



*Shenzhen Sunlight Electronic CO., LTD*

# 承認書

## SPECIFICATION FOR APPROVAL

DOE VI AC DC Adapter 9V 0.5A Power Supply Switching 500mA 9 Volt Adaptor

**CUSTOMER:** \_\_\_\_\_

**DESCRIPTION:** ADAPTER

**SPECS:** 9V500MA AC/DC ADAPTER

**MODEL NO.:** ITXPOWER.NET GA090005

**DATE:** Feb-25-2015

<b>APPROVAL SIGNATURE</b>		
<b>DATE:</b>	<b>DATE:</b>	<b>DATE:</b>

**PLEASE RETURN TO US ONE COPY OF “SPECIFICATION FOR APPROVAL” WITH YOUR APPROVED SIGNATURE**

**ADD : A Area, 3F , Building B, Xinshidai Gongrong Industrial Area, NO.2, Shihuan Road, Shilong Community , Shiyuan Streets, Bao’an District, Shenzhen City, Guangdong.**

**web :** [www.itxpower.net](http://www.itxpower.net)

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## SPECIFICATION FOR APPROVAL

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### 2. FEATURE :

- INPUT : UNIVERSAL 100-240 Vac/47-63 Hz INPUT, WITHOUT ANY SLIDE SWITCH
- OUTPUT : +9.0V/0-0.5A
- DIMENSION : 56.5(D)\*37.2(W)\*24.5(H)
- EFFICIENCY : 78.0% TYPICAL
- SAFETY : CCC/UL/CB/GS/SAA/LVD/BSMI
- EMI : FCC CLASS B / EN55022 CLASS B; CONDUCTED & RADIATED MEETED
- HIGH FREQUENCY DESIGN, LESS POWER CONSUMPTION
- OVER VOLTAGE PROTECTION, SHORT CIRCUITED PROTECTION, OVER POWER PROTECTION
- CAN BE USED AT TELCOMMUNICATION, COMPUTER, INDUSTRIAL CONTORLLER & OA SYSTEM

### 3. INPUT :

3.1 VOLTAGE	UNIVERSAL 100~240Vac,SINGLE PHASE
3.2 FREQUENCY	47HZ~63HZ
3.3 CURRENT	0.3A Max
3.4 INRUSH CURRENT	5A Max/100Vac;10A Max/240Vac (COLD STABT AT 25°C FULL LOAD)
3.5 EFFICIENCY	78.0% TYPICAL (AT NOMINAL LINE VOLTAGE FULL LOAD)
3.6 INPUT POWER DISSIPATION	UNDER 0.10W < ZERO LOAD 115V/60HZ INPUT
	UNDER 0.10W < ZERO LOAD 230V/50HZ INPUT

### 4. OUTPUT :

4.1 DC OUTPUT	VOLTAGE	+9.0V
	CURRENT	0.5A Max
	REGULATION	8.60V Min~9.0V Typ.~9.40V Max
	RIPPLE & NOISE	110mV Max
	TOTAL POWER	4.5W Max

NOTE : FOR RIPPLE & NOISE MEASUREMENT, USE A 20MHZ BAND WIDTH FREQUENCY OSCILLOSCOPF, AND ADD A 0.1uF MULTILAYER CAP. AND A LOW ESR ELECTROLYTICCAP. (10uF) AT OUTPUT CONNECTOR TERMINALS. (AT NOMINAL LINE VOLTAGE FULL LOAD)

### 5. PROTECTION :

5.1 OVER VOLTAGE PROTECTION	10.8V MAX. The power supply shall be hiccupped when output voltage reaches to its over voltage protection trigger point.
5.2 SHORT CIRCUIT PROTECTION	The power supply shall be hiccupped when operating any output in a short circuit condition.

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5.3 OVER POWER PROTECTION	The adapter provide protection at 120%~200% of rated output power, the adapter shall be hiccupped but not damage.
5.4 OVER CURRENT PROTECTION	1.0A MAX. The power supply shall be hiccupped when output current reaches to its over current protection trigger point.

NOTE : WHEN PROTECTION CIRCUIT IS WORKING THE POWER SUPPLY WILL HICUPPED, ONCE THE ABNORMAL CONDITIONS ARE REMOVED. THE POWER SUPPLY WILL RESTART AUTOMATICALLY.

