

APPROVAL SHEET

CUSTOMER : ALT Co., Ltd. 貴中.
MODEL : TYPE2542 (Adapter).
ITEM : Adapter (5V/2A) .
PART No. : .
DATE : 2022. 07. 11 .

Approval

※ All production units will be built according to this specification, the component specifications remain as same, its brand can be changed.

Designed By	Checked By	Approved By
		

INDEX

NO.	DESCRIPTION	PAGE	REMARK
1	Revision History	3-4	
2	Electrical Performance	5	
3	Mechanical Characteristics	6	
4	Environmental	6	
5	Surface Structure	7	
6	Safety & EMC	7	
7	MTBF	7	
8	Circuit Diagram	8	
9	Part List	9-10	
10	PCB Drawing	11-13	
11	DC Cable	14	
12	DC Jack	15	
13	Appearance Drawing	16	
14	Nameplate	17	
15	Packing Drawing	18	
16	Appendix	19-20	

1. Revision History

No.	Revision Date	Revision History	Revision	Page															
1	2019.02.26	First release	1.0A	-															
2	2019.05.10	To add PL, CKD	1.1A	8,9,10															
3	2019.07.03	Packing drawing change	1.2A	18															
4	2019.07.05	Delete the Package Drawing Page 18	1.3A	-															
5	2019.07.31	Add General tolerance table	1.4A	14~18															
6	2019.09.03	Changing cable length dimensions and drawings	1.5A	13															
7	2020.05.15	Change of component values to improve output voltage characteristics and secure margins for electromagnetic characteristics. <table><tr><td>ITEM</td><td>AS IS</td><td>TO BE</td></tr><tr><td>R16</td><td>4.87kΩ</td><td>11kΩ</td></tr><tr><td>R18</td><td>5.25kΩ</td><td>12kΩ</td></tr><tr><td>R12</td><td>NC</td><td>20pF</td></tr><tr><td>C5</td><td>1.0nF</td><td>2.2nF±1.2nF</td></tr></table>	ITEM	AS IS	TO BE	R16	4.87kΩ	11kΩ	R18	5.25kΩ	12kΩ	R12	NC	20pF	C5	1.0nF	2.2nF±1.2nF	1.6A	9,10
		ITEM	AS IS	TO BE															
		R16	4.87kΩ	11kΩ															
R18	5.25kΩ	12kΩ																	
R12	NC	20pF																	
C5	1.0nF	2.2nF±1.2nF																	
Secondary vendor of electrolytic and Polymer capacitors added. <table><tr><td>ITEM</td><td>1'st Vender</td><td>2'nd Vender</td></tr><tr><td>Elec. Cap</td><td>Samyoung</td><td>Samhwa</td></tr><tr><td>Poly. Cap</td><td>Soosan</td><td>Shengyang</td></tr></table>	ITEM	1'st Vender	2'nd Vender	Elec. Cap	Samyoung	Samhwa	Poly. Cap	Soosan	Shengyang	10									
ITEM	1'st Vender	2'nd Vender																	
Elec. Cap	Samyoung	Samhwa																	
Poly. Cap	Soosan	Shengyang																	
Changing nameplate and carton box label due to additional manufacturer. <table><tr><td>No.</td><td>AS IS</td><td>TO BE</td></tr><tr><td>1</td><td>Fastbon(CN)</td><td>Fastbon(CN)</td></tr><tr><td>2</td><td></td><td>Gangheng(CN)</td></tr><tr><td>3</td><td>-</td><td>HAEM VINA(VN)</td></tr></table> - Application date: May 2020~	No.	AS IS	TO BE	1	Fastbon(CN)	Fastbon(CN)	2		Gangheng(CN)	3	-	HAEM VINA(VN)	17,19,20						
No.	AS IS	TO BE																	
1	Fastbon(CN)	Fastbon(CN)																	
2		Gangheng(CN)																	
3	-	HAEM VINA(VN)																	

1. Revision History

No.	Revision Date	Revision History	Revision	Page													
8	2021.05.10	MTBF time change(55,000→70,000)	1.7A	7													
		Change of Electrolyte Capacitor and Polymer Capacitor Manufacturer		10													
		<table><tr><td>ITEM</td><td>1'st Vender</td><td>2'nd Vender</td></tr><tr><td rowspan="2">Elec. Cap</td><td>Samyoung</td><td>ZHONGYUAN</td></tr><tr><td>Samhwa</td><td>CAPXON</td></tr><tr><td rowspan="2">Poly. Cap</td><td>Soosan</td><td>Shengyang</td></tr><tr><td>Shengyang</td><td>CAPXON</td></tr></table>			ITEM	1'st Vender	2'nd Vender	Elec. Cap	Samyoung	ZHONGYUAN	Samhwa	CAPXON	Poly. Cap	Soosan	Shengyang	Shengyang	CAPXON
		ITEM			1'st Vender	2'nd Vender											
		Elec. Cap		Samyoung	ZHONGYUAN												
Samhwa	CAPXON																
Poly. Cap	Soosan	Shengyang															
	Shengyang	CAPXON															
DC cable length change	14																
<table><tr><td>ITEM</td><td>AS IS</td><td>TO BE</td></tr><tr><td>5V2A</td><td>1805+25(mm)</td><td>1505+25(mm)</td></tr></table>		ITEM	AS IS	TO BE	5V2A	1805+25(mm)	1505+25(mm)										
ITEM	AS IS	TO BE															
5V2A	1805+25(mm)	1505+25(mm)															
9	2022.07.11	Change the model name/KC safety certification number/electromagnetic compatibility number.	1.8A	17													
		<table><tr><td>ITEM</td><td>AS IS</td><td>TO BE</td></tr><tr><td>5V2A</td><td>TYPE2541</td><td>TYPE2542</td></tr><tr><td>KC</td><td>HH10319-20001</td><td>HH10319-20004</td></tr><tr><td>EMC</td><td>R-R-Edt-TYPE2541</td><td>R-R-Edt-TYPE2542</td></tr></table>			ITEM	AS IS	TO BE	5V2A	TYPE2541	TYPE2542	KC	HH10319-20001	HH10319-20004	EMC	R-R-Edt-TYPE2541	R-R-Edt-TYPE2542	
		ITEM		AS IS	TO BE												
		5V2A		TYPE2541	TYPE2542												
		KC		HH10319-20001	HH10319-20004												
EMC	R-R-Edt-TYPE2541	R-R-Edt-TYPE2542															
Change the Name Plate/Carton Box Label	19, 20																
▶ Value Engineering 1) LF1 not used. 2) Change the capacitance of 2nd side capacitor. (change 470uF to 330uF) ▶ EMC improvement :Add C1(0.1uF)	8, 9, 10																
PCB pattern change	11, 12, 13																
Add production factory (Qinli Electronic)	17, 19, 20																

