



Approval Sheet

Customer model No.	
Description.	AC/DC ADAPTOR (5V/2A)
Model No.	SGN-0502 (BULK)
Document No.	TD-PA-A223KS-DE-S51 (ISSUE 1.0)
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1. PRODUCT SPECIFICATION

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1. Summary

1.1 A range of application.

This product specification (hereinafter referred to as "specification") is SK Broadband's "B Internet, B Internet phone"

The purpose of this document is to provide functional requirements for terminal equipment power adapters and external appearance required for service provision.

1.2 Scope of application

This product specification shows the standard rated output among the high-speed multimedia service terminals provided by SK Broadband Applies to 5V, 2A adapters.

1.3. criteria to apply

- 1) For the matters not mentioned in this specification, it should conform to the following domestic standard or international recommendation.
- 2) Article 5 (2) "Safety Standards"
- 3) Electrical appliances safety standard "K60950-1"
- 4) Standard for the prevention of electromagnetic interference (Notice by the Korea Communications Commission)
- 5) CISPR(EN55022) Class B limit
- 6) FCC Part15, subpart B, Class B limit
- 7) ISO Standard
- 8) Self-technical standard
- 9) Standby power reduction program operation standard (Ministry of Knowledge Economy notification)
- 10) Efficiency Management Equipment Operation Regulations (Ministry of Knowledge Economy Notice)
- 11) Domestic and overseas laws, regulations, standards, standards, etc.

2. Power Adapter Requirements

2.1. General Information

- 1) The power adapter is safe from electric shock, burn, arc, ignition, mechanical hazard and chemical hazard

Produced under a system that conforms to safety standards and maintains safety in accordance with the provisions of Article 5 (2)

The product is authorized to issue a safety certificate and to use the safety certification mark for the product.

- 2) Insurance and product liability insurance due to fire etc
- 3) The rectification method is an SMPS (Switch Mode Power Supply) type.
- 4) The power adapter is a type approved product.

2.2. Materials and components

- 1) Materials and parts are of quality such as KS standard products that are mechanically robust and satisfy electrical characteristics Ensure reliability
- 2) The coupling of the adapter main body can not be arbitrarily opened and closed by using a fusion type system.
- 3) Outer shape material is made of PC or ABS resin so that the reliability of product can be maintained and pollution prevention and cleaning are possible.

☞ The outer shape of the adapter body and the output terminal connector are made of flame retardant material.

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☞ Adequate treatment was performed to prevent contact and fire caused by foreign substances inside the adapter.

4) All components, including electrolytic capacitors, ensure product reliability using components with good electrical characteristics and sufficient capacitance

☞ The temperature characteristics of the electrolytic capacitor use a product that maintains a life of 5000 hours or more at 105 °C. on the primary (AC input) and secondary (DC output) side.

5) The DC output cable uses AWG # 18 shield type.

6) The fuse used for power input must be ceramic material Time-lag Type, and it uses a safety standard approved product.

☞ Fuse uses a capacity of 3.15A or less.

7) The Varistor used for power input uses a product approved by the safety standard.

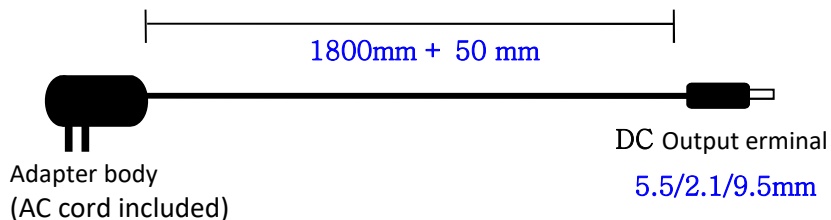
☞ Varisto used less than 14Φ Product.

8) The output protection device uses the foldback method.