### 6. SAFETY AND EMI REQUIREMENT :

#### 6.1 SAFETY REQUIREMENT

a. SAFETY : CCC/UL/CB/GS/SAA/LVD/BSMI

b. DIELECTRIC STRENGTH :5mA Max. CUT OFF CURREN

(1):PRIMARY TO SECONDARY	3000Vac FOR 1 MINUTE
(2):PRIMARY TO FRAME GROUND	3000Vac FOR 1 MINUTE

c. INSULAION RESISTANCE :

(1):PRIMARY TO SECONDARY	50 M OHMS min FOR 500Vdc
(2):PRIMARY TO FRAME GROUND	50 M OHMS min FOR 500Vdc

d. LEAKAGE CURRENT :

(1) : 100VAC / 60HZ	< 0.25 mA
(2) : 240VAC / 50HZ	< 0.25 mA

#### 6.2 EMI/EMS REQUIREMENT

a. EMI : FCC CLASS B / EN55022 CLASS B; CONDUCTED & RADIATED MEETED

b. Electron Static Discharge(ESD) :

Applicable Standard	CONDITION	SPECIFICATION
IEC/EN 61000-4-2	Contact discharge performance is 4KV; Air discharge performance is 8KV	Normal operation shall be continued

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c. Lightning Surge :

Applicable Standard	CONDITION	SPECIFICATION
IEC/EN 61000-4-5	+/- 1KV (Line to Line) +/- 2KV (Line to Ground)	Normal operation shall be continued

d. Electric Fast Transients :

Applicable Standard	CONDITION	SPECIFICATION
IEC/EN 61000-4-4	+/-1KV for Power Supply Line	Normal operation shall be continued

## 7. OPERATION & ENVIRONMENT PERFORMANCE:

### 7.1 TEMPERATURE RANGE

OPERATING	0°C ~ +40°C
STORAGE	-40°C ~+70°C

### 7.2 HUMIDITY RANGE (NON CONDENSING)

OPERATING	10% ~ 90% RH
STORAGE	5% ~ 95% RH

### 7.3 Product operating/storage test requirement :

TEST ITEM	CONDITION	SPECIFICATION
<b>High Temperature Storage TEST</b>	70 degree C for 72H	There is no malfunction and deformation to be found after TEST.
<b>High Temperature Operation TEST</b>	40 degree C for 16H	There is no malfunction and deformation to be found after TEST.
<b>Low Temperature Storage TEST</b>	-20 degree C for 72H	There is no malfunction and deformation to be found after TEST.
<b>Low Temperature Operation TEST</b>	0 degree C for 16H	There is no malfunction and deformation to be found after TEST.

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<b>Termal Shock Operation TEST</b>	Apply 2 cycle from 0 degree C to +40 degree C as 24 Hours as 1 cycle	There is no malfunction and deformation to be found after TEST.
<b>Termal Shock Storage TEST</b>	Apply 2 cycle from -20 degree C to +70 degree C as 2 Hours as 1 cycle	There is no malfunction and deformation to be found after TEST.

7.4 COOLING : SHOULD OPERATE WITHOUT FAN

7.5 M.T.B.F. : 30000 HOURS Min ; 25°C SEE CONDITION

### 8. MECHANICAL REQUIREMENT :

8.1 DIMENSION : 56.5(D)\*37.2(W)\*24.5(H)

8.2 DROP TEST : From a height of 100cm onto concrete or similar material.  
No impairment of normal function, breaking away of any parts or change

8.3 VIBRATION TEST : Non-operating but with packing. Shock acceleration 50 G, sin, 100Ms.  
Directions of force : X , Y , Z . One time at 6 directions. There is no malfunction and deformation to be found after TEST.

8.4 APPEARANCE : There shall not be any remarkable defects such as clack, distortion, uneven color, dirty nameplate and its peeling

8.5 Tensile Strength of the Cord : A static load of 100N is applied to the cord for 1 minute  
The cord should not be deteriorated

