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-2
Date of issue ..... :	2015-04-14
Total number of pages ..... :	11
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 ..... :	15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 UNITED STATES
Test specification:	
Standard ..... :	IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60950_1F
Test Report Form originator ..... :	SGS Fimko Ltd
Master TRF ..... :	Dated 2014-02

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 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 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" or "R"), GCS265PS24-XD0642.
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**	
	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)....:	
[x]	**Testing Procedure: SMT/CTF Stage 3 or 4**	
	Testing location / address .....:	XP POWER LLC, 15641 RED HILL AVE, SUITE 100, TUSTIN, CA 92780 USA
	Tested by (name + signature) .....:	Rodney Reyes Rodney Reyes
	Approved by (name + signature)....:	Walid Beytoughan
	Supervised by (name + signature) .:	Walid Beytoughan
[ ]	**Testing Procedure: RMT**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Approved by (name + signature)....:	
	Supervised by (name + signature) .:	

List of Attachments

National Differences (0 pages)

Enclosures (0 pages)

Summary Of Testing

Unless otherwise indicated, all tests were conducted at XP POWER LLC, 15641 RED HILL AVE, SUITE 100, TUSTIN, CA 92780 USA.

Tests performed (name of test and test clause)	**Testing location / Comments**

Energy Hazard Measurements (2.1.1.5, 2.1.2, 1.2.8.10)

Summary of Compliance with National Differences:

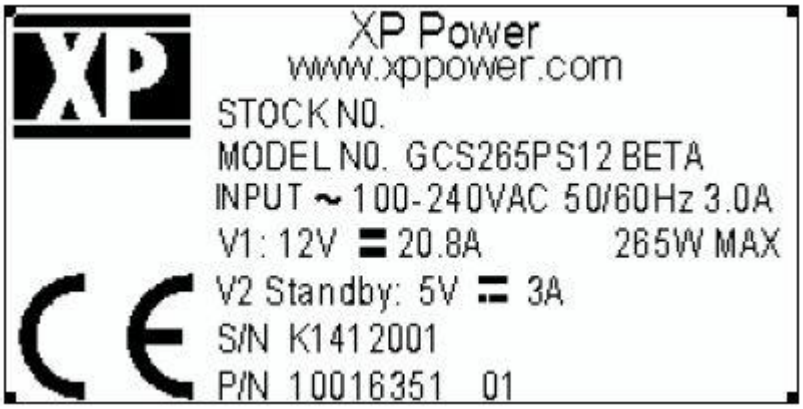
Countries outside the CB Scheme membership may also accept this report.

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

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011, EN EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 , 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 .....:	To be determined in end-use product
Considered current rating of protective device as part of the building installation (A) .....:	20
Pollution degree (PD) .....:	PD 3
IP protection class .....:	IPX0
Altitude of operation (m) .....:	5000
Altitude of test laboratory (m) .....:	17
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 .....:	2016-02-26
Date(s) of Performance of tests .....:	2016-04-25
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 INC 990 BENECIA AVE SUNNYVALE CA 94085 UNITED STATES XP POWER (KUNSHAN) LTD

230 BIN JIANG NAN RD
ZHANGPU TOWN
KUNSHAN
JIANGSU 215321 CHINA

XP POWER (VIETNAM) CO LTD
LOT D - 4Q - CN
MY PHUOC 3 INDUSTRIAL PARK
BEN CAT DISTRICT
BINH DUONG VIET NAM

XP POWER PLC
HORESHOE PARK
PANGBOURNE
RG87 JW UNITED KINGDOM

GENERAL PRODUCT INFORMATION:

Report Summary

The original report was modified on 2016-06-08 to include the following changes/additions:
Added Condition of Acceptability 1.7: The following secondary output circuits are at non-hazardous energy levels - Model GCS265PS24-XD0642 - All Outputs.

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, 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 GCS265PS24-XD0642:
V1: 24 Vdc, 7.5 A Max (180 W Max);
V2: 5Vdc, 3A Max (15 W Max);
(Total Power: 195W 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, 6.94 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)

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.

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.

This CB Report is a re-issue of CB Test Report Reference No. E139109-A139-CB-1, CB Test Certificate Ref.No. US-23730-UL. No sample and no tests were conducted under this investigation due to:
1) Upgraded the Standard to IEC 60950-1 (2nd Ed +Amd 1 + Amd 2). All required testing carried out under original investigation. Based on previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, has been determined that the product complies with the standard;
2) Change Applicant and Manufacturer's address;
3) Update National Differences to all countries.

Technical Considerations

- 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. --
- The product is intended for use on the following power systems: TN IT --
- The following accessible locations (with circuit/schematic designation) are within a limited current circuit: Load side of C21 (Pri to Sec bridging capacitor) --
- The means of connection to the mains supply is: for building-in, to be determined in the end product. --
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (which includes all European national differences, including those specified in this test report). --
- 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. --

Engineering Conditions of Acceptability

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

- The following secondary output circuits are at non-hazardous energy levels: Model GCS265PS24-XD0642 - All Outputs.
- 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 may be 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. --
- 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 except V2: 5V/3A (Standby) --
- 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: 3 --
- 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 will 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. --

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)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.1.1.5 c) 1)	**TABLE: Max. V, A, VA test**	Pass

Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
GCS265PS24-XD0642: 24V	7.5	25.5/5.03	8.7/4.4	209/20.9
supplementary information:				