

TEST REPORT

Report No.: BCTC2302993161S

Applicant: Zhongshan Sunhigh Electronic Product
Manufacture Co., Ltd.

Product Name: Power Adpater

Product Type: SH-7000-15-1A

Tested Date: 2023-02-06

Issued Date: 2023-02-09

Shenzhen BCTC Testing Co., Ltd.



TEST REPORT

COMMISSION REGULATION (EU) 2019/1782 of 1 October 2019 laying down ecodesign requirements for external power supplies pursuant to Directive 2009/125/EC of the European Parliament and of the Council

Report reference No......: **BCTC2302993161S**

Date of issue: 2023-02-09

Total number of pages: 14

Testing Laboratory Name: **Shenzhen BCTC Testing Co., Ltd.**

Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan
1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen,
Guangdong, China

Applicant's Name: **Zhongshan Sunhigh Electronic Product Manufacture Co., Ltd.**

Address: No.106 Xingxi Road, Shaxi Town, Zhongshan City, Guangdong
Province, China

Test specification

Standard.....: COMMISSION REGULATION (EU) 2019/1782 of 1 October 2019,
EN 50563:2011+A1:2013

Test procedure: Compliance with COMMISSION REGULATION (EU) 2019/1782 of 1
October 2019, EN 50563:2011+A1:2013

Non-standard test method.....: N/A

Test Report Form No.: BC1916A

Master TRF: Dated 2019-11

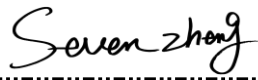
Test item description: Power Adpater

Trademark: N/A

Manufacturer: Zhongshan Sunhigh Electronic Product Manufacture Co., Ltd.
No.106 Xingxi Road, Shaxi Town, Zhongshan City, Guangdong
Province, China

Model and/or type reference: SH-7000-15-1A,
SH-7000-12-1A, SH-7000-16-1A

Rating(s).....: Input: 110-240V ~ 50/60Hz 0.3A
Output: 15.0V 0.8A 12.0W

Testing procedure and testing location:**Testing Laboratory** : **Shenzhen BCTC Testing Co., Ltd.****Address** : 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
-----**Tested by (name, function, signature)...** : Joy Shen
(Project Handler) 
-----**Approved by (name, function, signature):** Seven Zheng
(Reviewer) 
-----**Possible test case verdicts:**

- test case does not apply to the test object..... : N (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 : 2023-02-03

Date(s) of performance of tests : 2023-02-06

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.

Test item description

Type of appliance : ☐ AC-AC Power Supply ☒ AC-DC Power Supply

Test item particulars

Supply Connection : ☒ Direct plug in
☐ Detachable power supply cord
☐ Non-detachable power supply cord

Category..... : ☒ Basic Voltage EPS
☐ Low Voltage EPS
☐ Multiple Voltage EPS

Nameplate output power (Po) : ☐ Less than or equal to 10W ☒ Greater than 10W

Output cord length..... : 180cm

Output Cord cross-sectional areas : 22AWGX2C

With built in switch..... : Not present

Summary of testing:

The submitted samples complied with

COMMISSION REGULATION (EU) 2019/1782 of 1 October 2019.

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Measurements of power of 0.50 W or greater was 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 was made with an uncertainty of less than or equal to 0,01 W at the 95 % confidence level.

TEST
TO
OVER
檢

Copy of marking plate:

Power Adpater

Model: SH-7000-15-1A

Input: 110-240V ~ 50/60Hz, 0.3A

output: 15.0V $\equiv$ 0.8A 12.0W

Importer: XXXXXX

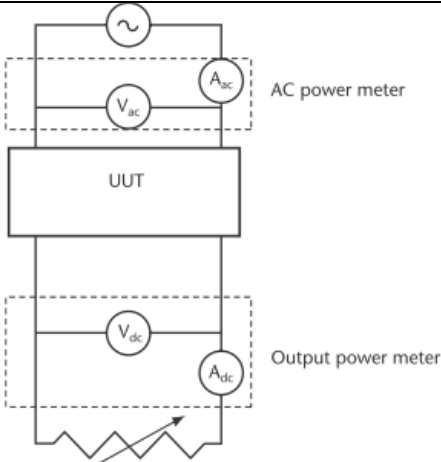
Address: XXXXXX

Manufacturer: Zhongshan Sunhigh Electronic Product Manufacture Co., Ltd.

Address: No.106 Xingxi Road, Shaxi Town, Zhongshan City, Guangdong
Province, China

Made in China

Remark: the above marking plate is only a draft artwork to show the product ratings and model No., and the height of CE logo shall not be less than 5 mm, and the height of WEEE logo shall not be less than 7 mm.