3. Structure and form

3.1 Product size and structure

1) Product Appearance



2) Adapter body size

Item	Structure and Standard
Size (W*L*H)	32.5*77.4*82.2 mm
Color	Black

3) AC Input structure

Item	Structure and Standard
Applicable country	Korea
Type	Wall Mount

4) DC Output structure

Item		Structure and Standard
Cable	Kinds	UL 1185, AWG18
	Length	1800+50 mm
	Color	Black

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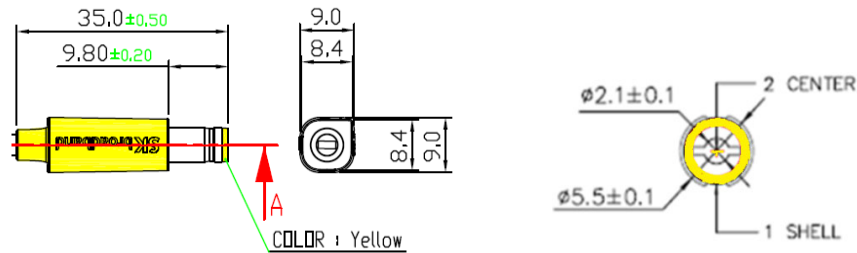
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3.2 DC Output structure

1) DC Output connector outline



2) DC Jack structure

Item		Structure and Standard
Size	Outer diameter (A)	5.5±0.1 mm
	inner diameter (B)	2.1±0.1 mm
	Length (C)	9.8±0.2 mm
shape		포크+Groove Type 형

3) DC Jack Terminal power supply

Terminal pin	power
Internal terminal	+5.0V
External terminal	Ground

4. Electrical characteristic

4.1 AC Input characteristic

Item	Structure and Standard
- AC Input Voltage	AC 100V ~ 250V (-10%, +6%)
- AC Input frequency	50~60Hz (57~63Hz)
- AC Input current	220V / 0.5A Max
- Primary side Fuse	250V 3.15A FUSE CERAMIC
- Inrush Current	Normal operation with 220V AC / 30Amax inrush current under rated load conditions

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4.2 DC Output characteristic

Item	Standard and characteristic
- DC Output voltage	DC 5V $\pm$ 5%
- DC Output current	2.0A
- Line Regulation	When the input power varies from 90 to 265 VAC (60 Hz) at the maximum rated load, $\pm$ 2% of output voltage of rated input voltage (220VAC / 60Hz)
- Load Regulation	Within $\pm$ 3% of the output voltage of 50% of the maximum rated load when the output load is changed from no load to the maximum rated load at rated input voltage (220VAC / 60Hz)
- Ripple & Noise	When the input power varies from 90 to 265 VAC (60 Hz) at the maximum rated load, it is measured at 50 mV (P-P) or less (Oscilloscope with a bandwidth of 20 MHz and electrolytic capacitor 47 μ F for prevention of external noise and 0.1 μ F ceramic capacitor in parallel)
- Over current Protection	When the rated input voltage is applied and the load is increased sequentially, the overcurrent protection circuit should be cut off from 120% to 175% (2.4 to 3.5) of the rated load.
- Output short-circuit protection	The rated input voltage is applied to completely shut off the output when the output is shorted, and after eliminating the cause of the short circuit, normal operation (performed 10 times in 10 seconds cycle)

4.3 Insulation characteristic

Item	Standard and characteristic
- 1st and 2nd insulation breakdown	There is no breakdown when applying input and output 3000VAC (Cut Off Current 10mA) for 1 minute, and it operates normally (Measure by shorting the two input wires and the two output wires)
- Leakage current	Less than 0.25mA leakage current under rated input voltage (220V 60Hz)

4.4 Energy efficiency

Item	Standard and characteristic
- Energy efficiency	More than 75% (Average efficiency after 30 minutes aging under the conditions of 220V 60Hz input voltage to output current 25%, 50%, 75%, 100%)
- Standby power (no-load power consumption)	less than 0.5W (220V 60Hz input and no-load output conditions)

* Note : Meets the minimum consumption efficiency standards and the standards for standby power reduction program operation rules announced in the Ministry of Knowledge Economy

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5. Environmental condition

5.1 Operation and storage

Item	Standard and characteristic
- Operation temperature / Humidity	Temperature -5°C ~ 50°C, Humidity 20% ~ 85%
- Storage temperature / Humidity	Temperature -5°C ~ 60°C, Humidity 10% ~ 90%

6. Reliability condition

6.1 Othe reliability test

Item	Standard and characteristic
- Drop test	Normal operation after free fall 10 times on each side from a height of 90 cm (iron plate floor: 1.5 cm or more in thickness)
- Surge test	COMBINATION WAVE $\pm 4000V / 1000A$ Normal operation after applying 10 times per phase / polarity in frequency divider

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7. Appearance

7.1 Notation

- 1) SK Broadband Logo, Product Name, Model Name, Safety Certification Number, Rating Input, Rated Output, Manufacturer Name, Date of Manufacture, A / S Contact List. (See figure below - figure 1)



< figure 1 >

- 2) The SK Broadband Logo and the list use materials that are not damaged.
- 3) The isolated Plastic part of the DC output terminal uses 5V division index yellow.