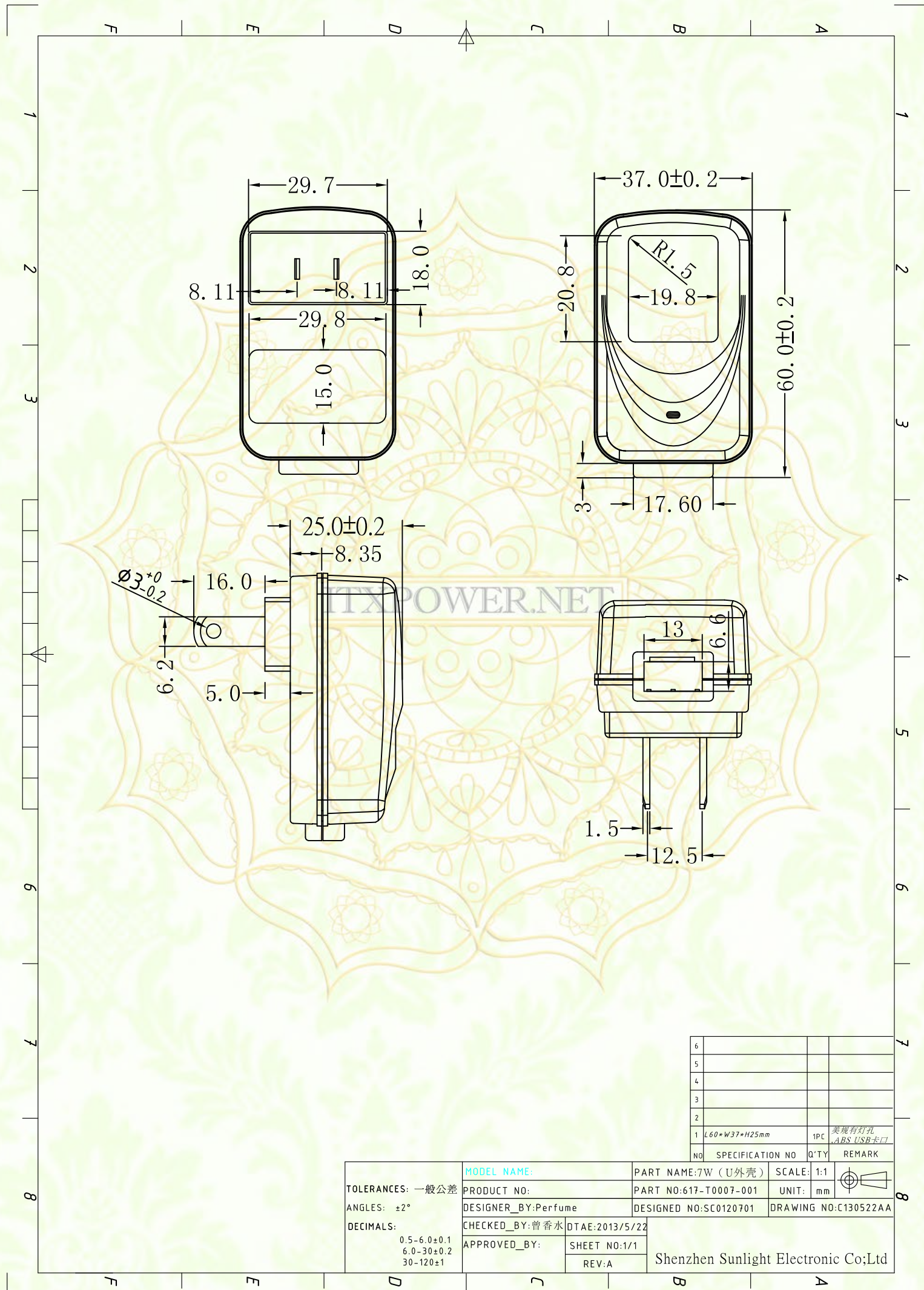
8.6 Cord Bending TEST : Hang the specified weight and swing it to one direction and return to the original position, then swing to the opposite direction and return to the original position  
The strain relief shall be subjected to the specified cycles and speed. Weight 200 (g), Angle  $\pm 60$  degree, 800 times, Cycles in every minute 30, Distance 300mm.

### 9. PRODUCT GUARANTEE : AFTER SHIPMENT 12 MONTHS.

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## SPECIFICATION FOR APPROVAL

### 10. PRODUCT OUTLINE DRAWING:



6			
5			
4			
3			
2			
1	L60*W37*H25mm	1PC	美规有灯孔 ABS USB卡口
NO	SPECIFICATION NO	Q'TY	REMARK

<b>TOLERANCES:</b> 一般公差 <b>ANGLES:</b> ±2° <b>DECIMALS:</b> 0.5-6.0±0.1 6.0-30±0.2 30-120±1	<b>MODEL NAME:</b>	<b>PART NAME:</b> 7W (U外壳)	<b>SCALE:</b> 1:1	
	<b>PRODUCT NO:</b>	<b>PART NO:</b> 617-T0007-001	<b>UNIT:</b> mm	
	<b>DESIGNER_BY:</b> Perfume	<b>DESIGNED NO:</b> SC0120701	<b>DRAWING NO:</b> C130522AA	
	<b>CHECKED_BY:</b> 曾香水	<b>DTAE:</b> 2013/5/22		
	<b>APPROVED_BY:</b>	<b>SHEET NO:</b> 1/1	Shenzhen Sunlight Electronic Co;Ltd	
		<b>REV:</b> A		



