SINGLE VOLTAGE EXTERNAL POWER SUPPLY TEST REPORT

Report No.: 160500291SHA-001
Issued: 2016-05-12

Applicant:	GlobTek, Inc.
Applicant Address:	186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer:	GlobTek (Suzhou) Co., Ltd.
Manufacturer Address:	Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China
Product Name:	ITE Power Supply
Model Name:	GT-46181-1812-T3
Model Similarity:	NA
Brand Name:	GlobTek, Inc.

Name plate specifications	Input	Output
Voltage (V)	100-240	12
Current (A)	0.5	1.5
Power (W)	N/A	18.00
Frequency (Hz)	50-60	DC

Testing Standard:	CSA-C381.1-08 November 2008 with Update No.1 January 2010-Test method for calculating the energy efficiency of single-voltage external ac-dc and ac-ac power supplies
Sample Received:	2016-05-04
Test performed:	2016-05-11
Certification Body:	Intertek Testing Services NA INC. 165 Main Street, Cortland, New York, USA
Testing Location:	Intertek Testing Services Shanghai Limited Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
Conclusion:	From the results of the testing on the submitted sample(s), we are of the opinion that the submitted sample(s) COMPLY WITH the requirements of Canada's Energy Efficiency Regulations for External Power Supplies.
Note:	1. This report shall not be reproduced, except in full, without written approval of the laboratory. This test results relate only to the items tested. 2. The results contained in the report are for technical evaluation only and are applicable only to the specific test specimen referenced within the report.

Prepared by:

Albert Zhou

Albert Zhou
Engineer

Approved by:

Will Wang
Reviewer

SINGLE VOLTAGE EXTERNAL POWER SUPPLY TEST REPORT

Report No.: 160500291SHA-001
Issued: 2016-05-12

TECHNICAL INFORMATION

Output cord length and size: 1.83m/ 20AWG

Size of the entire UUT: 80.6mm (L)×50.0mm(W)×31.0mm (H) ±1.0mm

Built-in switch on the UUT: No
Product powered by UUT: General Use

Test Equipment

Equipment Name	Make/Model	Number	Calibration Date	Due Date
Digital Power Meter	WT210	EC 3358	July 1, 2015	June 30, 2016
Digital Power Meter	WT3000	EC 4448	October 24, 2015	October 23, 2016

TEST PROCESS:

The tests are carried out in a room that has an air speed close to test sample of < 0.5m/s, and the ambient temperature is maintained at 23°C±5°C. The input voltage shall be within ± 1 percent of the above specified voltage. The input frequency shall be within ± 1 percent of the specified frequency. 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.

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 AC input power does not drift by more than 5% from the maximum value observed, the UUT can be considered stable and then the measurements were recorded at the end of the 5 minutes period. If AC input power is not stable over a 5-minute period, then follow the guidelines established by CAN/CSA-C62301 for measuring average power or accumulated energy over time for both input and output power. Subsequent load conditions were measured under the same 30 minutes stability guidelines.

The unit under test shall be tested at the loading conditions listed below, derated per the proportional allocation method presented in the following section.

Loading Conditions for Unit Under Test:
Loading Condition 1: 100% of Derated Nameplate Output Current ± 2%.
Loading Condition 2: 75% of Derated Nameplate Output Current ± 2%.
Loading Condition 3: 50% of Derated Nameplate Output Current ± 2%.
Loading Condition 4: 25% of Derated Nameplate Output Current ± 2%.
Loading Condition 5: 0%.

Input and output power measurements shall be conducted in sequence from Loading Condition 1 to Loading Condition 4, as indicated above. For Loading Condition 5, the unit under test shall be placed in no-load mode, any additional signal connections to the unit under test shall be disconnected, and input power shall be measured.