7.2 Guide Tag display (see figure below - figure 2)

- 1) A separate guide tag for connecting the rated voltage adapter to the terminal equipment must be attached to the cable to which the DC output terminal is connected and is waterproof and not torn.
- 2) The background color of the guide tag is the same as the insulation plastic color of the DC output terminal.



< figure 2 >

2. SCHEMATIC

3. OPERATING MANUAL & BLOCK DIAGRAM

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Operating manual

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1. Input section

1.1 Input filter And rectifier circuit

1) The AC voltage input from the input terminal is full-wave rectified via FUSE-> VARISTOR-> BRIDGE DIODE (BD1).

2) The full wave rectified voltage is smoothed to a DC voltage by FILTER (C1, C2, L1, L2).

☞ Varistor(VA1) : Protect the device from SURGE which can go into the input.

☞ Filter circuit : Input Attenuates high frequency NOISE generated by it self and NOISE coming from the input side.

1.2 Switching circuit

1) The voltage that has been smoothed into the DC voltage will be SWITCHING to a high frequency voltage of several tens of KHz by the PWM CONTROLLER (IC1).

2) IC1 PWM CONTROLLER performs the following functions.

- Switching Frequency generation : 65KHz

- Over current protection

1.3 Voltage converter (TRANSFORMER)

1) Transformer(T1) is used to separate the input side of the primary side and the output side of the secondary side

2) The voltage oscillated at high frequency from the switching circuit is transmitted to the secondary side.

1.4 Output rectification and smoothing circuit and feedback circuit

1) Rectification and smoothing circuit

The secondary side high frequency voltage of the voltage conversion unit T1 is rectified to

DIODE D21 to D22 and smoothed by FILTER (C21) to be a stable DC voltage.

2) Feedback circuit

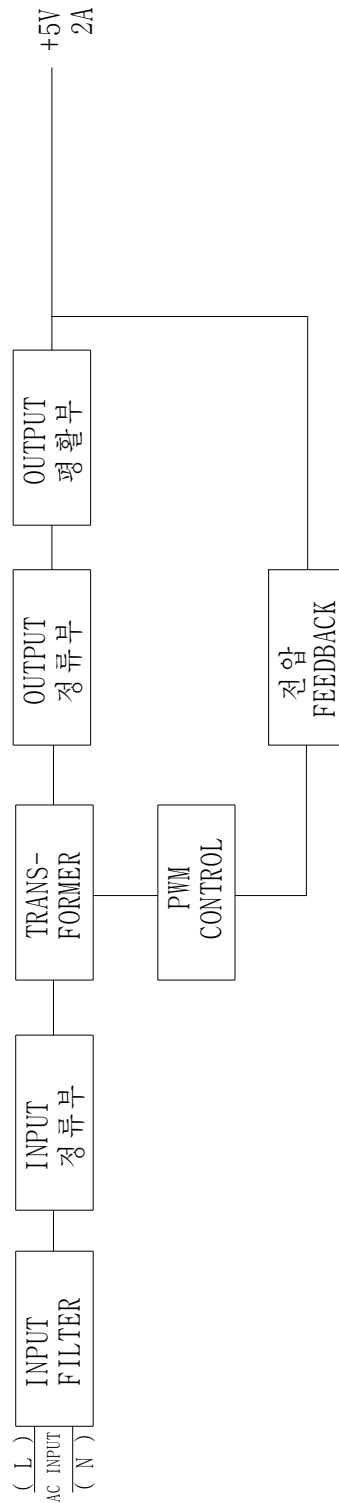
- The current flowing to PHOTO-COUPLER (PC1) is adjusted in proportion to the output voltage by the Shunt Regulator IC2 connected to the secondary side output voltage of the power supply unit.

- The current of PC1, which is proportional to the output voltage, is fed back to the PWM controller at the primary side to adjust the PWM frequency so that the output voltage is stable.

