pole fusing. --
- The equipment may be provided with a fuse in both the Line and Neutral of the primary circuit. --
- Heating test should be repeated in the end-use product --
- Heating test was not conducted on unit with input/output leads. If unit is provided with input and/or output leads, then temperature on leads must be measured and cannot exceed 105°C. --

Abbreviations used in the report:

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

Indicate used abbreviations (if any)