Clause	Requirement + Test	Result – Remark	Verdict
0.	General	Test method is according to EN 50563 and may refer to 10CFR430 Appendix Z for multiple output external power supply in addition as far as needed to supplement the test.	P
0.1	Ambient condition met requirement of: Ambient temperature $20 \pm 5^{\circ}\text{C}$; Airspeed $\leq 0.5\text{m/s}$.	Ambient: 24.5°C Airspeed: 0.3m/s	P
0.2	Power source meets requirement of: The input voltage source must be capable of delivering at least 10 times the nameplate input power of the UUT; Voltage $230\text{V} \pm 1\%$; Frequency $50\text{Hz} \pm 1\%$; THD value $< 2\%$; ratio of peak value of test voltage to rms of 1.34 to 1.49.	Volage: 230.83V Frequency: 50.0Hz THD: Max. 0.510% Ratio: 1.42	P
0.3	Power measurement accuracy		P
	Any power measurements recorded, as well as any power measurement equipment utilized for testing, shall conform to the uncertainty and resolution requirements outlined in Clause 4, "General conditions for measurements," as well as Annexes B, "Notes on the measurement of low power modes," and D, "Determination of uncertainty of measurement," of IEC 62301:2011.		P
0.4	Test circuit		P
	 Fig. 1 Electrical test circuit		P

Clause	Requirement + Test	Result – Remark	Verdict
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Annex II	Ecodesign requirements for external power supplies					P																					
1.	Energy efficiency requirements:					P																					
(a)	From 1 April 2020, the no-load condition power consumption shall not exceed the following values:					P																					
	<table><tr><td></td><td>AC-AC external power supplies, except low voltage and multiple voltage output external power supplies</td><td>AC-DC external power supplies, except low voltage and multiple voltage output external power supplies</td><td>Low voltage external power supplies</td><td>Multiple voltage output external power supplies</td></tr><tr><td>P_O ≤ 49,0 W</td><td>0,21 W</td><td>0,10 W</td><td>0,10 W</td><td>0,30 W</td></tr><tr><td>P_O > 49,0 W</td><td>0,21 W</td><td>0,21 W</td><td>0,21 W</td><td>0,30 W</td></tr></table>						AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	AC-DC external power supplies, except low voltage and multiple voltage output external power supplies	Low voltage external power supplies	Multiple voltage output external power supplies	P _O ≤ 49,0 W	0,21 W	0,10 W	0,10 W	0,30 W	P _O > 49,0 W	0,21 W	0,21 W	0,21 W	0,30 W	See table 1	P					
	AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	AC-DC external power supplies, except low voltage and multiple voltage output external power supplies	Low voltage external power supplies	Multiple voltage output external power supplies																							
P _O ≤ 49,0 W	0,21 W	0,10 W	0,10 W	0,30 W																							
P _O > 49,0 W	0,21 W	0,21 W	0,21 W	0,30 W																							
(b)	From 1 April 2020, the average active efficiency shall be not less than the following values:					P																					
	<table><tr><td></td><td>AC-AC external power supplies, except low voltage and multiple voltage output external power supplies</td><td>AC-DC external power supplies, except low voltage and multiple voltage output external power supplies</td><td>Low voltage external power supplies</td><td>Multiple voltage output external power supplies</td></tr><tr><td>P_O ≤ 1,0 W</td><td>0,5 × P_O/1W+ 0,160</td><td>0,5 × P_O/1W+ 0,160</td><td>0,517 × P_O/1W+ 0,087</td><td>0,497 × P_O/1W+ 0,067</td></tr><tr><td>1 W < P_O ≤ 49,0 W</td><td>0,071 × ln(P_O/1W) – 0,0014 × P_O/1W+ 0,67</td><td>0,071 × ln(P_O/1W) – 0,0014 × P_O/1W+ 0,67</td><td>0,0834 × ln(P_O/1W) – 0,0014 × P_O/1W+ 0,609</td><td>0,075 × ln(P_O/1W) + 0,561</td></tr><tr><td>P_O > 49,0 W</td><td>0,880</td><td>0,880</td><td>0,870</td><td>0,860</td></tr></table>						AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	AC-DC external power supplies, except low voltage and multiple voltage output external power supplies	Low voltage external power supplies	Multiple voltage output external power supplies	P _O ≤ 1,0 W	0,5 × P _O /1W+ 0,160	0,5 × P _O /1W+ 0,160	0,517 × P _O /1W+ 0,087	0,497 × P _O /1W+ 0,067	1 W < P _O ≤ 49,0 W	0,071 × ln(P _O /1W) – 0,0014 × P _O /1W+ 0,67	0,071 × ln(P _O /1W) – 0,0014 × P _O /1W+ 0,67	0,0834 × ln(P _O /1W) – 0,0014 × P _O /1W+ 0,609	0,075 × ln(P _O /1W) + 0,561	P _O > 49,0 W	0,880	0,880	0,870	0,860	See table 1	P
	AC-AC external power supplies, except low voltage and multiple voltage output external power supplies	AC-DC external power supplies, except low voltage and multiple voltage output external power supplies	Low voltage external power supplies	Multiple voltage output external power supplies																							
P _O ≤ 1,0 W	0,5 × P _O /1W+ 0,160	0,5 × P _O /1W+ 0,160	0,517 × P _O /1W+ 0,087	0,497 × P _O /1W+ 0,067																							
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P _O > 49,0 W	0,880	0,880	0,870	0,860																							
2.	Information requirements:					P																					
(a)	from 1 April 2020, the nameplate shall include the following information:					P																					

