



Dongguan Lepont Testing Service Co., Ltd.

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Ref. Report No.

LPS-G19031902

TEST REPORT

Energy Efficiency Regulations

Energy Efficiency of External Power Supplies

Applicant.....: JENSON ENTERPRISE CO.,LTD
Address.....: Ailingkan Village, Dalingshan Town,DONGGUAN Guangdong 523000
Manufacturer.....: Same as applicant
Address.....: Same as applicant
Factory.....: Same as applicant
Address.....: Same as applicant
Product name.....: Furniture Power Distribution Unit
Output Cord Length (cm).....: N/A
Trade mark.....: /
Model No.....: JN02-03-22
Ratings.....: Input: 125VAC, 60Hz,
Output: 5Vdc, 2.0A
Standard.....: US CEC: Appliance Efficiency Regulations (California Code of
Regulations, Title 20, Sections 1601 through 1609),
dated January, 2016,(CEC-400-2017-002)(effective January, 2017)
Date of Receiver.....: 2019-03-19
Date of Test.....: 2019-03-21
Date of Issue.....: 2019-03-22
Testing Laboratory.....: Dongguan Lepont Testing Service Co., Ltd.
Address.....: No.117 Ting Shan Industrial Zone, Houjie Town, Dongguan,
Guangdong, P.R. China
Test Report Form No.....: LPS-G19031902
Test Result.....: PASS

This Test Report is Issued Under the Authority of:

Tested By

Cory Zhou/Engineer

Approved By



Haylen.Li/ Reviewer

Test Report issued under the responsibility of:

Dongguan Lepont Testing Service Co., Ltd.

Copy of marking plate(Representative):

The artwork below may be only a draft.



General product information:

1. The submitted samples were found to comply with the above standard.
2. This test results relate only to the submit samples.
3. Output cord cross-sectional areas: 20AWG(For testing use).

Note: This report shall not be reproduced except for authorized by testing laboratory.

General condition

1. Test Room

The test was carried out in a room that has an air speed close to the UUT of ≤ 0.5 m/s. The ambient temperature was maintained at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ throughout the test.

2. Test Voltage

The input voltage is within the specified voltage $\pm 1\%$ and the specified frequency $\pm 1\%$. The UUT was tested at rated supply as mentioned in Summary of testing. The input power source is capable of delivering at least 10 times the nameplate input power of the UUT. The THD of the supply voltage when supplying the UUT in the specified mode was not exceeding 2%, up to and including the 13th harmonic.

3. Test Setup

The UUT was operated at 100% of rated current output for at least 30 minutes immediately prior to conducting efficiency measurements.

4. THD

The THD of the input voltage shall be ≤ 2 percent, up to and including the 13th harmonic. The crest factor of the input voltage shall be between 1.34 and 1.49.

5. Load Conditions

The UUT was tested at four active mode load conditions and the no-load condition according to table below by using electronic load.

Percentage of Nameplate Output Current	
Load Condition 1	100% $\pm$ 2%
Load Condition 2	75% $\pm$ 2%
Load Condition 3	50% $\pm$ 2%
Load Condition 4	25% $\pm$ 2%
Load Condition 5	0%

The 2% allowance is of nameplate output current, not of the calculated current value. For example, a UUT at Load Condition 3 may be tested in a range from 48% to 52% of rated output current.

International Efficiency Marking Protocol for External Power Supplies
Version 3.0, September 2013