2. Electrical performance

2.1 Input Characteristics :

2.1.1	Rated input voltage	100-250 Vac
2.1.2	Operating range	90-265 Vac
2.1.3	Rated input frequency	50/60 Hz
2.1.4	Rated input current	Max 0.5A (at AC 220V/60Hz)
2.1.5	Power consumption (No load)	Max 0.5W (at AC 220V/60Hz)
2.1.6	Primary overcurrent protection	Ceramic fuse, Time-lag type, 5.0A max
2.1.7	Surge	±4kV (60s period, 10 times)
2.1.8	Inrush Current	Max 30A (at AC 220V/60Hz)

2.2 Output Characteristics :

2.2.1	Nominal DC output voltage	5 V
2.2.2	Rating load current	2.0 A
2.2.3	Rating output power	10 W
2.2.4	Line regulation (at 90~265V/60Hz)	Based on the output voltage at the rated input voltage (220V@60Hz) When the AC input voltage is varied from 90 to 265V, the output voltage is within ±3%
2.2.5	Load regulation (at 220V/60Hz)	When the rated input voltage (220V@60Hz) is applied, the output voltage variation range according to the load variation is within ±3% based on the output voltage at 50% of the maximum rated load.
2.2.6	No load voltage range	4.75-5.25 V
2.2.7	Rating Load	4.85-5.15 V
2.2.8	Ripple and noise	within Max. 50 mV (p-p) at AC 220V 10W Connect 47uF/50V Electrolytic Capacitor and 0.1uF Ceramic to both ends of DC output and measure by setting the oscilloscope 20MHz bandwidth.
2.2.9	Average efficiency	Accord with energy level V. Average efficiency 75% minimum
2.2.10	Shell surface temperature	At 25°C ambient, 80%. Load, 50°C max.
2.2.11	Over current protection	At rated AC input, output current in the range of 2.4-3.5 A, the power supply will protect

2.3 Dielectric Withstand Voltage (HI-POT) :

This Adapter shall be applied 3,000Vac for 60s between AC input terminal to DC output terminal and enclosure. The cutoff current is specified as 10 mA

2.4 Insulation Resistance :

DC 500V, 100 MΩ min between input to output and enclosure.

2.5 Leakage Current :

Line<->DGND & Neutral ↔ DGND, 0.25mA max.

2.6 Overload Test :

In an ambient temperature of 25°C applies a power source of rated input with the output load adjusted to 10% of rated output and rated continuously for 4 Hours after turning off for 60 minutes in normal temperature.

2.7 Humidity Test :

Temperature 40±2°C, 90~95% RH for 4 Hours after taken out from oven.

2.8 Dampproofing Test :

200mm distance, 10 sec, ±60° spray

3. Mechanical Characteristics

3.1 Strain Relief Test :

Plug and cord, at their normal position applied a weight OF 18 lbs. to input plug, 10 lbs. to output cord, for 60 seconds each, there shall be no broken of lead or other damage result.

3.2 Drop Test :

Product shall be dropped from a height of 90cm, onto 3mm thickness tile surface 10 times from 3 different surface.

4. Environmental :

4.1 Operating Temperature and Humidity Range :

Operate over the temperature range of -5°C to 50°C , 20% to 85% relative humidity no condensation.

4.2 Storage Temperature and Humidity Range :

The operation specified herein will not be adversely affected if stored or transported within the temperature limits of -5°C to +60°C with relative humidity up to 90% no condensation.