Class B (home communication equipment)

This device is mainly for home use as a home (class B) electromagnetic wave compliance device, and can be used in All regions

 SG NETWORKS Success Generator Networks		Date of preparation 2019.03.18	Document number TD-PA-A223KS-03	ISSUE 1.0	PAGE 2/2
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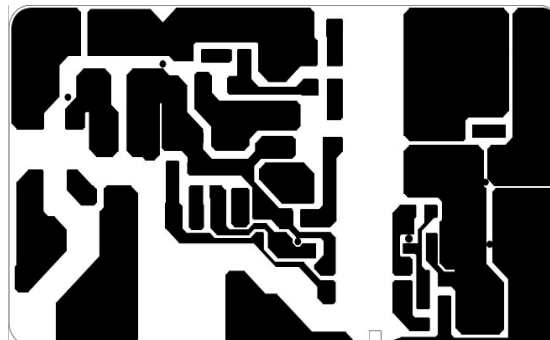


4. PART LIST

SGNETWORKS				DATE				DOCUMENT NO.				ISSUE		PAGE	
				MAR. 06. 2019								1.0		1/2	
WRITTEN BY				CHECK				APPRO.				DOC ADMIN.			
PRODUCT NAME				Hazardous Substance				CUSTOMER PART NO				FILE NAME			
SGN-0502				L/F								PARTS LIST			
공정	NO	품목 Code		ITEM	SPEC	LOC NO.	UNIT	QTY	MAKER	PART NO.	REMARK				
AX	1		2LA-A223KS-DE1-AX	LA-A223KS-DE 반제품_AXIAL	LA-A223KS-DE										
	1		PBSSF1X-223KSDE1K2	PCB, SS, FR-1	P-223KS-DE-01 V1.0(SGN-0502) ; FR-1, 1.6T		PCS	1	KRT ELEC	P-223KS-DE-01					
			PBSSF1X-223KSDE1C1	PCB, SS, FR-1	P-223KS-DE-01 V1.0(SGN-0502) ; FR-1, 1.6T		PCS	1	CHIKEURITEU	P-223KS-DE-01					
			PBSSF1X-223KSDE1T1	PCB, SS, FR-1	P-223KS-DE-01 V1.0(SGN-0502) ; FR-1, 1.6T		PCS	1	THANH-LONG ELEC	P-223KS-DE-01					
	2		CHAXP4X-337R08F1C1	CHOKE, AXIAL	330uH (04) R-FOR 5mm ; CKL0410-330uH	L1,L2	PCS	2	CENKER	CKL0410-330uH					
			CHAXP4X-337R08F1F1	CHOKE, AXIAL	330uH (04) R-FOR 5mm ; LGA0410-331KP05	L1,L2	PCS	2	FENGHUA ADVANCED	LGA0410-331KP05					
ITEM 수					2 종										
RD	2		2LA-A223KS-DE1-RD	LA-A223KS-DE 반제품_RADIAL	LA-A223KS-DE										
	1		CAE4425-106P3MA1S3	CAPACITOR, ELE	10uF 400V (LL 105 5KH 10*16 S/T 5mm) ; NFA	C1,C2	PCS	2	SAMYOUNG ELEC	NFA 400V 10uF					
			CAE4425-106P3MA1S2	CAPACITOR, ELE	10uF 400V (LL 105 5KH 10*16 S/T 5mm) ; RH	C1,C2	PCS	2	SAMWHA CONDENSOR	RH 400V 10uF					
	2		CAE142A-108C3MA1S3	CAPACITOR, ELE	1000uF 16V (LE 105 10KH 10*16 S/T 5mm) ; NXH	C22	PCS	1	SAMYOUNG ELEC	NXH 16V 1000uF					
			CAE142A-108C3MA1S2	CAPACITOR, ELE	1000uF 16V (LE 105 10KH 10*16 S/T 5mm) ; ML	C22	PCS	1	SAMWHA CONDENSOR	ML 16V 1000uF					
	3		CAE425A-106H3MA1S3	CAPACITOR, ELE	10uF 50V (LL 105 10KH 5*11 S/T 2.5mm) ; NCL	C4	PCS	1	SAMYOUNG ELEC	NCL 10uF 50V					