	Nameplate information	Value and precision	Unit	Notes		P
	Output power	X,X	W	In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be given.		
	Output voltage	X,X	V	In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be given.		
	Output current	X,X	A	In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be given.		
(b)	from 1 April 2020, instruction manuals for end-users (where applicable), and free access websites of manufacturers, importers or authorised representatives shall include the following information, in the order as set out below:					P

SPINLIEN A

	Information published	Value and precision	Unit	Notes	P
	Manufacturer's name or trade mark, commercial registration number and address	-	-	-	
	Model identifier	-	-	-	
	Input voltage	X	V	Specified by the manufacturer. Shall be a value or a range.	
	Input AC frequency	X	Hz	Specified by the manufacturer. Shall be a value or a range.	
	Output voltage	X,X	V	Nameplate output voltage. Shall indicate whether is AC or DC. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current	
				– Output power shall be published.	
	Output current	X,X	A	Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published.	
	Output power	X,X	W	Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published.	
	Average active efficiency	X,X	%	Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage.	
	Efficiency at low load (10 %)	X,X	%	Declared by the manufacturer based on the value calculated at load condition 5. External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage.	P
	No-load power consumption	X,XX	W	Declared by the manufacturer based on the value measured for load condition 6.	
The relevant load conditions are as follows:					P

	Percentage of nameplate output current		P
	Load condition 1	100 % ± 2 %	
	Load condition 2	75 % ± 2 %	
	Load condition 3	50 % ± 2 %	
	Load condition 4	25 % ± 2 %	
	Load condition 5	10 % ± 1 %	
	Load condition 6	0 % (no-load condition)	

TABLE	Measurement and calculation						P
Model:	SH-7000-15-1A						
	Load condition 1	Load condition 2	Load condition 3	Load condition 4	Load condition 5	Load condition 6	
	100%	75%	50%	25%	10%	0%	
Rms output current (A)	0.8	0.6	0.4	0.2	0.08	0	
Rms output voltage (V)	15.01	15.04	15.10	15.13	15.16	15.18	
Active output power (W)	12.0080	9.0240	6.0400	3.0260	1.2128	0.00	
Rms input voltage (V)	230	230	230	230	230	230	
Input Frequency (Hz)	50	50	50	50	50	50	
Rms input current (A)	0.1454	0.1154	0.0840	0.0509	0.0287	0.0128	
Power Factor	0.4264	0.4043	0.3725	0.3186	0.2366	0.0306	
Total harmonic distortion (THDv) (%)	0.772	0.796	0.806	0.802	0.832	0.836	
Total harmonic distortion (THDi) (%)	200.34	210.63	222.39	232.54	202.32	23.26	
Input accumulated power (Wh)	1.1833	0.8893	0.5957	0.3057	0.1289	0.0070	
Input Avg. Power (W)	14.1996	10.6716	7.1484	3.6684	1.5468	0.0840	
Input Wh interval [min]	5	5	5	5	5	5	
Minimum Warm- up time [minutes]	30	0	0	0	0	0	
Power consumed (W)	2.1916	1.6476	1.1084	0.6424	0.3340	0.0840	
Efficiency (%)	84.57%	84.56%	84.49%	82.49%	78.41%	--	
Average efficiency of active modes	84.03%				--	--	
Efficiency Requirements	82.96% (efficiency level VI, refer to Annex II_1.(b))						
No-Load Power Consumption Requirement	≤0.10W (efficiency level VI, refer to Annex II_1.(a))						

List of test equipment used:

T-ID	Name	Type	Valid until
BCTC-SA-273	Digital Power Meter	WT310E	2023.11.08
BCTC-SA-122	Electronic Loading	M9710	2023.04.12
BCTC-SA-187	Temperature & Humidity Datalogger	HT20R	2023.08.30
BCTC-SA-135	Oscilloscope	T3100B	2023.04.17

Product photos

EUT Photo 1



EUT Photo 2



STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict,
Bao'an District, Shenzhen, Guangdong, China
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P. C.: 518103

FAX : 0755-33229357

Website : <http://www.chnbctc.com>

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***** END *****