5. Surface Structure :

5.1 Appearance : Rift, dirty etc. are not permitted.

5.2 Outline : Dimensions and express as drawing

5.3 Net Weight : 120g Max.

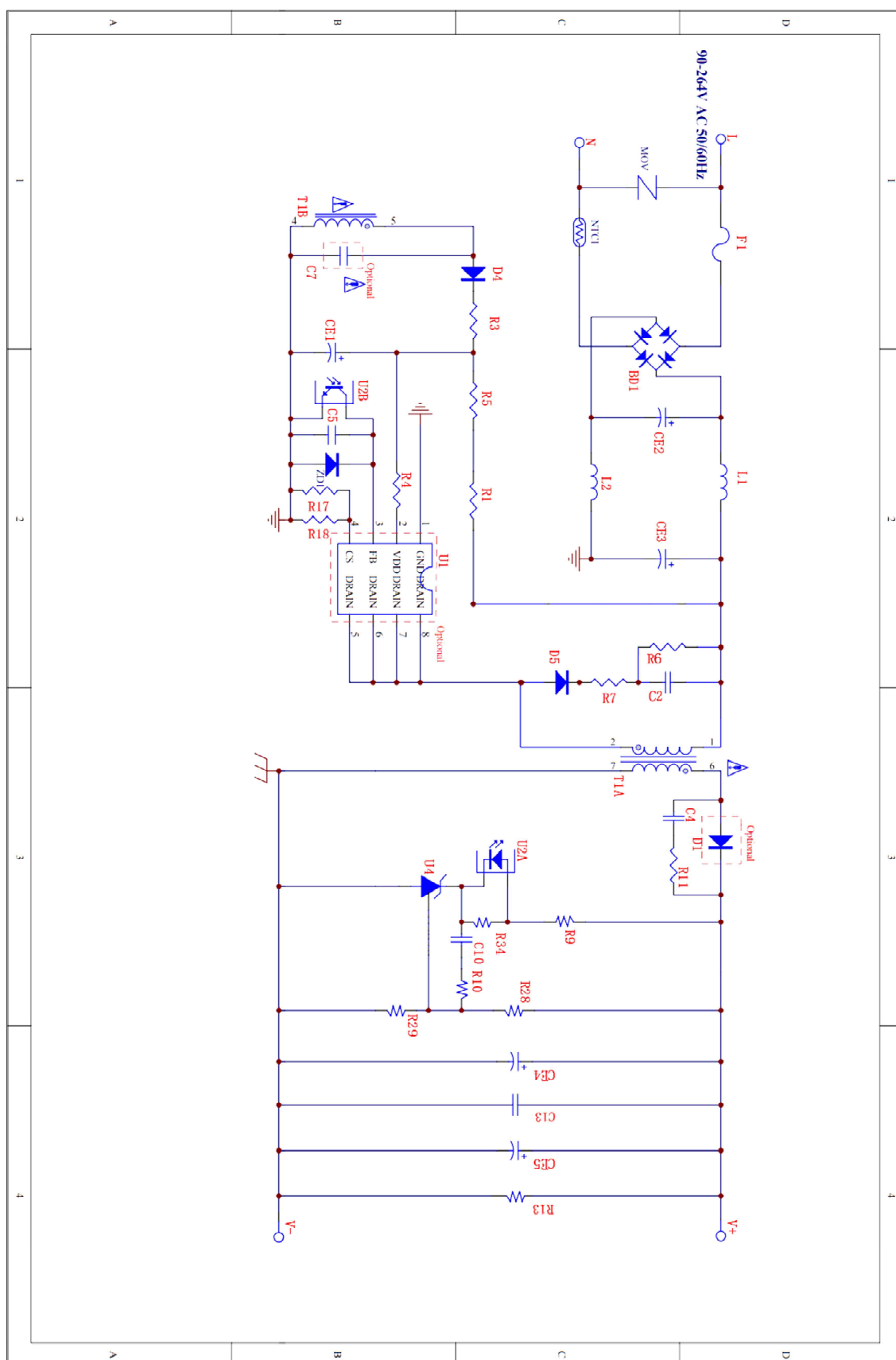
6. Safety & EMC :

6.1 Safety Standard : K 60950-1

6.2 EMC Standard : CISPR(EN55023) Class B Limit

7. MTBF :

The design and construction of this power supply has been tested a minimum mean time between failure of 70,000 hours full rated load operation at 40°C.



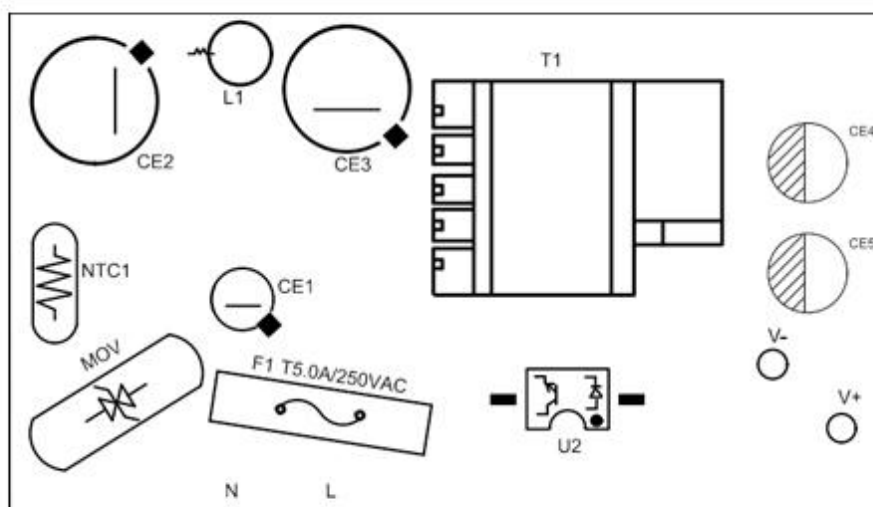
9. Part List (PL1)

NO.	Description	Specifications	Location	Q'ty
1	PCB	70*40*1.2t CEM-1 single panel, 10Z, V:1.0	STA12-A	1
2	Rectifier bridge	ABS10 or ABS210, SOP-4	DB1	1
3	Diode	1N4007, 1A/1KV, SOD-123	D5	1
4	Power diode	FR107, 1A/1KV, SOD-123	D4	1
5	Shunt regulator	TL431, Vref=2.5V, SOT-23	U2	1
6	chip resistor	3.9, 1206, 1%, SMD	R17, R18	2
7	chip resistor	330K, 1206, 5%, SMD	R6	1
8	chip resistor	51, 1206, 5%, SMD	R11	1
9	chip resistor	100, 1206, 5%, SMD	R7	1
10	chip resistor	2M, 1206, 5%, SMD	R1, R5	2
11	chip resistor	10, 0805, 5%, SMD	R3, R4	1
12	chip resistor	2M, 0805, 5%, SMD	R11	1
13	chip resistor	1K, 0805, 5%, SMD	R1, R5	2
14	chip resistor	470, 0805, 5%, SMD	R9	1
15	chip resistor	1K, 0805, 5%, SMD	R10	1
16	chip resistor	5.1K, 0805, 5%, SMD	R34	1
17	chip resistor	12K±1K, 0805, 1%, SMD	R28	1

