

UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Ed, Issued: 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements)
Certification Type:	Component Recognition
CCN:	QQJQ2, QQJQ8 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
Complementary CCN:	N/A
Product:	Open Frame Power Supply
Model:	VCB60US05, VCB60US12, VCB60US15, VCB60US19, VCB60US24, VCB60US30, VCB60US48, VCB60US54
Rating:	Input: 1) 100-277VAC, 1.3A, 50/60Hz, or 2) 100-277VAC, 1.7A, 50/60Hz Output: 1) 5VDC, 8A (Model VCB60US05), 2) 12VDC, 5A (Model VCB60US12), 15VDC, 4A (Model VCB60US15), 19VDC, 3.16A (Model VCB60US19), 24VDC, 2.5A (Model VCB60US24), 30VDC, 2.0A (Model VCB60US30), 48VDC, 1.25A (Model VCB60US48), 54VDC, 1.11A (Model VCB60US54)
Applicant Name and Address:	XP POWER L L C 15641 RED HILL AVE, SUITE 100 TUSTIN CA 92780 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 UL LLC ('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 UL LLC (UL) or any authorized licensee of UL.

Prepared By: Robert Leon / Project Handler

Reviewed By: Walid Beytoughan / Reviewer

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 model covered in this report is a component power supply intended for use in Audio/Video, Information and Communication Technology Equipment - Part 1: Safety requirements. The power supply is an open frame sub-assembly and intended for building-in.

Model Differences

All models: VCB60US05 and VCB60US54 are identical with exception to the mains transformer T1, and minor secondary components that allow for different output voltage ratings.

Test Item Particulars

Classification of use by	Instructed person, Skilled person
Supply Connection	AC Mains
Supply % Tolerance	+10%/-10%
Supply Connection – Type	To be considered In the end product
Considered current rating of protective device as part of building or equipment installation	20 A; building;
Equipment mobility	for building-in
Over voltage category (OVC)	OVC III
Class of equipment	Not classified
Access location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified maximum operating ambient (°C)	50°C (Full load), 70°C (Half load)
IP protection class	IPX0
Power Systems	TN
Altitude during operation (m)	5000 m
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	Approximately 0.12kg

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 (Full load), 70°C (Half load)
- The product is intended for use on the following power systems : TN
- Considered current rating of protective device as part of the building installation (A) : 20

- Mains supply tolerance (%) or absolute mains supply values : +10%/-10%

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- The end-product Electric Strength Test is to be based upon a maximum working voltage of : Primary-ES1/Earth : 310 Vrms, 560 Vpk.
- The following output circuits are at ES1 energy levels : All outputs
- The following output circuits are at PS2 energy levels : All outputs
- Proper bonding to the end-product main protective earthing termination is : Required when the power supply is used in Class I end product.
- The following end-product enclosures are required : Fire, Mechanical, Electrical
- Temperature test, abnormal temperature test needs to be repeated in the end product evaluation.
- Spacing of the product to its mounting and surrounding are to be evaluated when installed to the end product.
- The power supply series covered by this report employ Double/Reinforced Insulation between Primary and Secondary circuits.
- Capacitor discharge needs to be evaluated at the end product. These power supplies are not cord connected with plug attachment. Products pins are not for insertion into socket-outlets.
- These power supplies are considered to be components and built-in appliance. However, units are not the end product. Instructions for safe-use and built-in requirements are to be evaluated at the end product.
- The need for “Double Pole Fuse” Marking for units provided with double pole fusing must determine during the end use evaluation.
- The equipment suitability for connection to AC Mains shall be determined in the end use product.
- These power supplies need to be evaluated for ground bond test and earth leakage with end product.
- The power supply will be considered Class II only when protection against electric shock does not rely on Basic insulation and provided with sufficient spacings between primary parts of the power supply to secondary or accessible parts in the end product.

Additional Information

This report was issued based on the CB Test Report No. 7191251821-EEC21/01 by TÜV SÜD PSB Pte Ltd and CB Test Certificate No. SG PSB-IV-04406 dated 2021-04-22 of IEC 62368-1:2014 (Second Edition). The test results, clause verdicts, product technical documentation including photos, schematics, wiring diagrams and similar of the above noted report were reviewed and found to comply with the applicable Standard UL 62368-1:2014 (Second Edition) without testing. All other required testing was carried out under the original investigation. As a result the clause verdicts and test results for this report were noted as N/A and have been referred to the TUV CB Report for details.

Additional Standards

The product fulfills the requirements of: N/A

Markings and Instructions

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listee’s or Recognized companys name, Trade Name, Trademark or File Number
Equipment identification marking – model identification	Model Number

Equipment rating marking – ratings	"Input Ratings (voltage, frequency/dc, current/power)", "Output Ratings (voltage, frequency/dc, current/power)"
Special Instructions to UL Representative N/A	

BD1.0	TABLE: Production-Line Testing Requirements					
BD1.1	Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.					
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
All models	T1	-	Primary to Secondary	4243	-	1s
BD1.2	Earthing Continuity Test Exemptions – This test is not required for the following models:					
	All models					
BD1.3	Electric Strength Test Exemptions – This test is not required for the following models:					
	All 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.					
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BE1.0	Sample and Test Specifics for Follow-Up Tests at UL				
Model	Component	Material	Test	Sample (s)	Test Specifics
N/A	-	-	-	-	-