

## TEST REPORT

### REQUIREMENTS FOR NO-LOAD CONDITION ELECTRIC POWER CONSUMPTION AND AVERAGE ACTIVE EFFICIENCY OF EXTERNAL POWER SUPPLIES ACCORDING TO THE EC REGULATION 278/2009

Part of underlying framework Directive 2009/125/EC, (replacing 2005/32/EC), of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies

#### Applicant, identification of the test sample

Applicant	Lygo (Dongguan) Electric Product Ltd.
Address	Xingsi Administrative zone, Hengli, Dongguan, Guangdong, P.R. China
Type of appliance	External power supply
Intended use	General use
Brand name	LYGO or LG
Type	LGSPSA026080EP/ LGSPSA026080BS
Serial number	N/A (Engineering sample)
Receipt condition	Prototype sample in good condition
Sample receipt date	December 10, 2009
Date of Test(s)	December 14, 2009
Electrical data	Input: AC 100-240V, 50/60Hz, 190mA. Output: DC 2.6V, 800mA

Note: model LGSPSA026080EP and LGSPSA026080BS are identical except for the model designation and input plug, EP represents EU plug type; BS represents United Kingdom plug type.

#### Summary of test results.

The no-load condition electric power consumption is 0.11 W and average active efficiency is 63.64%. These results are in compliance with the 1<sup>st</sup> stage and the 2<sup>nd</sup> stage requirements of the COMMISSION REGULATION (EC) No 278/2009.

## Standard and environmental condition

Test laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch	
Address	Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China	
Standard applied	"Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies" (Chris Calwell, August 11, 2004) + 278/2009/EC	
Tested at	230VAC / 50 Hz	
Ambient temp.	24.2°C	
THD <sub>v</sub>	0.6%-0.8%	
Measuring device	Yokogawa WT210 Power Meter	Inventory number: SA011-46, SA011-94
Set-up and circuits used for electrical testing	See Page 3 Testing circuit	

## Measurement conditions

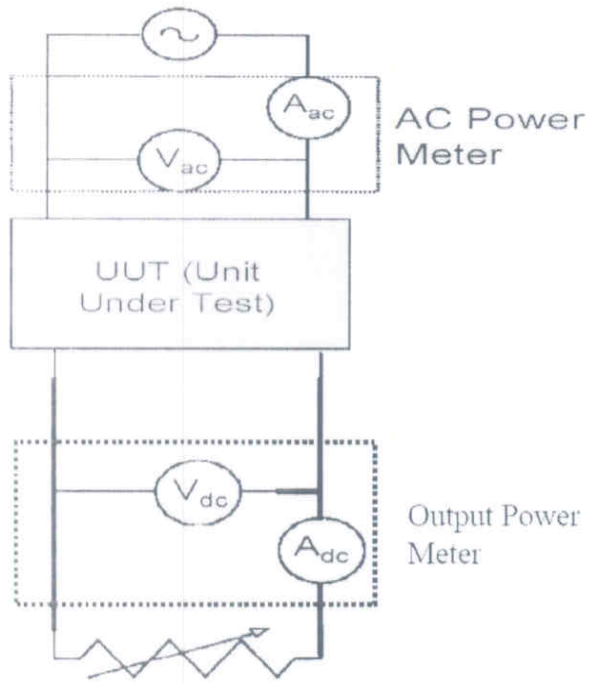
The UUT is operated at 100% of nameplate current output for 30 minutes immediately prior to conducting efficiency measurements.

After this warm-up period, the ac input power is monitored for a period of 5 minutes to assess the stability of the UUT.

The power level has not drifted by more than 5% from the maximum value observed. The UUT is considered stable and the measurements have been recorded at the end of the 5 minutes period.

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.