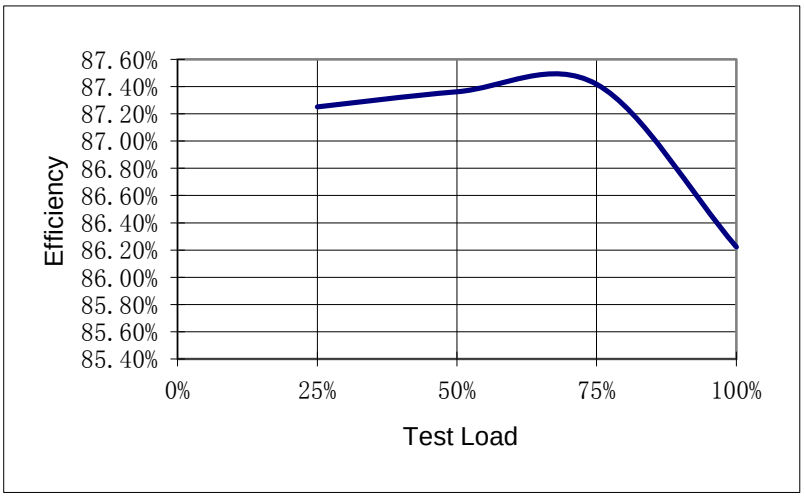
Measurements of power of 0,50 W or greater are made with an uncertainty of less than or equal to 2 % at the 95 % confidence level. Measurements of power of less than 0,50 W are made with an uncertainty of less than or equal to 0,01 W at the 95 % confidence level.

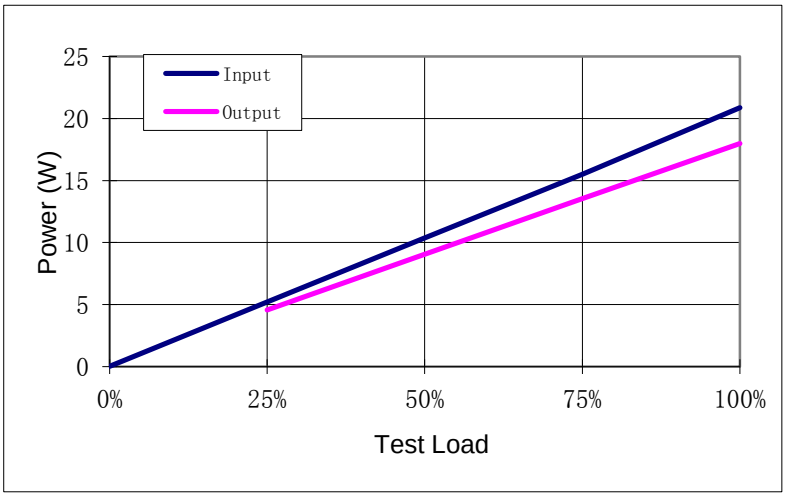
TEST RESULTS

Sample 1: Test voltage is 115V @ 60Hz

Percent of nameplate current	0%	25%	50%	75%	100%
Rms Output Current (mA)		375	750	1125	1500
Rms Output Voltage (V)	12.192	12.141	12.091	12.044	11.999
Active Output Power (W)		4.553	9.068	13.550	17.998
Rms Input Voltage (V)	115	115	115	115	115
Active Input Power (W)	0.012	5.218	10.380	15.500	20.874
Total Harmonic Distortion(THD_V) (%)	0.013	0.053	0.077	0.095	0.106
Total Harmonic Distortion(THD_A) (%)	9.92	213.07	178.46	157.76	142.44
True Power Factor (W/VA)	0.018	0.940	0.939	0.935	0.923
Power Consumed by EUT(W)	0.012	0.665	1.312	1.951	2.876
Efficiency		87.25%	87.36%	87.42%	86.22%
Average Efficiency		87.06%			

Figures:

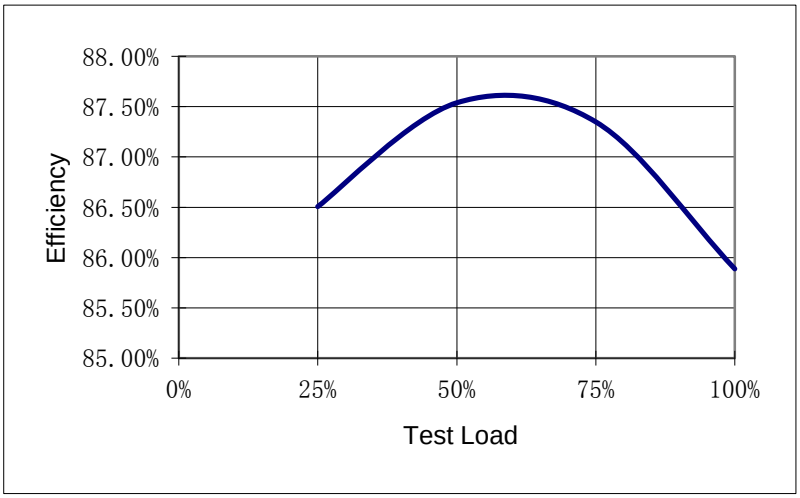


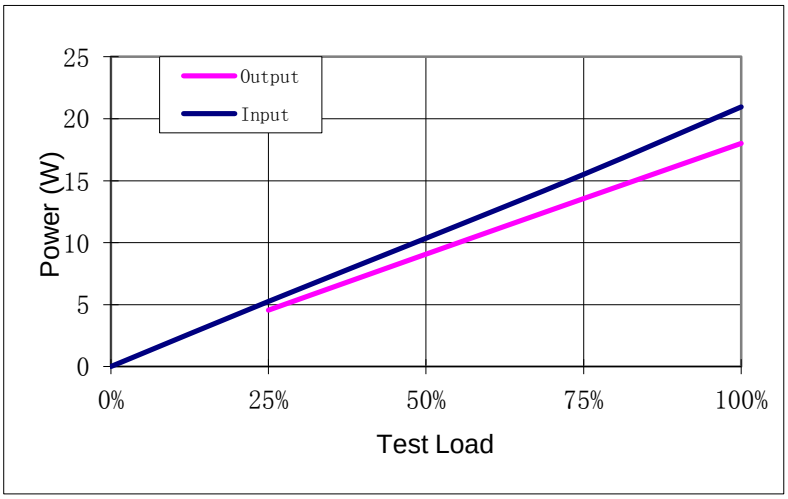


Sample 2: Test voltage is 115V @ 60Hz

Percent of nameplate current	0%	25%	50%	75%	100%
Rms Output Current (mA)		375	750	1125	1500
Rms Output Voltage (V)	12.201	12.148	12.097	12.047	12.001
Active Output Power (W)		4.555	9.073	13.552	18.001
Rms Input Voltage (V)	115	115	115	115	115
Active Input Power (W)	0.016	5.266	10.364	15.515	20.959
Total Harmonic Distortion(THD) V%	0.014	0.053	0.079	0.095	0.108
Total Harmonic Distortion(THD) A%	9.88	210.38	176.22	155.54	140.22
True Power Factor (W/VA)	0.018	0.937	0.942	0.933	0.921
Power Consumed by EUT(W)	0.016	0.711	1.291	1.963	2.958
Efficiency		86.51%	87.54%	87.35%	85.89%
Average Efficiency		86.82%			

Figures:

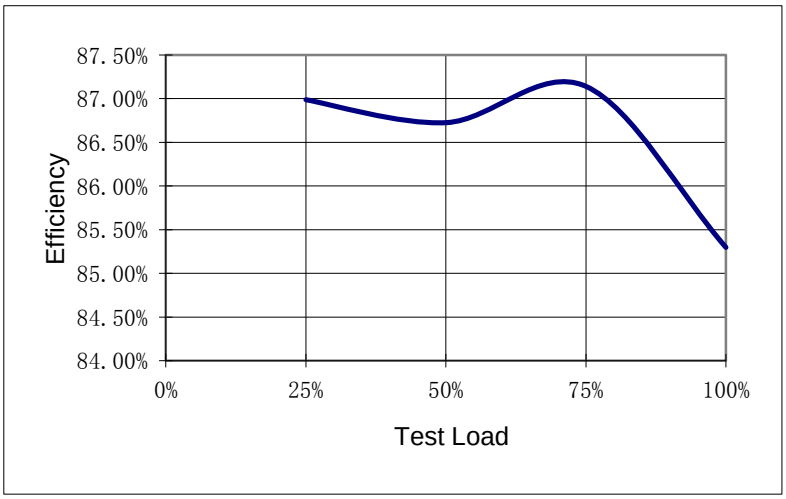


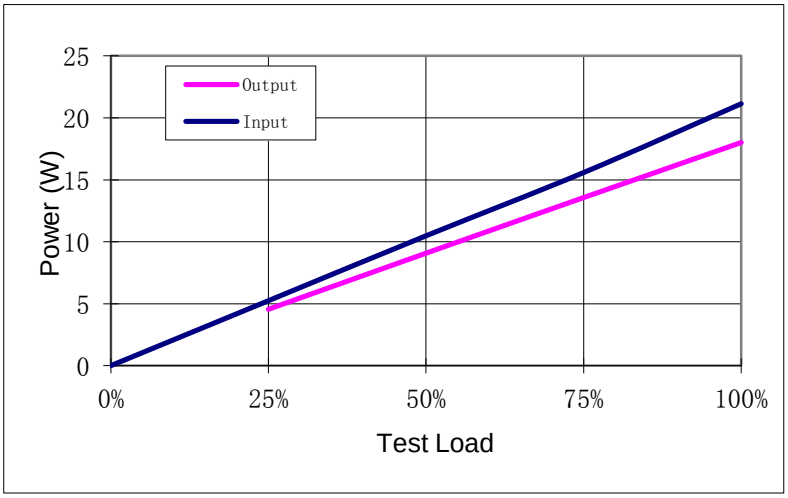


Sample 3: Test voltage is 115V @ 60Hz

Percent of nameplate current	0%	25%	50%	75%	100%
Rms Output Current (mA)		375	750	1125	1500
Rms Output Voltage (V)	12.078	12.169	12.118	12.069	12.015
Active Output Power (W)		4.563	9.089	13.577	18.023
Rms Input Voltage (V)	115	115	115	115	115
Active Input Power (W)	0.008	5.246	10.480	15.581	21.129
Total Harmonic Distortion(THD) V%	0.012	0.055	0.081	0.097	0.110
Total Harmonic Distortion(THD) A%	9.63	212.38	177.93	157.35	141.76
True Power Factor (W/VA)	0.013	0.935	0.942	0.934	0.922
Power Consumed by EUT(W)	0.008	0.683	1.391	2.004	3.106
Efficiency		86.99%	86.73%	87.14%	85.30%
Average Efficiency		86.54%			

Figures:





SINGLE VOLTAGE EXTERNAL POWER SUPPLY TEST REPORT

Report No.: 160500291SHA-001
Issued: 2016-05-12

Test Result Summary (115V @ 60Hz):

Sample Number	Active Efficiency	No-Load Power
Sample 1	87.06%	0.012
Sample 2	86.82%	0.016
Sample 3	86.54%	0.008
Sampling size	3	3
Mean of sample	86.81%	0.012
Sample standard deviation	0.26%	0.004
UCL/1.05	N/A	0.021
LCL/0.95	90.91%	N/A
Declarable Value	**86.81%**	**0.020**
MEPS (level IV)	76.01%	0.50
level V	80.29%	0.30
level VI	85.00%	0.10

According to the ENERGY STAR® protocol:

The samples tested comply with level: VI

Note: This product is not a replacement EPS or a security EPS.

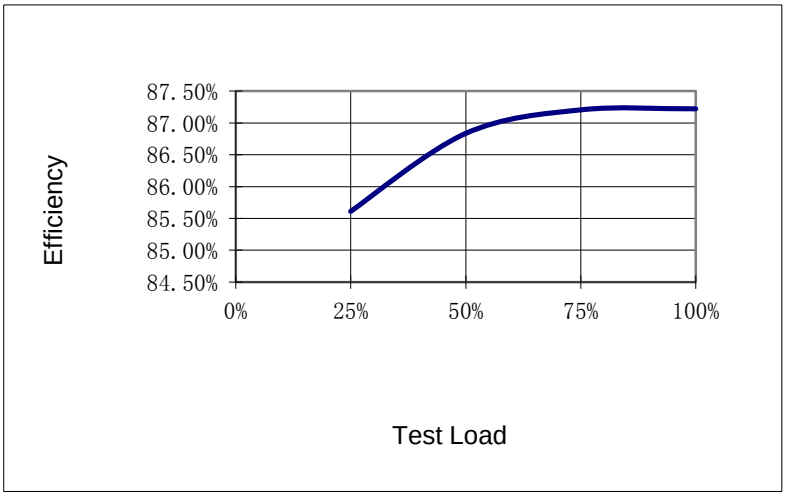
SINGLE VOLTAGE EXTERNAL POWER SUPPLY TEST REPORT