Mark	Performance Requirements				
	Nameplate Output Power (P _{no})	No-Load Mode Power	Nameplate Output Power (P _{no})	Average Efficiency in Active Mode	Power Factor
I	Used if none of the other criteria are met.				
II	0 to ≤ 10 watts	≤ 0.75	0 to < 1 watt	≥ 0.39 * P _{no}	Not applicable
	> 10 to 250 watts	≤ 1.0	1 to < 49 watts	≥ 0.107 x Ln(P _{no}) + 0.39	
			> 49 watts	≥ 0.82	
III	0 to < 10 watts	≤ 0.5	0 to 1 watt	≥ 0.49 * P _{no}	Not applicable
	10 to 250 watts	≤ 0.75	> 1 to < 49 watts	≥ 0.09 * Ln(P _{no}) + 0.49	
			>49 to 250 watts	≥ 0.84	
IV	0 to 250 watts	≤ 0.5	0 to 1 watt	≥ 0.5 * P _{no}	Not applicable
			1 to 51 watts	≥ 0.09 * 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: ≥ 0.480 *P _{no} + 0.140 Low Voltage: ≥0.497 * P _{no} + 0.067	EPSs with ≥ 100 watts input power must have a true power factor ≥ 0.9 at 100% of rated load when tested at 115 volts/60Hz.
	≥ 50 to ≤ 250 watts	≤ 0.5	> 1 to 49 watts	Standard: ≥ [0.0626* Ln(P _{no})] + 0.622 Low Voltage: ≥[0.0750 * Ln(P _{no})]+ 0.561	
			> 49 to 250 watts	Standard: ≥ 0.870 Low Voltage: ≥ 0.860	
VI	Single-Voltage				Not Applicable
	0 to ≤ 49 W	AC-DC: ≤ 0.100 AC-AC: ≤ 0.210	0 to ≤ 1 W	Basic Voltage: ≥ 0.5 * P _{no} + 0.16 Low Voltage: ≥ 0.517 * P _{no} + 0.087	
			1 to ≤ 49 W	Basic Voltage: ≥ 0.071* ln(P _{no}) – 0.0014*P _{no} + 0.67 Low Voltage: ≥ 0.0834 * ln(P _{no}) – 0.0014 * P _{no} + 0.609	
	>49 to ≤ 250 W	≤ 0.210	>49 to ≤ 250 W	Basic Voltage: ≥ 0.880 Low Voltage: ≥ 0.870	
	> 250 W	≤ 0.500	>250 W	≥ 0.875	
	Multiple-Voltage				
	Any	≤ 0.300	0 to ≤ 1 W	≥ 0.497 * P _{no} + 0.067	
			1 to ≤ 49 W	≥ 0.075 * ln(P _{no}) + 0.561	
			49 W	≥ 0.860	
VII	Reserved for future use				

(California Code of Regulations, Title 20, Sections 1601 through 1609), dated January 2016 (Level VI) for no-load electric power consumption and average active efficiency of external power supplies

Table U-2 Federal Standards for Direct Operation External Power Supplies
(Compliance Starting January, 2017)

Single-Voltage External AC-DC or AC-AC Power Supply, Basic-Voltage			
Nameplate Output Power (Pno)	Minimum Average Efficiency in Active Mode		Verdict
≤ 1W	≥ 0.5 ×Pno + 0.16		N/A
1 W < to ≤ 49 W	Basic Voltage: ≥ 0.071* ln(Pno) – 0.0014*Pno + 0.67		N/A
49W < to ≤ 250W	≥ 0.880		N/A
> 250W	≥ 0.875		N/A
Nameplate Output Power (Pno)	Maximum Power in No-Load Mode		Verdict
	☐ Ac-Ac EPS	☒ Ac-Dc EPS	
≤ 1W	≤ 0.21W	≤ 0.10W	N/A
1 W < to ≤ 49 W	≤ 0.21W	≤ 0.10W	N/A
49W < to ≤ 250W	≤ 0.21W		N/A
> 250W	≤ 0.50W		N/A

Single-Voltage External AC-DC or AC-AC Power Supply, Low-Voltage			
Nameplate Output Power (Pno)	Minimum Average Efficiency in Active Mode		Verdict
≤ 1W	≥ 0.517 × Pout + 0.087		N/A
1 W < to ≤ 49 W	≥ 0.0834 × ln(Pno) – 0.0014 × Pno + 0.609		P
49W < to ≤ 250W	≥ 0.870		N/A
> 250W	≥ 0.875		N/A
Nameplate Output Power (Pno)	Maximum Power in No-Load Mode		Verdict
	☐ Ac-Ac EPS	☒ Ac-Dc EPS	
≤ 1W	≤ 0.21W	≤ 0.10W	N/A
1 W < to ≤ 49 W	≤ 0.21W	≤ 0.10W	P
49W < to ≤ 250W	≤ 0.21W		N/A
> 250W	≤ 0.50W		N/A

Test data

Sample Model: JN02-03-22		115Vac / 60Hz			
Load condition	No Load	Active load of the nameplate (5Vdc, 2.0A)			
Percent of Nameplate Current	0%	25%	50%	75%	100%
Output voltage(Vdc)	5.37	5.24	5.19	5.19	5.17
Output Current(mA)	--	500	1000	1500	2000
Active Output Power(W)	--	2.62	5.19	7.785	10.34
Input Power(W)	0.068	3.21	6.55	9.77	13.05
Total Harmonic Distortion(THD,V%)	0.106	0.180	0.242	0.320	0.311
True Power Factor(W/VA)	0.203	0.412	0.477	0.509	0.547
Power Consumed(W)	0.068	0.590	1.360	1.985	2.710
Efficiency(%)	--	81.62	79.24	79.68	79.23
Average Efficiency(%)	--	79.94			

TEST RESULTS AND REQUIREMENT:

Test Results:

	Model No.	Test at 115V, 60Hz	Test at 230V, 50Hz	Efficiency requirements
No load power (W)	JN02-03-22	0.068	--	≤0.10
Average Efficiency (%)	JN02-03-22	79.94	--	≥78.70
Verdict	---	PASS	--	---