			CAE425A-106H3MA1S2	CAPACITOR, ELE	10uF 50V (LL 105 10KH 5*11 S/T 2.5mm) ; ML	C4	PCS	1	SAMWHA CONDENSOR	ML 10uF 50V					
	4		CAP2285-477B3MA1S5	CAPACITOR, POLYMER	470uF 10V (LL 105 5KH 6.3*9 S/T2.5mm) ; SF	C21	PCS	1	SHENGYANG ELEC	SF477M010E0900					
			CAP2285-477B3MA1E1	CAPACITOR, POLYMER	470uF 10V (LL 105 5KH 6.3*9 S/T2.5mm) ; RH	C21	PCS	1	ENESOL	10RHV470MC11					
	5		BDAXP4X-500100F1S1	BEAD, AXIAL	BRS3550 ; R-FOR	L3	PCS	1	SAMWHA ELECTRIC	BRS3550					
			BDAXP4X-500100F1B1	BEAD, AXIAL	BRS3550 ; R-FOR	L3	PCS	1	BOSUNG ELEC	BRS3550					
ITEM 수					5 종										
SMD	3		2LA-A223KS-DE1-SM	LA-A223KS-DE 반제품_SMD	LA-A223KS-DE										
	1		ICSR50X-LR431AL1S1	IC, SHUNT REG SMD	LR431ALT1H ; 0.5% SOT-23	IC2	PCS	1	SUNGH0 SEMI	LR431ALT1H					
			ICSR50X-TL431XX1T4	IC, SHUNT REG SMD	TL431 ; 0.5% SOT-23	IC2	PCS	1	TANGLONG ELEC	TL431					
			ICSR50X-TL431XX1Z2	IC, SHUNT REG SMD	TL431 ; 0.5% SOT-23	IC2	PCS	1	ZRE	TL431					
	2		DIGED3X-1021R0S1S1	DIODE, GP SMD	1000V 1A SOD-123 ; A7	D5,D6	PCS	2	SUNGH0 SEMI	A7					
			DIGED3X-1021R0S1T1	DIODE, GP SMD	1000V 1A SOD-123 ; DSR1M	D5,D6	PCS	2	TANGLONG	DSR1M					
			DIGED3X-1021R0S1Z2	DIODE, GP SMD	1000V 1A SOD-123 ; A7	D5,D6	PCS	2	ZRE	A7					
	3		DIBRD3X-1021R0S1S1	DIODE, BRIDGE SMD	1000V 1A ; LB10SA	BD1	PCS	1	SUNGH0 SEMI	LB10SA					
			DIBRD3X-1021R0S1T1	DIODE, BRIDGE SMD	1000V 1A ; ABS10	BD1	PCS	1	TANGLONG	ABS10					
			DIBRD3X-1021R0S1Z2	DIODE, BRIDGE SMD	1000V 1A ; ABS10	BD1	PCS	1	ZRE	ABS10					
	4		RESMS6X-03340JS1V1	RESISTOR, SMD	3216 330K J ; CR-06JL7---330K	R4,R5,R6,R8	PCS	4	VIKING	CR-06JL7---330K					
			RESMS6X-03340JS1W1	RESISTOR, SMD	3216 330K J ; WR12X334_JTL	R4,R5,R6,R8	PCS	4	WALSIN TECHNOLOGY	WR12X334_JTL					
			RESMS6X-03340JS1Y1	RESISTOR, SMD	3216 330K J ; RC1206JR-07330KL	R4,R5,R6,R8	PCS	4	YAGEO ELEC	RC1206JR-07330KL					
	5		RESMS6X-1R400FS1V1	RESISTOR, SMD	3216 1.4 F ; CR-06FL7---1R4	R10	PCS	1	VIKING	3216 1.4 F ; CR-06FL7---1R4					
			RESMS6X-1R400FS1W1	RESISTOR, SMD	3216 1.4 F ; WR12X1R40FTL	R10	PCS	1	WALSIN TECHNOLOGY	WR12X1R40FTL					
			RESMS6X-1R400FS1Y1	RESISTOR, SMD	3216 1.4 F ; RC1206FR-071R4L	R10	PCS	1	YAGEO ELEC	RC1206FR-071R4L					
	6		RESMS6X-01000JS1V1	RESISTOR, SMD	3216 10 J ; CR-06JL7---10R	R7	PCS	1	VIKING	CR-06JL7---10R					