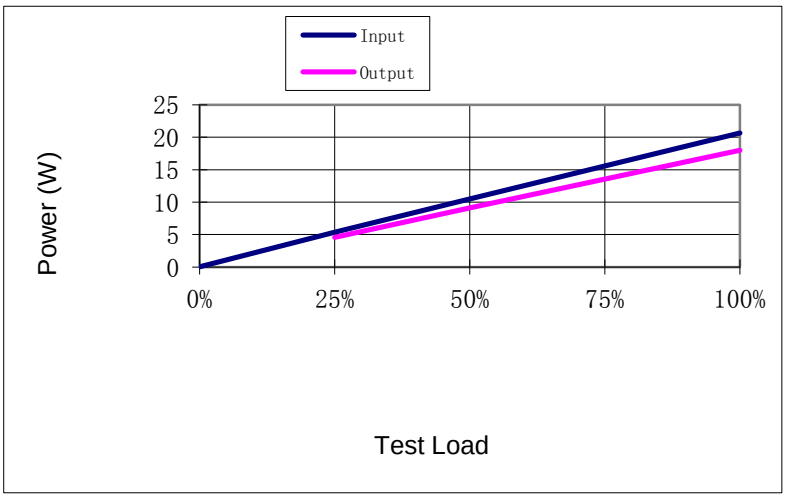
Report No.: 160500291SHA-001
Issued: 2016-05-12

Sample 1: Test voltage is 230V @ 50Hz

Percent of nameplate current	0%	25%	50%	75%	100%
Rms Output Current (mA)		375	750	1125	1500
Rms Output Voltage (V)	12.227	12.168	12.113	12.061	12.002
Active Output Power (W)		4.56	9.08	13.57	18.00
Rms Input Voltage (V)	230.2	230.2	230.2	230.2	230.2
Active Input Power (W)	0.023	5.330	10.462	15.559	20.640
Total Harmonic Distortion(THD_V) (%)	0.013	0.020	0.027	0.034	0.040
Total Harmonic Distortion(THD_A) (%)	3.33	237.54	236.02	220.34	206.34
True Power Factor (W/VA)	0.018	0.791	0.901	0.929	0.938
Power Consumed by EUT(W)	0.023	0.767	1.377	1.990	2.637
Efficiency		85.61%	86.84%	87.21%	87.22%
Average Efficiency		86.72%			

Figures:

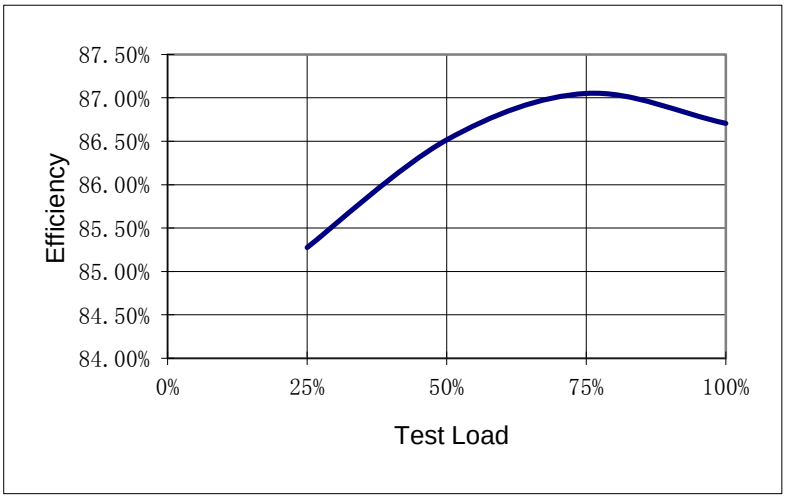


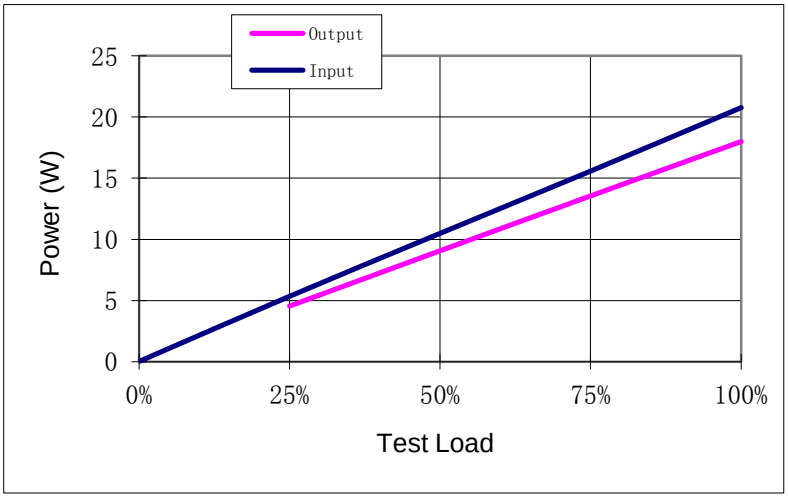


Sample 2: Test voltage is 230V @ 50Hz

Percent of nameplate current	0%	25%	50%	75%	100%
Rms Output Current (mA)		375	750	1125	1500
Rms Output Voltage (V)	12.201	12.150	12.097	12.050	11.998
Active Output Power (W)		4.556	9.073	13.557	17.997
Rms Input Voltage (V)	230.2	230.2	230.2	230.2	230.2
Active Input Power (W)	0.022	5.343	10.487	15.573	20.756
Total Harmonic Distortion(THD) V%	0.013	0.020	0.027	0.035	0.040
Total Harmonic Distortion(THD) A%	4.06	238.63	234.55	217.96	203.65
True Power Factor (W/VA)	0.017	0.802	0.905	0.930	0.939
Power Consumed by EUT(W)	0.02	0.79	1.41	2.02	2.76
Efficiency		85.28%	86.52%	87.05%	86.71%
Average Efficiency		86.39%			

Figures:

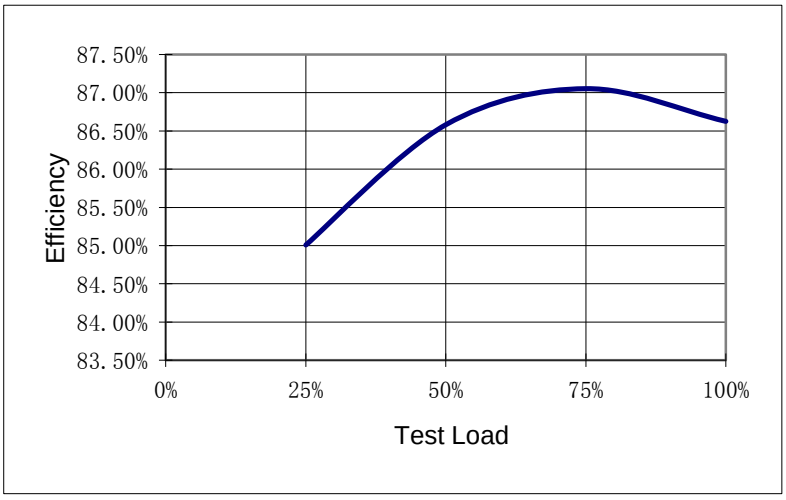


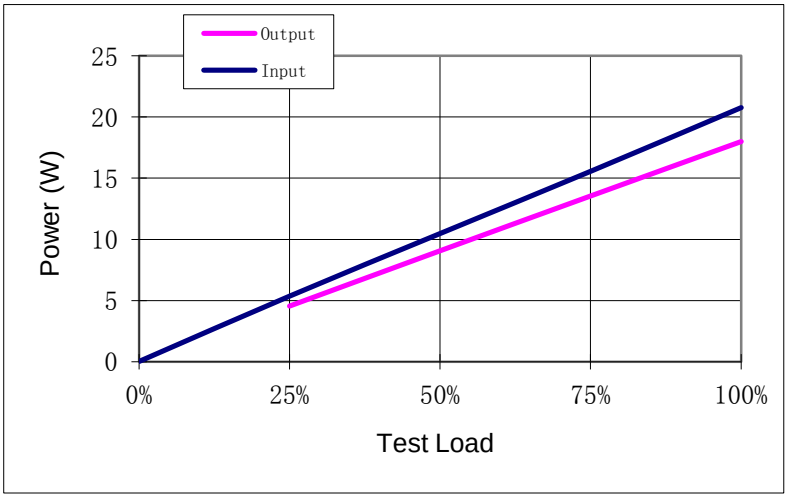


Sample 3: Test voltage is 230V @ 50Hz

Percent of nameplate current	0%	25%	50%	75%	100%
Rms Output Current (mA)		375	750	1125	1500
Rms Output Voltage (V)	12.192	12.141	12.092	12.042	11.994
Active Output Power (W)		4.553	9.069	13.547	17.991
Rms Input Voltage (V)	230.2	230.2	230.2	230.2	230.2
Active Input Power (W)	0.014	5.356	10.474	15.562	20.769
Total Harmonic Distortion(THD) V%	0.013	0.020	0.028	0.035	0.040
Total Harmonic Distortion(THD) A%	4.70	239.23	237.14	220.57	205.92
True Power Factor (W/VA)	0.019	0.755	0.904	0.930	0.939
Power Consumed by EUT(W)	0.014	0.803	1.405	2.015	2.778
Efficiency		85.01%	86.58%	87.05%	86.63%
Average Efficiency		86.32%			

