

GlobTek Inc.

## CEC Certificate of Compliance

**Product Name:** Power Adapter  
**Manufacturer** GlobTek Inc.  
**Importer**  
**Address:** 186 Veterans Drive  
Northvale, NJ 07627  
USA  
**Model Number:** GT- 43008509-3.05

**Declare that the product conforms to the following specifications**

*This document hereby certifies the above listed products are in compliance with the California's Energy Efficiency Standards level V and meet the Appliance Efficiency Regulations, (California Code of Regulations, Title 20, Sections 1601 through 1608) dated January 2006.*

*The above listed products have been tested at a laboratory certified by the California Energy Commission. The test method was according to US EPA "Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies" dated August 11, 2004.*

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**TEST REPORT**

California Energy Commission's Appliance Regulations  
(Section 1601 – 1608 of Title 20 of the California Code of Regulations)

**Report Reference No.** ..... : GT- 43008509-3.05

Tested by (name +signature)..... : JW

Engineer by (name +signature).... : JY

Approved by (name +signature)... : JL

**Testing Laboratory** ..... : GlobTek Inc.

Address ..... : GlobTek Inc.

GlobTek (Suzhou) Co., Ltd  
Building4, NO. 76 JinLing East Road,  
Suzhou Industrial Park, Suzhou  
JiangSu, 215021, China

**Manufacturer's name** ..... : GlobTek Inc.

GlobTek (Suzhou) Co., Ltd  
Building4, NO. 76 JinLing East Road,  
Suzhou Industrial Park, Suzhou  
JiangSu, 215021, China

**Test specification :**

Standard ..... : California Energy Commission's Appliance Regulations  
(Section 1601 -1608 of Title 20 of the California Code of Regulations)

Test procedure ..... : US EPA-Test Method for Calculating the Energy  
Efficiency of Single-Voltage External Ac-Dc and Ac-Ac  
Power Supplies, August 11, 2004

**Test item description** ..... :  **AC-DC power supply**     **AC-AC power supply**

Trade Mark ..... : GlobTek

Model/Type reference ..... : GT- 43008509-3.05

Ratings ..... : Input: 100-240 Vac, 50-60 Hz, 1.2A  
Output: 5.95Vdc, 6.0A

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**Test item particulars :** .....

EUT output cord length ..... :1000 mm + 100 / - 0 (16 AWG)

**Possible test case verdicts:**

-test case does not apply to the test object ..... : N/A

-test object does meet the requirement ..... : P(Pass)

-test object does not meet the requirement ..... : F(Fail)

**Testing :**

Date of receipt of test item ..... : 2011/05/30

Date (s) of performance of tests ..... : 2011/05/30

**General remarks:**

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

“(see Enclosure #)” refers to additional information appended to the report.

“(see appended table)” refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

**The Report contains the following Enclosures:**

Enclosure 1 : Test Equipment List

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### General product information:

- The EUT (Equipment under Test) is an Ac-Dc switching supply for Information Technology Equipment used.

### US EPA – Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies

Clause	Requirement + Test	Result – Remark	Verdict
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4	General Conditions for Measurement	P
a.	Test Voltage	
	An ac reference source shall be used to Provide input voltage to the EUT.	See Enclosure 2 P
	Input to the EUT shall be the specified Voltage $\pm$ 1% and the specified frequency $\pm$ 1%	See appended table P
	The EUT shall be tested at two voltage and Frequency combinations:	See below P
	115V at 60Hz	See appended table P
	230v at 50Hz	See appended table P
b.	Load Condition	
	The EUT shall be tested at the following load Conditions:	
	Load condition 1 : 100% $\pm$ 2%	P
	Load condition 2 : 75% $\pm$ 2%	P
	Load condition 3 : 50% $\pm$ 2%	P
	Load condition 4 : 25% $\pm$ 2%	P
	Load condition 5 : 0%	0 A P
c.	Testing Sequence	
	The EUT shall be operated at 100% of nameplate current output for at least 30 minutes immediately prior to conducting efficiency measurements.	The EUT is operated at 100% of nameplate current output for 30 minutes P
	After this warm-up period, the technician shall monitor ac input power for a period of 5 minutes to assess the stability of the	P

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	EUT.		
	If the power level does not drift by more than 5% from the maximum value observed, the EUT can be considered stable and the measurements can be recorded at the end of the 5 minute period.		P
	If ac input power is not stable over a 5 minute period, the technician shall follow the guidelines established by IEC 62301 for measuring average power or accumulated energy over time for both ac input and dc output		N
	Efficiency measurements shall be conducted In sequence from Load Condition 1 to Load Condition 5 as indicated in Table		P

