ATT
PRODUCT SERVICE

ErP Test Report for Energy Efficiency of External Power Supplies

Report Reference No.....:	12CA05028 01001
Date of issue.....:	May 18, 2012
Testing laboratory.....:	ATT Product Service Co., Ltd.
Address.....:	2F., B2/B3 Area, City Plaza, Chang An Town, Dong Guan City, Guang Dong, P.R. China.
Testing location.....:	As above.
Applicant.....:	Shenzhen Jinhuasheng Power Technology Co., Ltd.
Address.....:	No.6 Plaza Road,Xinghua Miaoxi Industrial Park, Guanlan, Baoan District Shenzhen City, Guangdong China.
Standard .....:	This Test program is based on the following standards: EC Regulation 278/2009:2009-04-07 EN62301:2005 in excerpt (Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc Power Supplier: 13, Feb.2004)
Samples Received Date ..... :	May 17, 2012
Tested Date .....:	May 17, 2012

Description of Sample(s):

Type of test object .....:	AC ADAPTER
Model and/or type reference.....:	RS-E2000; JHS-E2000J00
Rating(s) .....:	Input rating: 100-240V~ 50/60Hz 0.45A Max. Output rating: 5V⎓ 2A
Trademark..... :	
Country of origin.....:	CHINA
Manufacturer(s):.....:	Dongguan Jinhuasheng Power Technology Co.,Ltd
Address:.....:	No.3, 3 Road ShangKeng,Shangkeng Village, Changping Town, Dongguan City, Guangdong China.
Integral Input power Switch.....:	Not present
Output Cord Length (cm) .....:	150cm
Number of page(s) (Report).....:	7
Number of page(s) (Attachment) .....:	Photos 1 page

Compiled by.....: Lily Song Approved by.....: King Wang

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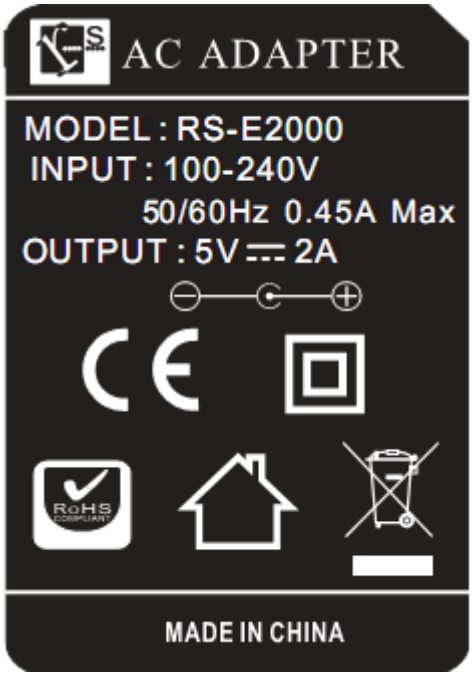
Summary of testing:

The product meets the Stage 1 & 2 requirement of the implementation measure EC 278/2009, Annex I.

Copy of marking plate:



Instruments list:

Equipment Name	Manufacturer	Model No.	Serial No.	Calibration Date	Next Calibration Date
Electronic Load	ARRAY	3711A	A06BF04062	2011.06.27	2012.06.26
Tapeline	TAJIMA	Hilock-19	ATT-Y043	2011.06.27	2012.06.26
Humidity Meter	CEPREI	--	SX050725A	2011.06.27	2012.06.26
Power Analyzers	VOLTECH	PM100	AX132/2975	2012.01.03	2013.01.02
Power Parameter Meter	YOKOGAWA	WT210	12BB18366	2011.06.24	2012.06.23

Remark:

1. The product of model HS-E2000J00 are identical to RS-E2000, only the model name are difference.

Clause	Requirement-Test	Measuring result-Remark	Verdict
0	General		P
0.1	Ambient condition met requirement of : Ambient temperature (23±5)℃ Airspeed ≤0.5m/s (EN62301 cl4.2)	Ambient: 23.2℃ Airspeed: 0.2m/s	P
0.2	Power Source mets requirement of : Frequency 50Hz±1% THD Value ＜2% ratio of peak value of test voltage to rms of 1.33 to 1.49 (EN62301 cl.4.3, 4.4)	Frequency: 50Hz THD max 0.528% at 115V 60Hz 1.430% at 230V 50Hz Ratio:1.42	P
0.3	Power Measurement accuracy		P
	Measurements of power of 0.5W or greater shall be made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power of less than 0.5W shall be made with an uncertainly of less than or equal to 0.01W at the 95% confidence level. The power measurement instrument shall have a resolution of : -0.01W or better for power measurements of 10W or less (EN62301 cl.4.5)		P
0.4	Test Approach used		
	-- Stable mode (EN 62301 cl. 5.3.1)		P
	-- Average power approach (EN 62301 cl. 5.3.2)		N/A
	-- Average energy approach (EN 62301 cl. 5.3.2)		N/A
0.5	Test circuit		
	- Test circuit acc. To Fig. 1 is used		P
	- Other test circuit is used		N/A