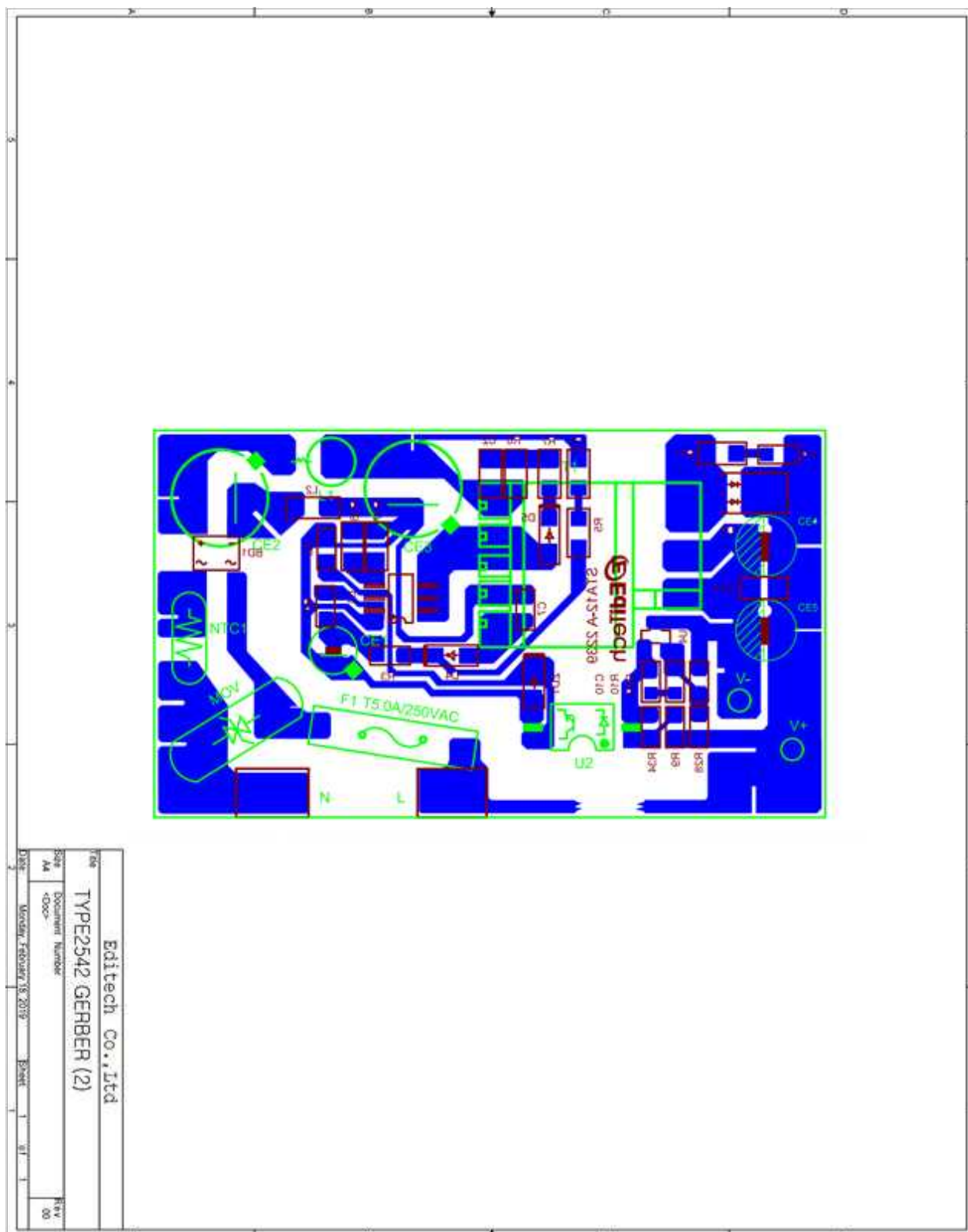
9. Part List (PL2)

NO.	Description	Specifications	Location	Q'ty
18	chip resistor	11K±1K, 0805 1%, SMD	R29	1
19	Ceramic capacitor	100nF, 50V, 10%, 0805,SMD, X7R	C1, C10	2
20	Ceramic capacitor	2.2nF±1.2nF, 50V, 10%, 0805,SMD, X7R	C4, C5	1
21	Ceramic capacitor	1nF, 50V, 10%, 0805, SMD, X7R	C5	1
22	Ceramic capacitor	2.2nF±1.2nF, 1KV, 10%, 1206, SMD, X7R	C2	1
23	Electrolytic capacitor	4.7uF/50V, 5*11, 10000H, 2.5MM	CE1	2
24	Electrolytic capacitor	10uF/400V, 10*16, 10000H, 5MM	CE2, CE3	2
25	Solid polymer capacitor	16V/330uF, 8*11.5, 5000H, 5MM	CE4, CE5	2
26	Inductor	0.47mH, 0510, 10%, 5MM	L1	1
27	Inductor(SMD)	4.7uH 3216 10%	L2	1
28	NTC thermistor	10D-9, 10Ω±20%, 1.9A,125°C	RT1	1
29	PWM IC	SF6645HF, 67KHZ, VDS 650V SOP8	U1	1
30	Schottky diode	DK5V45R20S, 30A/45V, LOW VF SM7	D1	1
31	Photol coupler	EL817B, CTR: 130-260%, DIP4	U3	1
32	Varistor	14D561K, 125°C	MOV1	1
33	Fuse	5.0 A/250V, 3.6*10mm, slow-breaking ceramic fuse	F1	1
34	Transformer	EE16, Extended 5+2 Vertical	T1	1