**US EPA – Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies**

Clause	Requirement + Test	Result – Remark	Verdict
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Test results					
	Temperature immediately surrounding the EUT(°C) .....	25 (°C)	Sample 1		
	Test voltage (V) .....	115 (V)			
	Frequency (Hz) .....	60 (Hz)			
Test Item	Measure at load condition				
	1	2	3	4	5
Rms Output Current (mA)	6000	4500	3000	1500	0
Rms Output Voltage (V)	5.78	5.85	5.92	6.00	6.07
Active Output Power (W)	34.64	26.34	17.77	9.00	0
Rms input voltage (V)	115	115	115	115	115
Rms input Power (W)	41.86	31.21	20.84	10.50	0.13
Total Harmonic Distortion(THD)	1.6%	1.6%	1.6%	1.6%	1.6%
True Power Factor	0.577	0.559	0.532	0.482	0.033
Power Consumed by EUT(W)	7.22	4.87	3.07	1.50	Mea.
					0.13
Efficiency	82.75	84.40	85.27	85.71	N/A
Average Efficiency	84.53% (Requirement: 82.91%)				P

**Supplementary information:**

CALIFORNIA COED OF REGULATIONS, TITLE 20: DIVISION, CHAPTER 4, ARTICLE 4, Section 1605.3(u)(1) states:

*The efficiency in the active mode of power supplies manufactured on or after the effective Dates shall be not less than the applicable values shown (expressed as the decimal*

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*Equivalent of a percentage); and the energy consumption in the no-load mode of power Supplies manufactured on or after the effective dates shown shall be not greater than the Applicable values shown in Table 1 or Table 2 and Table 4.*

**US EPA – Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies**

Clause	Requirement + Test	Result – Remark	Verdict
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Test results					
	Temperature immediately surrounding the EUT(°C) .....	25 (°C) Sample 1			
	Test voltage (V) .....	230 (V)			
	Frequency (Hz) .....	50 (Hz)			
Test Item	Measure at load condition				
	1	2	3	4	5
Rms Output Current (mA)	6000	4500	3000	1500	0
Rms Output Voltage (V)	5.77	5.85	5.92	6.00	6.07
Active Output Power (W)	34.63	26.34	17.77	9.00	0
Rms input voltage (V)	230	230	230	230	230
Rms input Power (W)	41.89	31.70	20.81	10.72	0.20
Total Harmonic Distortion(THD)	1.6%	1.6%	1.6%	1.6%	1.6%
True Power Factor	0.488	0.468	0.436	0.385	0.024
Power Consumed by EUT(W)	7.26	5.36	3.04	1.72	Mea.
					0.20
Req.					0.3
					N/A
Efficiency	82.67	83.09	85.39	83.96	N/A
Average Efficiency	83.78%(Requirement: 82.91%)				P

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US EPA – Test Method for Calculating the Energy Efficiency of Single-Voltage External  
Ac-Dc and Ac-Ac Power Supplies

Clause	Requirement + Test	Result – Remark	Verdict
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Test results					
	Temperature immediately surrounding the EUT(°C) .....	25 (°C) Sample 2			
	Test voltage (V) .....	115 (V)			
	Frequency (Hz) .....	60 (Hz)			
Test Item	Measure at load condition				
	1	2	3	4	5
Rms Output Current (mA)	6000	4500	3000	1500	0
Rms Output Voltage (V)	5.78	5.86	5.93	6.01	6.08
Active Output Power (W)	34.69	26.38	17.8	9.01	0
Rms input voltage (V)	115	115	115	115	115
Rms input Power (W)	41.07	31.41	20.94	10.58	0.14
Total Harmonic Distortion(THD)	1.6%	1.6%	1.6%	1.6%	1.6%
True Power Factor	0.582	0.560	0.533	0.484	0.029
Power Consumed by EUT(W)	6.38	5.03	3.14	1.57	Mea.
					Req.
					0.14
Efficiency	84.47	83.99	85.00	85.16	N/A
Average Efficiency	84.65% (Requirement: 82.91%)				P

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Ac-Dc and Ac-Ac Power Supplies

Clause	Requirement + Test	Result – Remark	Verdict
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Test results					
	Temperature immediately surrounding the EUT(°C) .....	25 (°C) Sample 2			
	Test voltage (V) .....	230 (V)			
	Frequency (Hz) .....	50 (Hz)			
Test Item	Measure at load condition				
	1	2	3	4	5
Rms Output Current (mA)	6000	4500	3000	1500	0
Rms Output Voltage (V)	5.78	5.86	5.93	6.01	6.08
Active Output Power (W)	34.69	26.38	17.80	9.01	0
Rms input voltage (V)	230	230	230	230	230
Rms input Power (W)	42.05	31.75	21.24	10.86	0.24
Total Harmonic Distortion(THD)	1.6%	1.6%	1.6%	1.6%	1.6%
True Power Factor	0.489	0.468	0.440	0.387	0.028
Power Consumed by EUT(W)	7.36	5.37	3.44	1.85	Mea.
					Req.
					0.24
Efficiency	82.50	83.09	83.80	82.87	N/A
Average Efficiency	83.09% (Requirement: 82.91%)				P

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Ac-Dc and Ac-Ac Power Supplies