**Testing circuits**



**Test and verification results**



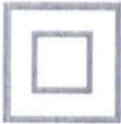






	Load condition				
	0%	25%	50%	75%	100%
Percent of nameplate current	0%	25%	50%	75%	100%
Rms output current (mA)	0	199.5	400.3	599.8	800.6
Rms output voltage (V)	5.103	4.465	3.818	3.18	2.538
Active output power (W)	0	0.891	1.529	1.908	2.032
Rms input voltage (V)	230.6	230.6	230.2	230.5	230.3
Rms input power (W)	0.112	1.397	2.264	3.026	3.376
Total harmonic distortion (THD) V%	0.76	0.81	0.83	0.8	0.81
True power factor	0.1619	0.3108	0.3648	0.3808	0.3875
Power consumed (W)	0.112	0.5061	0.735	1.118	1.344
Efficiency		63.77%	67.54%	63.05%	60.19%
Average active efficiency *		63.64%			

Clause	Ecodesign requirements, 1 <sup>st</sup> stage	Result - Remark	Verdict
1a)	The no-load condition power consumption shall not exceed 0.50 W	0.11W	Pass
	The average active efficiency shall be not less than:		--
	0.500 · Po, for Po < 1.00 W		N/A
	0.090 · ln(Po) + 0.500, for 1.00 W ≤ Po ≤ 51.00 W	Measured: 63.64%; Limited: 56.59 %	Pass
	0.850, for Po > 51.00 W		N/A










Clause	Ecodesign requirements, 2 <sup>nd</sup> stage	Result – Remark	Verdict
1b)	AC-AC external power supplies except low voltage external power supplies, the no-load condition power consumption shall not exceed 0.50 W		N/A
	AC-DC external power supplies with Po ≤ 51.0 W except low voltage external power supplies, the no-load condition power consumption shall not exceed 0.30 W		N/A
	AC-DC external power supplies with Po > 51.0 W except low voltage external power supplies, the no-load condition power consumption shall not exceed 0.50 W		N/A
	Low voltage external power supplies, the no-load condition power consumption shall not exceed 0.30 W	0.11W	Pass
	AC-AC and AC-DC external power supplies except low voltage external power supplies, the average active efficiency shall be not less than:		--
	0.480 · Po + 0.140, for Po ≤ 1.00 W		N/A
	0.063 · ln(Po)+ 0.622, for 1.00 W < Po ≤ 51.00 W		N/A
	0.870, for Po > 51.00 W		N/A
	Low voltage external power supplies, The average active efficiency shall be not less than:		--
	0.497 · Po + 0.067, for Po ≤ 1.0 W;		N/A
	0.075 · ln(Po)+ 0.561, for 1.0 W < Po ≤ 51.0 W	Measured: 63.64%; Limited: 61.59 %	Pass
	0.860, for Po > 51.0 W		N/A

Label:

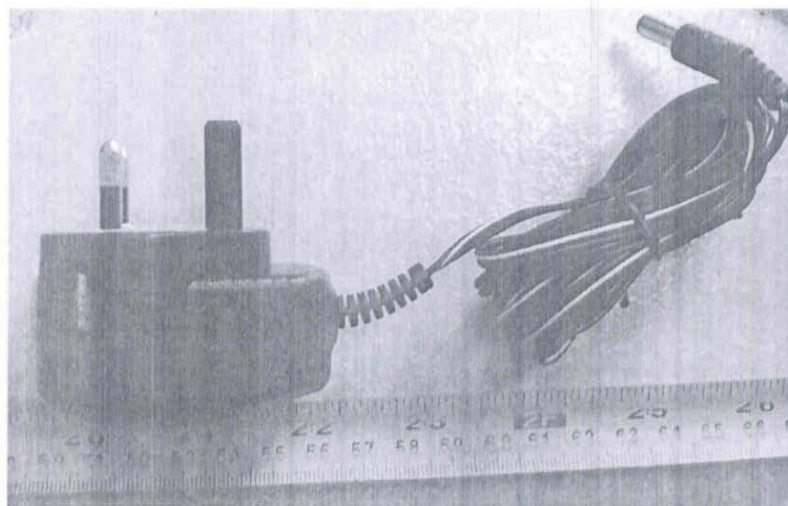
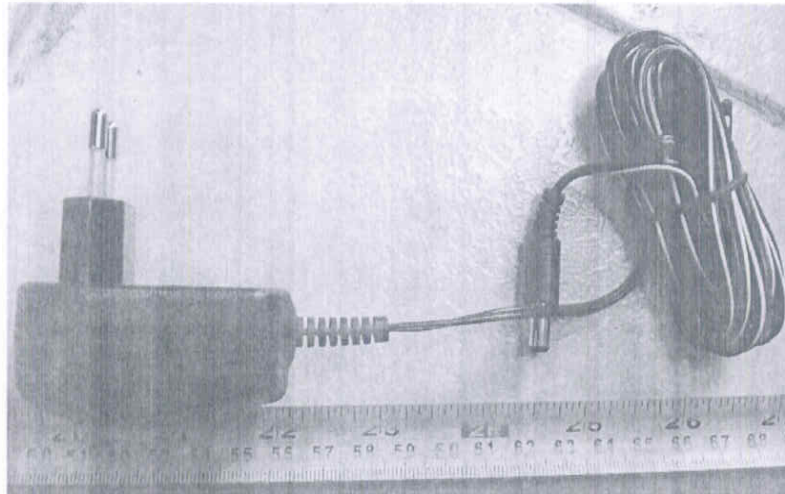
**BATTERY CHARGER**  
MODEL NO.: LGPSA026080EP  
Eingang/Input: 100-240V ~ 50/60Hz 190mA  
Ausgang/Output: 2.6V  $\equiv$  800mA



**SWITCHING POWER SUPPLY**  
MODEL NO.: LGPSA026080BS



Photo(s) of the appliance:



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The results only relate to the item tested.

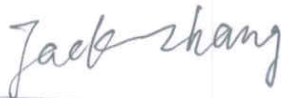
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Place: Guangzhou

Date: 2009-12-15

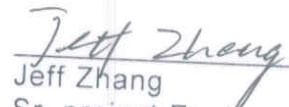
Intertek Testing Services Shenzhen  
Ltd. Guangzhou Branch  
Energy Efficiency Team

Tested by



Jack Zhang  
Test Engineer

Approved by



Jeff Zhang  
Sr. project Engineer

## Test Verification of Conformity

On the basis of the referenced test report(s), the sample(s) of the below product has been found to comply with the relevant harmonized standard(s) to the directive(s) listed on this verification at the time the tests were carried out.

The manufacturer may indicate compliance to said directive(s) by signing a DoC himself and applying the CE-marking to the product identical to the tested sample(s). In addition, the manufacturer shall file and keep the documentation according to the rules of the applicable directive(s) and shall consider changes of the standard(s) if relevant. Additional requirements may be applicable such as additional directives or local laws.

**Applicant Name & Address** : Lygo (Dongguan) Electric Product Ltd.  
Xingsi Administrative zone, Hengli, Dongguan, Guangdong,  
P.R. China

**Product(s) Tested** : External power supply

**Ratings and principal characteristics** : Input: AC 100-240V 50/60Hz 190mA  
Output: DC 2.6V 800mA

**Model(s)** : LGSPSA026080EP/ LGSPSA026080BS

**Brand name** : LYGO or LG

**Relevant Standard(s) / Specification(s) / Directive(s)** : This verification and corresponding test report is considered to constitute technical documentation sufficient for an EC Declaration of Conformity and CE marking of the product according to the EC regulation 278/2009 and its underlying frame directive 2009/125/EC (replacing 2005/32/EC).

**Verification Issuing Office Name & Address** : Same as Legal Entity

**Date of Test(s)** : December 14, 2009

**Verification/Report Number(s)** : GZ09120445-2

**NOTE 1:** This verification is part of the full test report(s) and should be read in conjunction with it.

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Signature

Name: Jeff Zhang  
Position: Sr. project Engineer  
Date: December 23, 2009