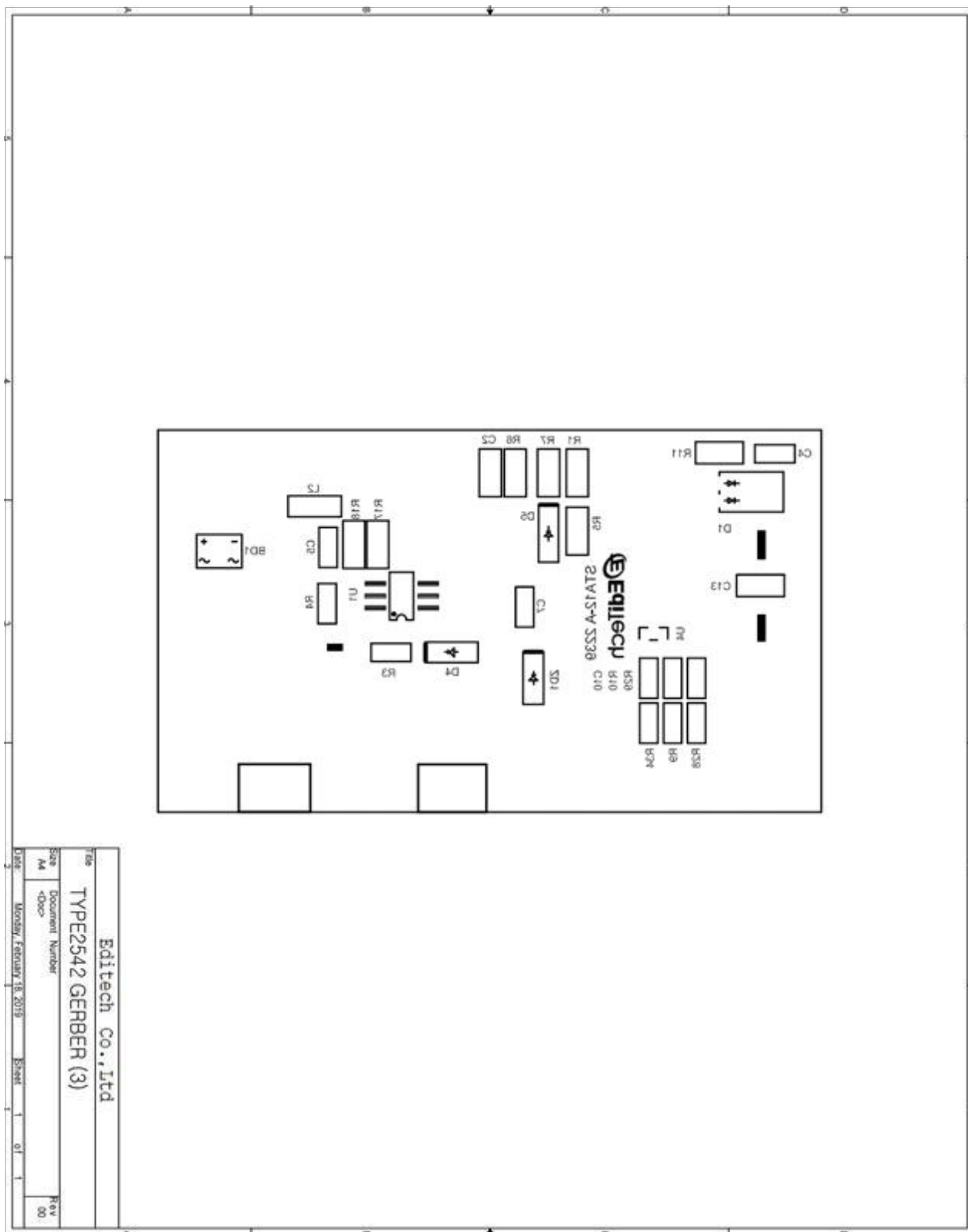
10. PCB Drawing (1)