Figures:





SINGLE VOLTAGE EXTERNAL POWER SUPPLY TEST REPORT

Report No.: 160500291SHA-001
Issued: 2016-05-12

Test Result Summary (230V @ 50Hz):

Sample Number	Active Efficiency	No-Load Power
Sample 1	86.72%	0.023
Sample 2	86.39%	0.022
Sample 3	86.32%	0.014
Sampling size	3	3
Mean of sample	86.48%	0.020
Sample standard deviation	0.22%	0.005
UCL/1.05	N/A	0.027
LCL/0.95	90.64%	N/A
Declarable Value	**86.48%**	**0.03**
MEPS (level IV)	76.01%	0.50
level V	80.29%	0.30
level VI	85.00%	0.10

According to the ENERGY STAR® protocol:
The samples tested comply with level: VI

Note: This product is not a replacement EPS or a security EPS.

Label(s):


GlobTek, Inc.
www.globtek.com
ITE POWER SUPPLY 电源供应器
P/N(料号)：TR9CE1500LCPG1640R6B
MODEL(型号)：GT-46181-1812-T3
INPUT(输入)：100-240V~,50-60Hz,0.5A
OUTPUT(输出)： 12V ⎓ 1.5A
직류전원장치 AC/DC ADAPTER
KTC HU10499-XXXXXA
MSIP-REM-GSZ-46181-1812-T3
전기용품안전관리법에 의한 표시
최저소비효율기준 만족 제품
모델명:GT-46181-1812-T3
Mfr. Name: GLOBTEK (SUZHOU) CO.,LTD
A/S Center:02-3451-3400
PS E
30
GlobTek, Inc.
EFFICIENCY LEVEL VI
RoHS 2
LPS
IP40
WWYY
제조국가:중국/MADE IN CHINA/中国制造

Photo 1 - External view

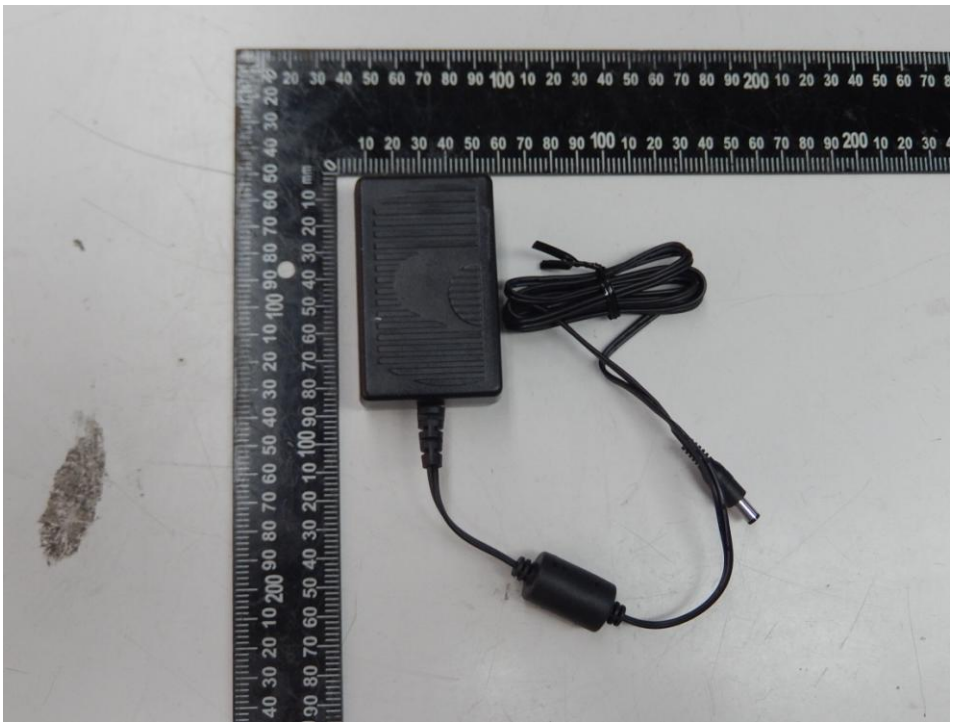


Photo 2 - External view

Photo 3 - Internal view

Photo 4 - Internal view