

TEST REPORT

Applicant's name : Changzhou Baojin Electrical Equipment CO.,LTD
Address : Heshu, Lijia Town, Wujin District, Changzhou Jiangsu 213165
P.R.CHINA

Product Name : Power Supply
Model(s) : JXA-12V800-IP44

Testing Laboratory : Shenzhen DACE Testing Technology Co., Ltd.
Address : 102, Building H1, & 1/F., Building H, Hongfa Science & Technology
Park, Tangtou Community, Shiyan, Bao'an District, Shenzhen,
Guangdong, China

Test Date : Jul. 25, 2024 - Jul. 26, 2024
Date of Report : Jul. 27, 2024
Report No. : DACE240725005RL001

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Revision History Of Report

Version	Description	REPORT No.	Modified information
A0	Original	DACE240725005RL001	None

Energy Efficiency Test Report of External Power Supplies for DoE

Report reference No..... : DACE240725005RL001

Tested by
(printed name and signature)..... : Alicia

Approved by
(printed name and signature)..... : Calvin Chen



Date of issue..... : Jul. 27, 2024

Testing laboratory : Shenzhen DACE Testing Technology Co., Ltd.

Location..... : 102, Building H1, & 1/F., Building H, Hongfa Science & Technology Park,
Tangtou Community, Shiyan, Bao'an District, Shenzhen, Guangdong, China

Applicant..... : Changzhou Baojin Electrical Equipment CO.,LTD

Address..... : Heshu, Lijia Town, Wujin District, Changzhou Jiangsu 213165 P.R.CHINA

Manufacturer..... : Changzhou Baojin Electrical Equipment CO.,LTD

Address..... : Heshu, Lijia Town, Wujin District, Changzhou Jiangsu 213165 P.R.CHINA

Standards..... : Appendix Z to Subpart B of 10CFR 430 – Uniform Test Method for
Measuring the Energy Consumption of External AC ADAPTOR

Samples Received Date..... : Jul. 25, 2024

Tested Date..... : Jul. 25, 2024 - Jul. 26, 2024

Test item description..... : Power Supply

Trade Mark..... : 常劬

Model(s)..... : JXA-12V800-IP44

Ratings..... : Input: 120V~ 60Hz 0.28A
Output: 12.0Vac 0.8A

Output Cord Length (cm)..... : 25cm

Test Room Ambient temp..... : 23.3 °C

Test Room Humidity..... : 45 %

Test Room Air Speed..... : < 0.5 m/s

Copy of marking plate:

WARNING: Risk Of Electric Shock. Install only to a covered class A GFCI receptacle that has an enclosure that is weather proof with the attachment plug cap inserted or removed. This power unit is intended to be correctly orientated in a vertical or floor mount position.

MODEL NO : JXA-12V800-IP44

INPUT : 120V ac 60Hz 0.28A

OUTPUT : 12V ac 0.8A



LISTED

E474768

Class 2 Transformer

Rainproof

Date: 2324

US-CLASS 2 NOT WET, CLASS 3 WET

CUL-CLASS 2 NOT WET, CLASS 1 WET

CHANG ZHOU BAOJIN ELECTRICAL Co., Ltd

MADE IN CHINA

AC-AC ADAPTOR

MODEL NO: JXA-12V800-IP20

INPUT : 120VAC 60HZ 0.28A

OUTPUT: 12VAC 0.80A



LISTED

E474768

37NG

US-CLASS 2 NOT WET CLASS 3 WET

CUL-CLASS 2 NOT WET CLASS 1 WET

DATE:2324

MADE IN CHINA

ENERGY STAR® Program Requirements
for Single Voltage External Ac-Dc and Ac-Ac Power Supplies

Mark	Performance Requirements			
	Nameplate Power Output (P_{no})¹	No - Load Power²	Nameplate Power Output (P_{no})	Average Active Efficiency³
IV	0 to 250 watts	≤ 0.5	0 to < 1 watt	$\geq 0.5 \times P_{no}$
			1 to 51 watts	$\geq 0.09 \times \ln(P_{no}) + 0.5$
			> 51 to 250 watts	≥ 0.85
V	0 to < 50 watts	≤ 0.5 for ac-ac; ≤ 0.3 for ac-dc	0 to ≤ 1 watt	Standard: $\geq 0.480 \times P_{no} + 0.140$ Low Voltage ⁴ : $\geq 0.497 \times P_{no} + 0.067$
	≥ 50 to ≤ 250 watts	≤ 0.5	> 1 to ≤ 49 watts	Standard: $\geq [0.0626 \times \ln(P_{no})] + 0.622$ Low Voltage: $\geq [0.0750 \times \ln(P_{no})] + 0.561$
			> 49 to 250 watts	Standard: ≥ 0.870 Low Voltage: ≥ 0.860
	Power supplies with greater than or equal to 100 watts input power must have a true power factor of 0.9 or greater at 100% of rated load when tested at 115 volts @ 60Hz.			
VI and higher	Reserved for future use.			