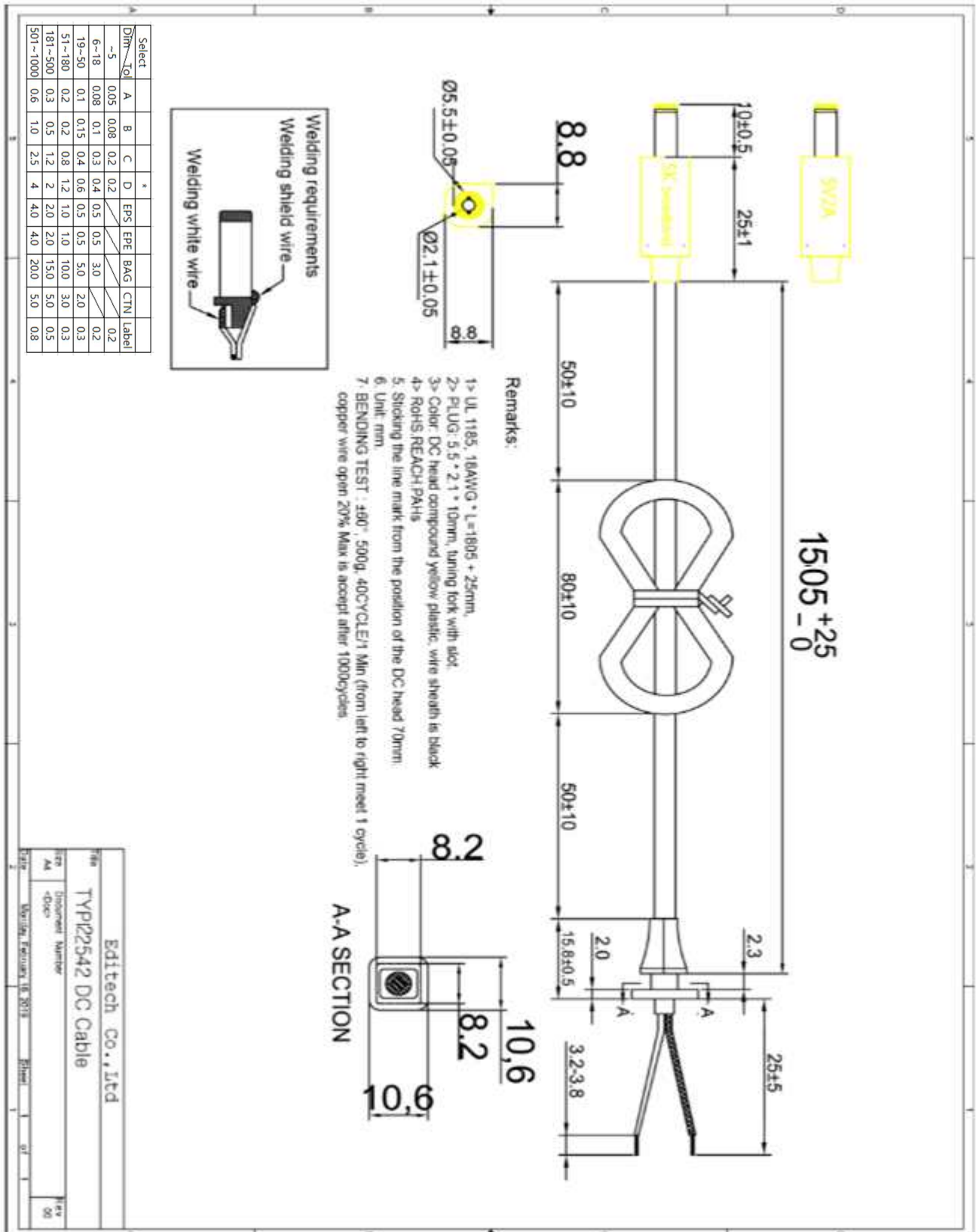
Rev	Editech Co.,Ltd
Size	TYPE2542 GERBER (1)
Doc	Document Number
Rev	00
Date	Monday, February 18, 2019
Sheet	1 of 1