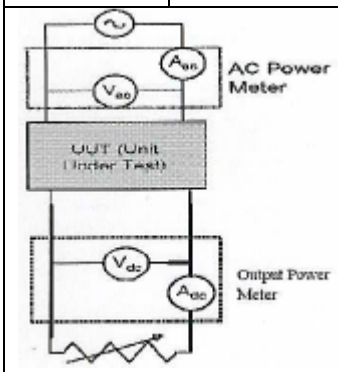


Fig.1 Test Circuit

1.	No-load power consumption		P
1.1	Measured power consumption in no-load condition:	See attached table	
1.1.1	Stage 1 limit: ≤0.50W	0.06W at 115V 60Hz 0.10W at 230V 50Hz	P
1.1.2	Stage 2 limit:		P
	≤0.50W AC-AC external power suppliers except low voltage external power supplies, Po≤51.0W		N/A
	≤0.50W AC-AC external power suppliers except low voltage external power supplies, Po＞51.0W		N/A
	≤0.30W AC-DC external power suppliers except low voltage external power supplies, Po≤51.0W		N/A
	≤0.50W AC-DC external power suppliers except low voltage external power supplies, Po＞51.0W		N/A
	≤0.30W Low voltage external power supplies, Po≤ 51.0W	0.06W at 115V 60Hz 0.10W at 230V 50Hz	P
2.	Average active efficiency		P
2.1	Measured average active efficiency:		
2.1.1	Stage 1 limit:		P
	≥0.500*Po For Po＜1.0W		N/A
	≥0.090*In(Po)+0.500 For 1.0W ≤Po≤51.0W	See attached table 0.7446＞limit 0.7073 at 115V 60Hz; 0.7371＞limit 0.7073 at 230V 50Hz	P
	≥0.850 For Po＞51.0W		N/A

2.1.2	Stage 2 limit:		P
	⩾0.480 *Po+0.140 For AC-AC and AC-DC external power suppliers, except low voltage external power supplies, Po⩽1.0W		N/A
	⩾0.063 *ln(Po)+0.622 For AC-AC and AC-DC external power suppliers, except low voltage external power supplies, 1.0W＜Po⩽51.0W		N/A
	⩾0.870 For AC-AC and AC-DC external power suppliers, except low voltage external power supplies, Po＞51.0W		N/A
	⩾0.497 *Po+0.067 For lower voltage external power supplies, Po⩽1.0W		N/A
	⩾0.075 *ln(Po)+0.561 For lower voltage external power supplies, 1.0W＜Po⩽51.0W	See attached table 0.7446＞limit 0.7337 at 115V 60Hz; 0.7371＞limit 0.7337 at 230V 50Hz	P
	⩾0.860 For lower voltage external power supplies, Po＞51.0W		N/A

Table: Measured and Calculated Data at 115V 60Hz						
For model: RS-E2000; JHS-E2000J00						
	No Load	Active Power Values				Average
Percent of Nameplate Current	0%	25%	50%	75%	100%	
Output Current (mA)		500	1000	1500	2000	
Output Voltage (V)		5.17	5.12	5.05	5.00	
Output Power (W)		2.59	5.12	7.58	10.00	
Ac Input Voltage (V)	115	115	115	115	115	
Ac Input Power (W)	0.06	3.47	6.69	10.38	13.58	
Total Harmonic Distortion (THD)	0.427%	0.528%	0.428%	0.432%	0.392%	0.445%
True Power Factor (W/VA)	0.209	0.435	0.486	0.524	0.557	0.501
AC Input Frequency	60	60	60	60	60	60
Power Consumed by UUT (W)	0.06	0.88	1.57	2.80	3.58	
Efficiency		74.64%	76.53%	73.03%	73.64%	74.46%

Supplementary information:
Stage 1 limit:
Average active mode efficiency limit ≥0.090*In(Po)+0.500=0.7073
The no-load condition consumption shall not exceed 0.5W.
Stage 2 limit:
Average active mode efficiency limit≥0.075 *In(Po)+0.561=0.7337
The no-load condition consumption shall not exceed 0.3W.

Table: Measured and Calculated Data at 230V 50Hz						
For model: RS-E2000; JHS-E2000J00						
	No Load	Active Power Values				Average
Percent of Nameplate Current	0%	25%	50%	75%	100%	
Output Current (mA)		500	1000	1500	2000	
Output Voltage (V)		5.18	5.12	5.06	5.00	
Output Power (W)		2.59	5.12	7.59	10.00	
Ac Input Voltage (V)	230	230	230	230	230	
Ac Input Power (W)	0.10	3.51	7.02	10.36	13.36	
Total Harmonic Distortion (THD)	1.421%	1.430%	1.367%	1.382%	1.374%	1.388%
True Power Factor (W/VA)	0.251	0.427	0.445	0.468	0.491	0.458
AC Input Frequency	50	50	50	50	50	50
Power Consumed by UUT (W)	0.1	0.92	1.90	2.77	3.36	
Efficiency		73.79%	72.93%	73.26%	74.85%	73.71%

Supplementary information:
Stage 1 limit:
Average active mode efficiency limit ⩾0.090*In(Po)+0.500=0.7073
The no-load condition consumption shall not exceed 0.5W.
Stage 2 limit:
Average active mode efficiency limit⩾0.075 *In(Po)+0.561=0.7337
The no-load condition consumption shall not exceed 0.3W.

Attachment : Photo documentations

For model: RS-E2000; JHS-E2000J00

View:

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View:

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