Note:

¹ P_{no} is the Nameplate Output Power of the unit under test.

² In Australia and New Zealand, AC-AC external power supplies are not required to meet the no load power requirements.

³ $\ln$ refers to the natural logarithm.

⁴ A low voltage model is an EPS with a nameplate output voltage of less than 6 volts and a nameplate output current greater than or equal to 550 milliamps.

Table I-1. Energy Conservation Standards for Direct Operation EPSs (Compliance Starting February 10, 2016)
(Level VI)

Single-Voltage External AC-DC Power Supply, Basic-Voltage		
Nameplate Output Power (P_{out})	Minimum Average Efficiency in Active Mode (expressed as a decimal)	Maximum Power in No-Load Mode [W]
$P_{out} \leq 1 \text{ W}$	$\geq 0.5 \times P_{out} + 0.16$	≤ 0.100
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.071 \times \ln(P_{out}) - 0.0014 \times P_{out} + 0.67$	≤ 0.100
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.880	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500

Single-Voltage External AC-DC Power Supply, Low-Voltage		
Nameplate Output Power (P_{out})	Minimum Average Efficiency in Active Mode (expressed as a decimal)	Maximum Power in No-Load Mode [W]
$P_{out} \leq 1 \text{ W}$	$\geq 0.517 \times P_{out} + 0.087$	≤ 0.100
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.0834 \times \ln(P_{out}) - 0.0014 \times P_{out} + 0.609$	≤ 0.100
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.870	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500

Single-Voltage External AC-AC Power Supply, Basic-Voltage		
Nameplate Output Power (P_{out})	Minimum Average Efficiency in Active Mode (expressed as a decimal)	Maximum Power in No-Load Mode [W]
$P_{out} \leq 1 \text{ W}$	$\geq 0.5 \times P_{out} + 0.16$	≤ 0.210
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.071 \times \ln(P_{out}) - 0.0014 \times P_{out} + 0.67$	≤ 0.210
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.880	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500
Single-Voltage External AC-AC Power Supply, Low-Voltage		
Nameplate Output Power (P_{out})	Minimum Average Efficiency in Active Mode (expressed as a decimal)	Maximum Power in No-Load Mode [W]
$P_{out} \leq 1 \text{ W}$	$\geq 0.517 \times P_{out} + 0.087$	≤ 0.210
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.0834 \times \ln(P_{out}) - 0.0014 \times P_{out} + 0.609$	≤ 0.210
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.870	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500
Multiple-Voltage External Power Supply		
Nameplate Output Power (P_{out})	Minimum Average Efficiency in Active Mode (expressed as a decimal)	Maximum Power in No-Load Mode [W]
$P_{out} \leq 1 \text{ W}$	$\geq 0.497 \times P_{out} + 0.067$	≤ 0.300
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.075 \times \ln(P_{out}) + 0.561$	≤ 0.300
$P_{out} > 49 \text{ W}$	≥ 0.860	≤ 0.300

Note:

Single-voltage external AC-DC power supply means an external power supply that is designed to convert line voltage AC into lower-voltage DC output and is able to convert to only one DC output voltage at a time.

Single-voltage external AC-AC power supply means an external power supply that is designed to convert line voltage AC into lower-voltage AC output and is able to convert to only one AC output voltage at a time.

Multiple-voltage external power supply means an external power supply that is designed to convert line voltage AC input into more than one simultaneous lower-voltage output.

Low-voltage external power supply means an external power supply with a nameplate output voltage less than 6 volts and nameplate output current greater than or equal to 550 milliamps. Basic-voltage external power supply means an external power supply that is not a low-voltage power supply.

TEST RESULTS:

Sample 1		
Test item	Test at 115V, 60Hz	Efficiency requirements
No load power (W)	0.06	≤ 0.210
Average efficiency (%)	82.74	≥ 81.72
Complies with performance mark	VI	

Sample 2		
Test item	Test at 115V, 60Hz	Efficiency requirements
No load power (W)	0.06	≤ 0.210
Average efficiency (%)	82.85	≥ 81.72
Complies with performance mark	VI	

TEST PROGRAM AND CONDITIONS:

1. The EUT was test in still air at an ambient temperature of $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
2. Measurements were mode for supply voltage of 115/230V, 50/60Hz
3. The test sample was operated at 100% of nameplate current output for at least 30 minutes immediately prior to conducting efficiency measurements. After this warm-up period, if the power level does not drift by more than 5% from the maximum value observed, of the 5 minutes period. Subsequent load conditions can then be measured under the same 5 minutes stability guidelines.
4. The total harmonic distortion (THD) of the supply voltage was $<2\%$ for all measurement.