			RESMS6X-01000JS1W1	RESISTOR, SMD	3216 10 J ; WR12X100_JTL	R7	PCS	1	WALSIN TECHNOLOGY	WR12X100_JTL					
			RESMS6X-01000JS1Y1	RESISTOR, SMD	3216 10 J ; RC1206JR-0710RL	R7	PCS	1	YAGEO ELEC	RC1206JR-0710RL					
	7		RESMS4X-16020FS1V1	RESISTOR, SMD	2012 16K F ; CR-05FL7---16K	R24	PCS	1	VIKING	CR-05FL7---16K					
			RESMS4X-16020FS1W1	RESISTOR, SMD	2012 16K F ; WR08X1602_FTL	R24	PCS	1	WALSIN TECHNOLOGY	WR08X1602_FTL					
			RESMS4X-16020FS1Y1	RESISTOR, SMD	2012 16K F ; RC0805FR-0716KL	R24	PCS	1	YAGEO ELEC	RC0805FR-0716KL					
	8		RESMS4X-15020FS1V1	RESISTOR, SMD	2012 15K F ; CR-05FL7---15K	R25	PCS	1	VIKING	CR-05FL7---15K					
			RESMS4X-15020FS1W1	RESISTOR, SMD	2012 15K F ; WR08X1502_FTL	R25	PCS	1	WALSIN TECHNOLOGY	WR08X1502_FTL					
			RESMS4X-15020FS1Y1	RESISTOR, SMD	2012 15K F ; RC0805FR-0715KL	R25	PCS	1	YAGEO ELEC	RC0805FR-0715KL					
	9		RESMS4X-01030JS1V1	RESISTOR, SMD	2012 10K J ; CR-05JL7---10K	R9	PCS	1	VIKING	CR-05JL7---10K					
			RESMS4X-01030JS1W1	RESISTOR, SMD	2012 10K J ; WR08X103_JTL	R9	PCS	1	WALSIN TECHNOLOGY	WR08X103_JTL					
			RESMS4X-01030JS1Y1	RESISTOR, SMD	2012 10K J ; RC0805JR-0710KL	R9	PCS	1	YAGEO ELEC	RC0805JR-0710KL					
	10		RESMS4X-01020JS1V1	RESISTOR, SMD	2012 1K J ; CR-05JL7----1K	R1,R2	PCS	2	VIKING	CR-05JL7----1K					
			RESMS4X-01020JS1W1	RESISTOR, SMD	2012 1K J ; WR08X102_JTL	R1,R2	PCS	2	WALSIN TECHNOLOGY	WR08X102_JTL					
			RESMS4X-01020JS1Y1	RESISTOR, SMD	2012 1K J ; RC0805JR-071KL	R1,R2	PCS	2	YAGEO ELEC	RC0805JR-071KL					
	11		RESMS4X-05110JS1V1	RESISTOR, SMD	2012 510 J ; CR-05JL7---510R	R21	PCS	1	VIKING	CR-05JL7---510R					
			RESMS4X-05110JS1W1	RESISTOR, SMD	2012 510 J ; WR08X511_JTL	R21	PCS	1	WALSIN TECHNOLOGY	WR08X511_JTL					
			RESMS4X-05110JS1Y1	RESISTOR, SMD	2012 510 J ; RC0805JR-07510RL	R21	PCS	1	YAGEO ELEC	RC0805JR-07510L					
	12		RESMS4X-01000JS1V1	RESISTOR, SMD	2012 10 J ; CR-05JL7---10R	R20	PCS	1	VIKING	CR-05JL7---10R					
			RESMS4X-01000JS1W1	RESISTOR, SMD	2012 10 J ; WR08X0100_JTL	R20	PCS	1	WALSIN TECHNOLOGY	WR08X0100_JTL					
			RESMS4X-01000JS1Y1	RESISTOR, SMD	2012 10 J ; RC0805JR-0710RL	R20	PCS	1	YAGEO ELEC	RC0805JR-0710RL					