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## SPECIFICATION FOR APPROVAL

### 11. DC OUTPUT CORD DRAWING:

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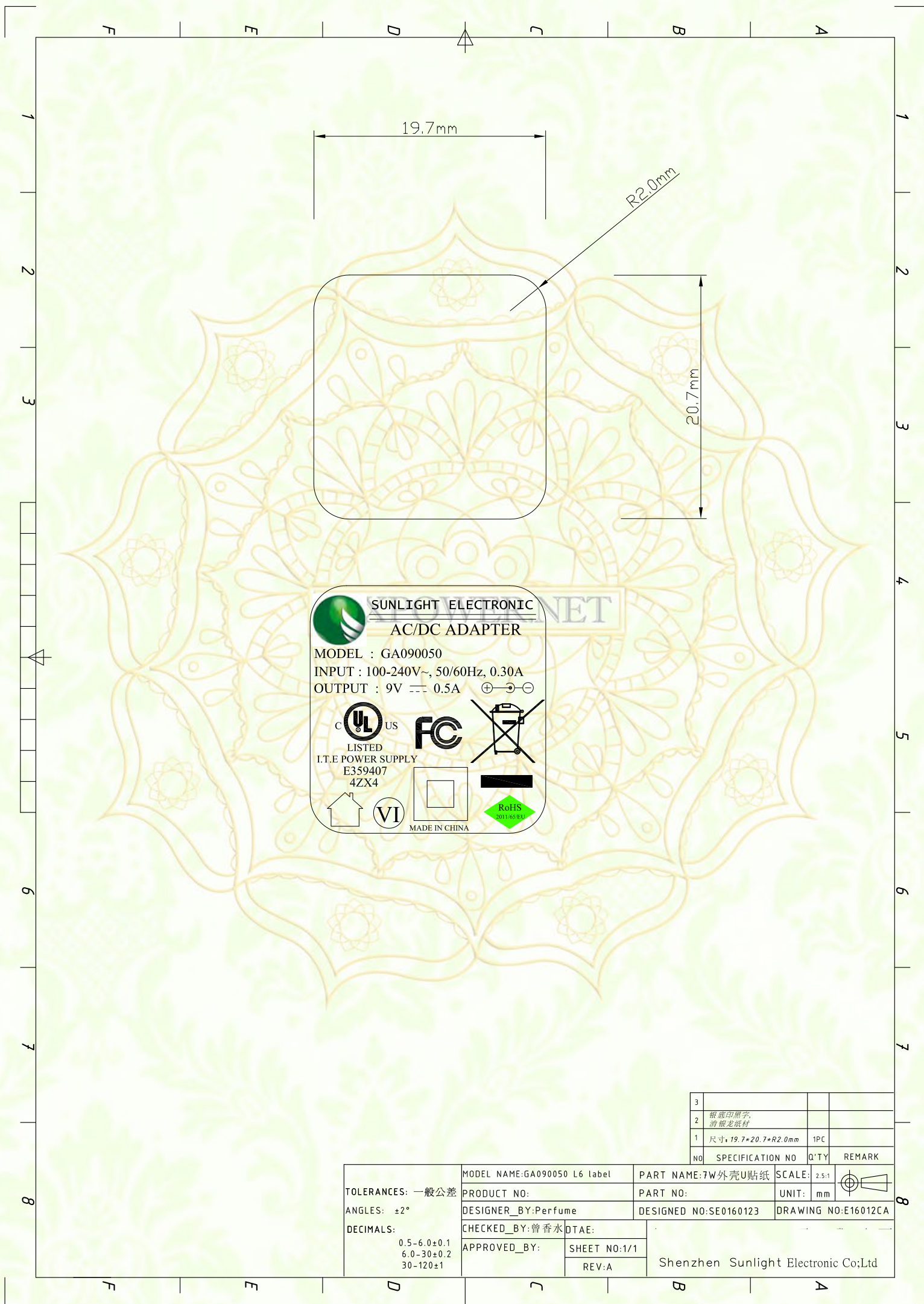
4			
3			
2	2464#24AWG PVC 80° 300V 黑色线材	1PC	7# 外壳卡座
1	Ø5.5*Ø2.1*L12 背叉接头 右磁环	1PC	
NO	SPECIFICATION NO	Q'TY	REMARK