Test Data:

Sample 1	
Test Model	JXA-12V800-IP44
Test Results	Pass
Test Voltage	115V, 60Hz

Measured and Calculated Data						
	No load	Active Power Values				Average
Percent of nameplate current	0%	25%	50%	75%	100%	--
Output Current (mA)	--	200	400	600	800	
Output Voltage (V)		12.00	11.90	11.80	11.66	
Output Power (W)		2.40	4.76	7.08	9.33	
AC Input Voltage (V)	115	115	115	115	115	--
AC Input Current (mA)	4.5	25.1	51.2	76.8	102.2	
AC Input Power (W)	0.19	2.87	5.76	8.59	11.34	
Total Harmonic Distortion (THD)	0.66	0.68	0.73	0.89	0.96	
True Power Factor (W/VA)	0.37	0.99	0.98	0.97	0.96	
AC Input Frequency (Hz)	60	60	60	60	60	
Power Consumed by UUT (W)	0.19	0.47	1.00	1.51	2.01	--
Efficiency (%)	--	83.62	82.64	82.42	82.26	82.74
Supplementary information:						
Level VI limit:						
Average active mode efficiency limit $\geq 0.071 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.67 = 81.72\%$						
The no-load condition consumption shall not exceed 0.210W						

Sample 2	
Test Model	JXA-12V800-IP44
Test Results	Pass
Test Voltage	115V, 60Hz

Measured and Calculated Data						
	No load	Active Power Values				Average
Percent of nameplate current	0%	25%	50%	75%	100%	--
Output Current (mA)	--	200	400	600	800	
Output Voltage (V)		12.01	11.89	11.82	11.68	
Output Power (W)		2.40	4.76	7.09	9.34	
AC Input Voltage (V)	115	115	115	115	115	--
AC Input Current (mA)	4.7	25.3	51.8	78.3	103.5	
AC Input Power (W)	0.19	2.86	5.77	8.58	11.35	
Total Harmonic Distortion (THD)	0.67	0.69	0.79	0.91	0.99	
True Power Factor (W/VA)	0.35	0.98	0.97	0.95	0.95	
AC Input Frequency (Hz)	60	60	60	60	60	
Power Consumed by UUT (W)	0.19	0.46	1.01	1.49	2.01	--
Efficiency (%)	--	83.99	82.43	82.66	82.33	82.85
Supplementary information:						
Level VI limit:						
Average active mode efficiency limit $\geq 0.071 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.67 = 81.72\%$						
The no-load condition consumption shall not exceed 0.210W						

Appendix: Test equipment list

Equipment	Manufacturer	Type	Series No	Cal.	Due.
Digital power meter	EVERFINE	PF310A	DZ-SY-220	2024-04-15	2025-04-14
DC electronic load	Adex	IT8511+	DZ-SY-015	2024-04-15	2025-04-14
Variable frequency power supply	Shenzhen hengxinlong TechnologyCo., Ltd	HXL-3130	DZ-SY-004	2024-04-15	2025-04-14
Tape measure	Hengda	16ft	DZ-SY-055	2024-04-15	2025-04-14
Hygrothermograph	/	JR900	DZ-SY-192	2024-04-17	2025-04-16

ANNEX A: Photo-documentation

PHOTO OF SAMPLE

Photo 1



Photo 2

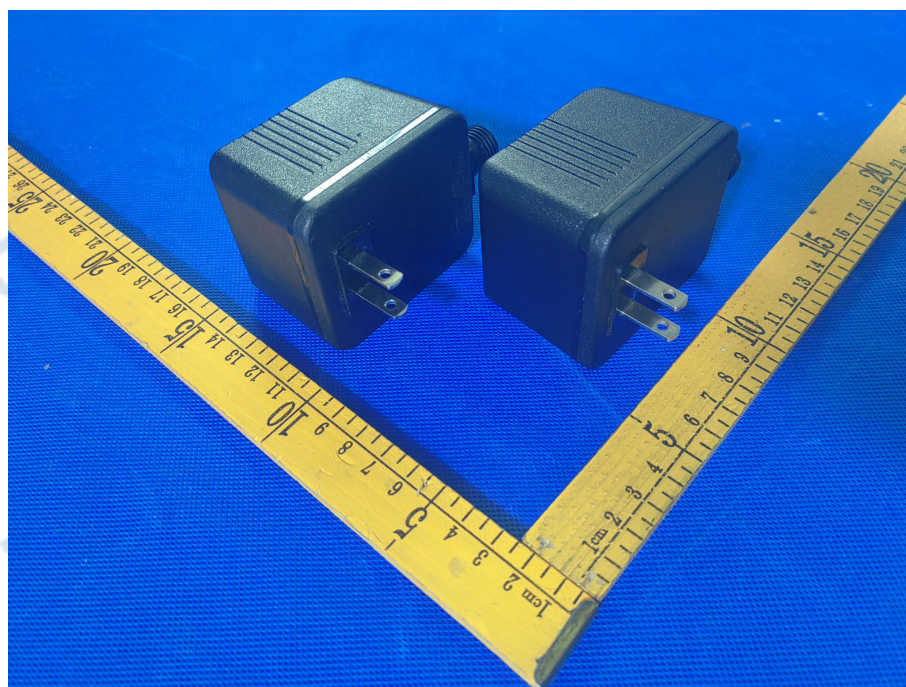


Photo 3



--- End of Report ---