Clause	Requirement + Test	Result – Remark	Verdict
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Test results					
	Temperature immediately surrounding the EUT(°C) .....	25 (°C) Sample 3			
	Test voltage (V) .....	115 (V)			
	Frequency (Hz) .....	60 (Hz)			
Test Item	Measure at load condition				
	1	2	3	4	5
Rms Output Current (mA)	6000	4500	3000	1500	0
Rms Output Voltage (V)	5.83	5.90	5.98	6.05	6.13
Active Output Power (W)	34.96	26.58	17.93	9.08	0
Rms input voltage (V)	115	115	115	115	115
Rms input Power (W)	41.14	31.53	21.01	10.61	0.13
Total Harmonic Distortion(THD)	1.6%	1.6%	1.6%	1.6%	1.6%
True Power Factor	0.582	0.560	0.533	0.483	0.027
Power Consumed by EUT(W)	6.18	4.95	3.08	1.53	Mea.
					0.13
Req.					0.3
					N/A
Efficiency	84.98	84.30	85.34	85.58	N/A
Average Efficiency	85.05% (Requirement: 82.91%)				P

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Clause	Requirement + Test	Result – Remark	Verdict
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Test results					
	Temperature immediately surrounding the EUT(°C) .....	25 (°C) Sample 3			
	Test voltage (V) .....	230 (V)			
	Frequency (Hz) .....	50 (Hz)			
Test Item	Measure at load condition				
	1	2	3	4	5
Rms Output Current (mA)	6000	4500	3000	1500	0
Rms Output Voltage (V)	5.83	5.90	5.98	6.05	6.13
Active Output Power (W)	34.97	26.58	17.93	9.07	0
Rms input voltage (V)	230	230	230	230	230
Rms input Power (W)	42.26	31.87	21.10	10.74	0.20
Total Harmonic Distortion(THD)	1.6%	1.6%	1.6%	1.6%	1.6%
True Power Factor	0.489	0.468	0.438	0.386	0.024
Power Consumed by EUT(W)	7.29	5.29	3.17	1.67	Mea.
					Req.
					0.20
Efficiency	82.75	83.40	84.98	84.45	N/A
Average Efficiency	83.89% (Requirement: 82.91%)				P

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**Table 1: Energy-Efficiency Criteria for AC-AC and AC-DC External Power Supplies in Active Mode:Standard Models**

<b>Nameplate Output Power (<math>P_{no}</math>)</b>	<b>Minimum Average Efficiency in Active Mode Mode (expressed as a decimal)<sup>2</sup></b>
0 to $\leq$ 1 Watt	$\geq 0.480 * P_{no} + 0.140$
$>$ 1 to $\leq$ 49 Watts	$\geq [0.0626 * \ln (P_{no}) ] + 0.622$
$>$ 49 Watts	$\geq 0.870$

**Table 2: Energy-Efficiency Criteria for AC-AC and AC-DC External Power Supplies in Active Mode:Low Voltage Models**

<b>Nameplate Output Power (<math>P_{no}</math>)</b>	<b>Minimum Average Efficiency in Active Mode Mode (expressed as a decimal)<sup>2</sup></b>
0 to $\leq$ 1 Watt	$\geq 0.497 * P_{no} + 0.067$
$>$ 1 to $\leq$ 49 Watts	$\geq [0.0750 * \ln (P_{no}) ] + 0.561$
$>$ 49 Watts	$\geq 0.860$

**Table 3: Examples of Minimum Average Efficiency in Active Mode**

Sample	Nameplate Output Power ( $P_{no}$ )	Nameplate Output Voltage	Nameplate Output Current	Average Efficiency in Active Mode (expressed as a decimal)
PS 1	0.75 watts	1V	750 mA	$0.497 * 0.75 + 0.067 = 0.4397$ or 0.44
PS 2	0.75 watts	10V	75 mA	$0.480 * 0.75 + 0.140 = 0.5$
PS 3	20 watts	5V	4000 mA	$[0.0750 * \ln (20) ] + 0.561 = 0.7856$ or 0.79
PS 4	20 watts	10V	2000 mA	$[0.0626 * \ln (20) ] + 0.622 = 0.8077$ or 0.81
PS 5	75 watts	5V	15000 mA	0.86
PS 6	75 watts	10V	750 mA	0.87

**Table 4: Energy Consumption Criteria for No-Load**

<b>Nameplate Output Power (<math>P_{no}</math>)</b>	<b>Maximum Power in No-Load</b>	
	<b>AC-AC EPS</b>	<b>AC-DC EPS</b>
0 to $<$ 50 Watts	$\leq$ 0.5 watts	$\leq$ 0.3 watts
$\geq$ 50 to $\leq$ 250 Watts	$\leq$ 0.5 watts	$\leq$ 0.5 watts

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**Enclosure 1**  
 Test Equipment List

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due Date
Ac Power Source	CHROMA	6110	A6G0790001	--	--
Ac Power Source	CHROMA	6408	6408-2000553	--	--
Digital Power Meter	YOKOGAWA	WT210	B6G1080007 (91F138523)	2010-12-17	2011-12-16
Digital Power Meter	YOKOGAWA	WT210	12C609995F	2010-12-17	2011-12-16
Electronic Load DC Load	CHROMA	63010	B6G0450009 (63043352)	2011-03-25	2012-03-25
Electronic Load DC Load	PRODIGIT	3300C	B6G1450025 (51200C474)	2011-03-25	2012-03-25

**Test Equipment Set-up**