TOLERANCES: 一般公差 ANGLES: ±2° DECIMALS: 0.5-6.0±0.1 6.0-30±0.2 30-120±1	MODEL NAME:	PART NAME:DC线	SCALE: 1:1	
	PRODUCT NO:	PART NO:502-T2464-136	UNIT: mm	
	DESIGNER_BY:Perfume	DESIGNED NO:SW0120701	DRAWING NO:W13122AB	
	CHECKED_BY:方文	DTAE:2016/1/25		
	APPROVED_BY:	SHEET NO:1/1	Shenzhen Sunlight Electronic Co.,Ltd	
		REV:A		

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### 12 . RATING LABEL DRAWING :



3			
2	根据印刷字， 滑银龙纸材		
1	尺寸: 19.7*20.7*R2.0mm	1PC	
NO	SPECIFICATION NO	Q'TY	REMARK

<b>TOLERANCES:</b> 一般公差 <b>ANGLES:</b> ±2° <b>DECIMALS:</b> 0.5-6.0±0.1 6.0-30±0.2 30-120±1	MODEL NAME:GA090050 L6 label	PART NAME:7W外壳U贴纸	SCALE: 2.5:1	
	PRODUCT NO:	PART NO:	UNIT: mm	
	DESIGNER_BY:Perfume	DESIGNED NO:SE0160123	DRAWING NO:E16012CA	
	CHECKED_BY:曾香水	DTAE:		
APPROVED_BY:	SHEET NO:1/1	Shenzhen Sunlight Electronic Co;Ltd		
	REV:A			

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### 13.TEST REPORT:

#### ( 1 ). LINE REGULATION TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
90Vac / 50% load	8.60~9.40V	8.99V		
115Vac / 50% load	8.60~9.40V	8.99V		
132Vac / 50% load	8.60~9.40V	8.99V		
180Vac / 50% load	8.60~9.40V	8.99V		
230Vac / 50% load	8.60~9.40V	8.99V		
264Vac / 50% load	8.60~9.40V	8.99V		

#### (2). EFFICENCY TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	78.0% Typical	78.8%		
230Vac / 100% load	78.0% Typical	79.3%		

#### (3). LOAD REGULATION TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 0% load	8.60~9.40V	8.91V		
115Vac / 50% load	8.60~9.40V	8.99V		
115Vac / 100% load	8.60~9.40V	9.06V		
230Vac / 0% load	8.60~9.40V	8.91V		
230Vac / 50% load	8.60~9.40V	8.99V		
230Vac / 100% load	8.60~9.40V	9.06V		

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### (4).RIPPLE & NOISE TEST

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	110mV Max	95mV		
230Vac / 100% load	110mV Max	90mV		

### (5). OVER VOLTAGE PROTECTION

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	Vout*(10.8V MAX)	OK		
230Vac / 100% load	Vout*(10.8V MAX)	OK		

### (6). RISE TIME

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	30mS Max	21mS		
230Vac / 100% load	30mS Max	18mS		

### (7). OVER CURRENT PROTECTION

Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	Iout*(120%~200%)	123%		
230Vac / 100% load	Iout*(120%~200%)	138%		