10. PCB Drawing (3)



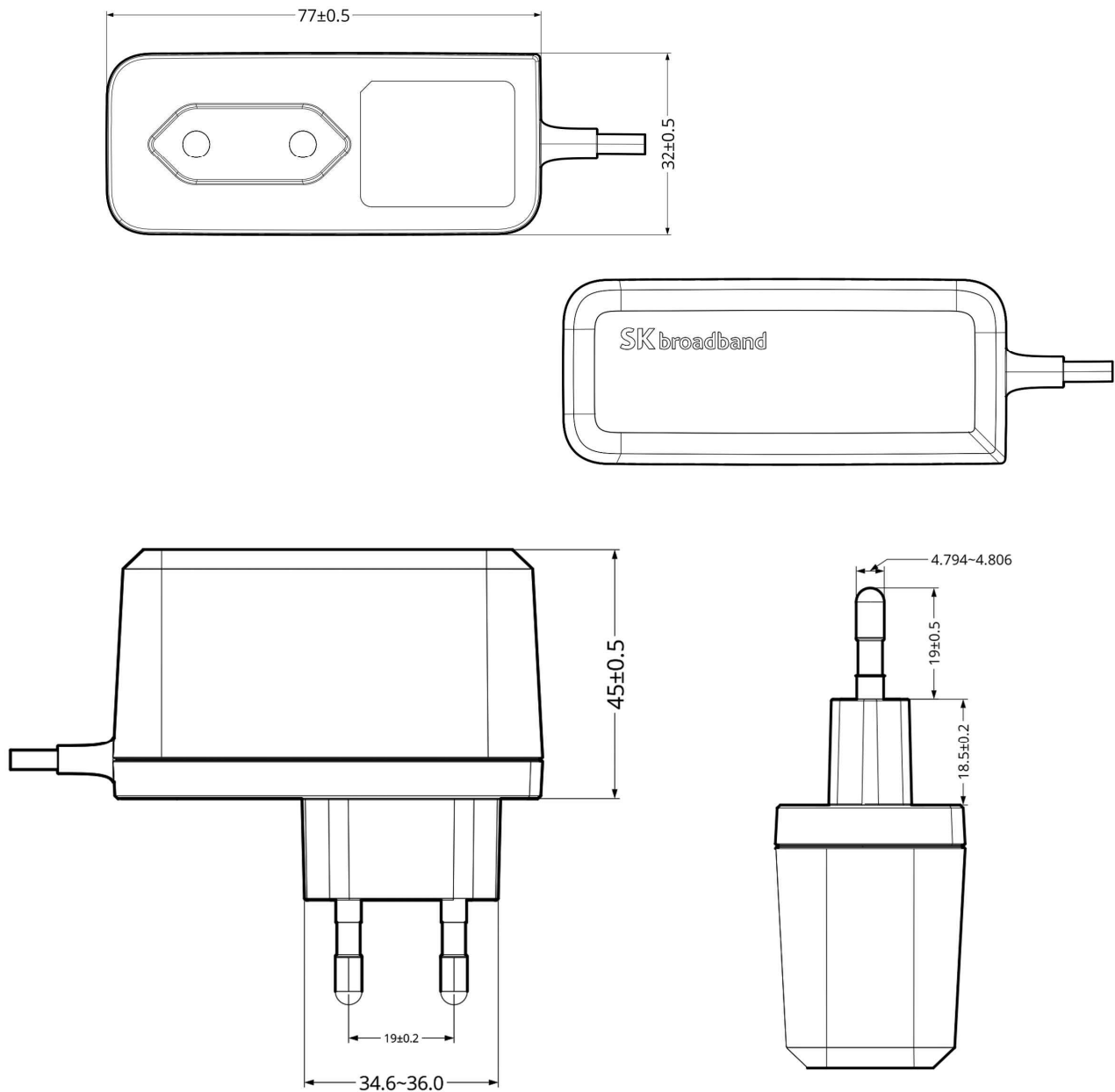
11. DC Cable



Editech Co., Ltd	
File	TYF2:2542 DC Jack Φ5.5*Φ2.1*23.0
Size	Document Number
A4	<Doc>
Date	Monday, February 10, 2015
Page	Sheet 1 of 1
	Rev 00

13. Appearance Drawing (Unit:mm)

SIZE : L77 × W32 × H45 mm

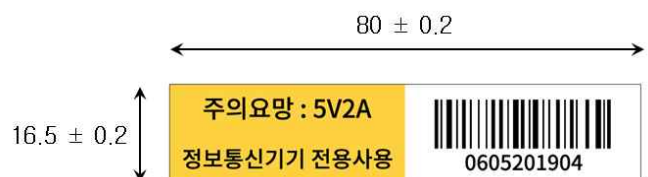
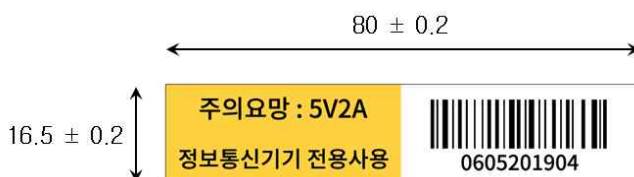


Select				*					
Dim	Tol	A	B	C	D	EPS	EPE	BAG	CTN
~5	0.05	0.08	0.2	0.2	0.5	0.5	3.0	2.0	0.2
6~18	0.08	0.1	0.3	0.4	0.5	0.5	3.0	2.0	0.2
19~50	0.1	0.15	0.4	0.6	0.5	0.5	5.0	2.0	0.3
51~180	0.2	0.2	0.8	1.2	1.0	1.0	10.0	3.0	0.3
181~500	0.3	0.5	1.2	2	2.0	2.0	15.0	5.0	0.5
501~1000	0.6	1.0	2.5	4	4.0	4.0	20.0	5.0	0.8

14. Name Plate (Unit:mm)

1st Factory : Qinli Electronic

2nd Factory : Gangheng Electronics



Select				*					
Dim	Tol	A	B	C	D	EPS	EPE	BAG	CTN
~5		0.05	0.08	0.2	0.2	0.5	0.5	3.0	0.2
6~18		0.08	0.1	0.3	0.4	0.5	0.5	3.0	0.2
19~50		0.1	0.15	0.4	0.6	0.5	0.5	5.0	0.3
51~180		0.2	0.2	0.8	1.2	1.0	1.0	10.0	0.3
181~500		0.3	0.5	1.2	2	2.0	2.0	15.0	0.5
501~1000		0.6	1.0	2.5	4	4.0	4.0	20.0	0.8

15. Packing Dimensions (1) AIR BAG (Unit:mm)

Select				*					
Dim	Tol	A	B	C	D	EPS	EPE	BAG	CTN
~5	0.05	0.08	0.2	0.2	0.5	0.5	3.0	0.2	0.2
6~18	0.08	0.1	0.3	0.4	0.5	0.5	5.0	2.0	0.3
19~50	0.1	0.15	0.4	0.6	0.5	1.0	10.0	3.0	0.3
51~180	0.2	0.2	0.8	1.2	2.0	2.0	15.0	5.0	0.5
181~500	0.3	0.5	1.2	2	4.0	4.0	20.0	5.0	0.8
501~1000	0.6	1.0	2.5	4	4.0	4.0	20.0	5.0	0.8



AIR BAG SIZE : 180x130

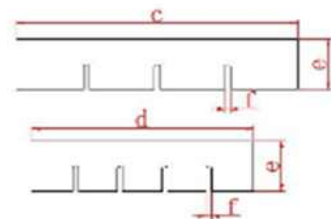
AIR BAG No. : 1DEIA501-01

TOLERANCE : ± 3



DIMENSION : K4K 6 PCS

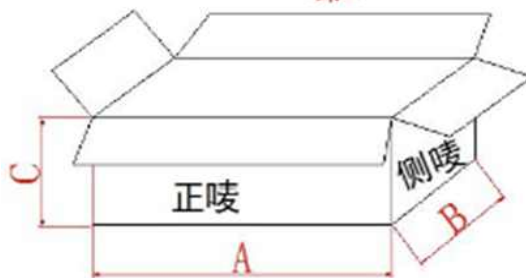
L x W x H : 455 x 365 x 3



FLAT:B=B 35 PCS HNIVES CARDBOARD:

1.THREE CARD : LxWxH(455x65x5) 20 PCS

2. FOUR CARD : LxWxH(365x65x5) 15 PCS



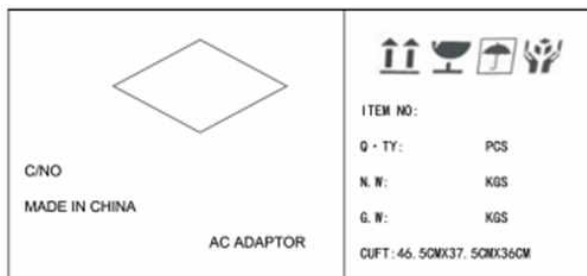
OUT CARTON DIMENSION :

L x W x H : 470 x 240 x 470

TOLERANCE : ± 5

1 OUT CARTON

=100 PCS



	A	B	C	a	b
mm	470	240	470	455	365
	c	d	e	f	
mm	455	365	65	5	

NOTE : A box of 100 pcs a total of 5 layers of 20 pcs.

- 1) Clapboard material: K4K, knife material: B=B
- 2) Outer Carton Material : A=B
- 3) Anti static: No requirement.
- 4) Environmental protection requirement: 94/62/EC.
- 5) We will select cardboard packing if customer don't specify packing type.
- 6) The sample package for temporary packaging, the big goods packaging as shown above packaging.

16. Appendix(1) : Name Plate

No.	AS IS	TO BE
1	제 품 명 : 직류전원장치(SMPS) 모 델 명 : TYPE2542 안전인증번호 : HH10319-20004 전자파적합등록 : R-R-Edt-TYPE2542 정격입력 : 100-250V ~, 50/60Hz, 0.5A 정격출력 : DC 5V / 2A 제 조 사 : Dongguan Gangheng Electronics Co., Ltd. A / S : 031-398-3661 수입원/납품업체 : (주)에디테크  0605201904 최저소비효율기준 만족 제품 MADE IN CHINA 	제 품 명 : 직류전원장치(SMPS) 모 델 명 : TYPE2542 안전인증번호 : HH10319-20004 전자파적합등록 : R-R-Edt-TYPE2542 정격입력 : 100-250V ~, 50/60Hz, 0.5A 정격출력 : DC 5V / 2A 제 조 사 : Dongguan City Qinli Electronic Co., Ltd. A / S : 031-398-3661 수입원/납품업체 : (주)에디테크  0605202206 최저소비효율기준 만족 제품 MADE IN CHINA 
2		제 품 명 : 직류전원장치(SMPS) 모 델 명 : TYPE2542 안전인증번호 : HH10319-20004 전자파적합등록 : R-R-Edt-TYPE2542 정격입력 : 100-250V ~, 50/60Hz, 0.5A 정격출력 : DC 5V / 2A 제 조 사 : Dongguan Gangheng Electronics Co., Ltd. A / S : 031-398-3661 수입원/납품업체 : (주)에디테크  0605201904 최저소비효율기준 만족 제품 MADE IN CHINA 
3		

No.	AS IS	TO BE																												
1	<table><tr><td>Order No</td><td>000000-O</td></tr><tr><td>Model</td><td>TYPE2541</td></tr><tr><td>Manufacture</td><td>Gangheng Electronics</td></tr><tr><td>FXN P/N</td><td>000.00000.00000</td></tr><tr><td>Quantity / box</td><td>100PCS</td></tr><tr><td>Manufacture Date</td><td>0000-00-00</td></tr><tr><td>Remark</td><td>5V2A</td></tr></table>	Order No	000000-O	Model	TYPE2541	Manufacture	Gangheng Electronics	FXN P/N	000.00000.00000	Quantity / box	100PCS	Manufacture Date	0000-00-00	Remark	5V2A	<table><tr><td>Order No</td><td>000000-O</td></tr><tr><td>Model</td><td>TYPE2542</td></tr><tr><td>Manufacture</td><td>Qinli Electronic</td></tr><tr><td>OOO P/N</td><td>0000000000000</td></tr><tr><td>Quantity / box</td><td>100PCS</td></tr><tr><td>Manufacture Date</td><td>0000-00-00</td></tr><tr><td>Remark</td><td>5V2A</td></tr></table>	Order No	000000-O	Model	TYPE2542	Manufacture	Qinli Electronic	OOO P/N	0000000000000	Quantity / box	100PCS	Manufacture Date	0000-00-00	Remark	5V2A
	Order No	000000-O																												
	Model	TYPE2541																												
	Manufacture	Gangheng Electronics																												
	FXN P/N	000.00000.00000																												
	Quantity / box	100PCS																												
	Manufacture Date	0000-00-00																												
	Remark	5V2A																												
Order No	000000-O																													
Model	TYPE2542																													
Manufacture	Qinli Electronic																													
OOO P/N	0000000000000																													
Quantity / box	100PCS																													
Manufacture Date	0000-00-00																													
Remark	5V2A																													
2		<table><tr><td>Order No</td><td>000000-O</td></tr><tr><td>Model</td><td>TYPE2542</td></tr><tr><td>Manufacture</td><td>Gangheng Electronics</td></tr><tr><td>OOO P/N</td><td>0000000000000</td></tr><tr><td>Quantity / box</td><td>100PCS</td></tr><tr><td>Manufacture Date</td><td>0000-00-00</td></tr><tr><td>Remark</td><td>5V2A</td></tr></table>	Order No	000000-O	Model	TYPE2542	Manufacture	Gangheng Electronics	OOO P/N	0000000000000	Quantity / box	100PCS	Manufacture Date	0000-00-00	Remark	5V2A														
	Order No	000000-O																												
	Model	TYPE2542																												
	Manufacture	Gangheng Electronics																												
	OOO P/N	0000000000000																												
	Quantity / box	100PCS																												
	Manufacture Date	0000-00-00																												
Remark	5V2A																													
3																														