### (8). SHORT CIRCUIT PROTECTION

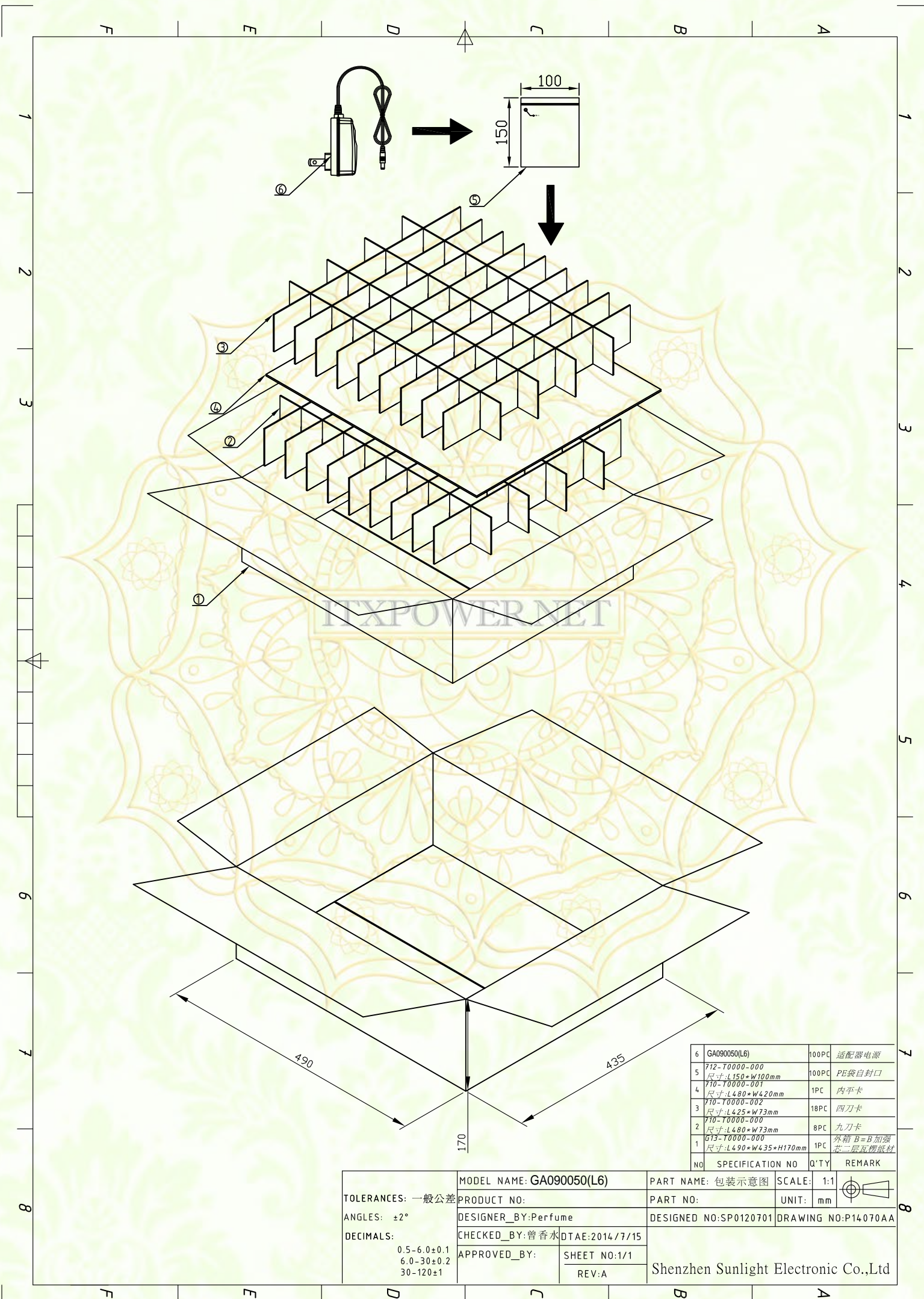
Test result:

Test condition	Spec.	Reading1	Reading2	Reading3
115Vac / 100% load	Under 1.0W	OK		
230Vac / 100% load	Under 1.0W	OK		

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## SPECIFICATION FOR APPROVAL

### 14. PACKING DRAWING :



6	GA090050(L6)	100PC	适配器电源
5	712-10000-000 尺寸:L150*W100mm	100PC	PE袋自封口
4	710-10000-001 尺寸:L480*W420mm	1PC	内平卡
3	710-10000-002 尺寸:L425*W73mm	18PC	四刀卡
2	710-10000-000 尺寸:L480*W73mm	8PC	九刀卡
1	G13-10000-000 尺寸:L490*W435*H170mm	1PC	外箱 B=B 加强 芯=二层瓦楞纸材
NO	SPECIFICATION NO	Q'TY	REMARK

<b>TOLERANCES:</b> 一般公差 <b>ANGLES:</b> ±2° <b>DECIMALS:</b> 0.5-6.0±0.1 6.0-30±0.2 30-120±1	MODEL NAME: GA090050(L6)	PART NAME: 包装示意图	SCALE: 1:1	
	PRODUCT NO:	PART NO:	UNIT: mm	
	DESIGNER_BY: Perfume	DESIGNED NO: SP0120701	DRAWING NO: P14.070AA	
	CHECKED_BY: 曾香水 DTAE: 2014/7/15	APPROVED_BY:	Shenzhen Sunlight Electronic Co.,Ltd	
	SHEET NO: 1/1			
	REV: A			

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15. SAFETY LICENSE : (UL+FCC)

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