IN	13		RESMS4X-04700JS1V1	RESISTOR, SMD	2012 47 J ; CR-05JL7---47R	R3	PCS	1	VIKING	CR-05JL7---47R		
			RESMS4X-04700JS1W1	RESISTOR, SMD	2012 47 J ; WR08X470_JTL	R3	PCS	1	WALSIN TECHNOLOGY	WR08X470_JTL		
			RESMS4X-04700JS1Y1	RESISTOR, SMD	2012 47 J ; RC0805JR-0747RL	R3	PCS	1	YAGEO ELEC	RC0805JR-0747RL		
	14		CAS5S4X-222R4KS1S1	CAPACITOR, SMD	2012 222K 500V X7R ; CL21B222KGCNFNC	C3	PCS	1	SAMSUNG ELECTRIC	CL21B222KGCNFNC		
			CAS5S4X-222R4KS1W1	CAPACITOR, SMD	2012 222K 500V X7R ; 0805B222K501CT	C3	PCS	1	WALSIN TECHNOLOGY	0805B222K501CT		
			CAS5S4X-222R4KS1Y2	CAPACITOR, SMD	2012 222K 500V X7R ; CC0805KRX7R9BN222	C3	PCS	1	YAGEO ELEC	CC0805KRX7R9BN222		
	15		CAS5S4X-102H4KS1S1	CAPACITOR, SMD	2012 102K 50V X7R ; CL21B102KBFNNNC	C6,C20	PCS	2	SAMSUNG ELECTRIC	CL21B102KBFNNNC		
			CAS5S4X-102H4KS1W1	CAPACITOR, SMD	2012 102K 50V X7R ; 0805B102K500CT	C6,C20	PCS	2	WALSIN TECHNOLOGY	0805B102K500CT		
			CAS5S4X-102H4KS1Y2	CAPACITOR, SMD	2012 102K 50V X7R ; CC0805KXX7R9BB102	C6,C20	PCS	2	YAGEO ELEC	CC0805KXX7R9BB102		
	16		CAS5S4X-104H4KS1S1	CAPACITOR, SMD	2012 104K 50V X7R ; CL21B104KBFNNNC	C23,C24	PCS	2	SAMSUNG ELECTRIC	CL21B104KBFNNNC		
			CAS5S4X-104H4KS1W1	CAPACITOR, SMD	2012 104K 50V X7R ; 0805B104K500CT	C23,C24	PCS	2	WALSIN TECHNOLOGY	0805B104K500CT		
			CAS5S4X-104H4KS1Y2	CAPACITOR, SMD	2012 104K 50V X7R ; CC0805KXX7R9BB104	C23,C24	PCS	2	YAGEO ELEC	CC0805KXX7R9BB104		
	ITEM 수			16 종								
	IN	4		2LA-A223KS-DE1-IN	LA-A223KS-DE 반제품_수입	LA-A223KS-DE						
		1		ICPWD0X-A114KKC1O1	IC, PWM	OB2338LAP	IC1	PCS	1	ON-BRIGHT ELEC	OB2338LAP	
		2		DISBD0X-4003R061S1	DIODE, SCHOTTKY	40V 3A DO-27 R-FORMING, 6.5mm ; SR304(6.5RF)	D21,D22	PCS	2	SUNGHO SEMI	SR304(6.5RF)	
			DISBD0X-4003R061T1	DIODE, SCHOTTKY	40V 3A DO-27 R-FORMING, 6.5mm ; SR340F	D21,D22	PCS	2	TANGLONG	SR340F		
			DISBD0X-4003R061Z2	DIODE, SCHOTTKY	40V 3A DO-27 R-FORMING, 6.5mm ; SR340/R	D21,D22	PCS	2	ZRE	SR340/R		
3			FSCEB5X-2513R151L1	FUSE, CERAMIC	T3.15A(5A) 250V ; 51FCE T3.15AH 250V	F1	PCS	1	LANBAO ANKE ELEC	51FCE T3.15AH 250V		
			FSCEB5X-2513R151B1	FUSE, CERAMIC	T3.15A(5A) 250V ; 5241315200	F1	PCS	1	BETTER FUSE	5241315200		
			FSCEB5X-2513R151X2	FUSE, CERAMIC	T3.15A(5A) 250V ; 4T.3150242000R1B01	F1	PCS	1	XC ELEC	4T.3150242000R1B01		
4			ICPCD0X-CT817BX1C2	IC, PHOTO COUPLER	CT817B-H	PC1	PCS	1	CT MICRO	CT817B-H		
			ICPCD0X-EL817BX1E1	IC, PHOTO COUPLER	EL817(B)-F	PC1	PCS	1	EVERLIGHT	EL817(B)-F		
			ICPCD0X-TD817BX1L4	IC, PHOTO COUPLER	TD-817B	PC1	PCS	1	LIGHTING	TD-817B		
5			THNTP4X-3R85R0C1W1	THERMISTOR, NTC	5D-9 F/T 5mm ; WTR08D050MD2AL	TH1	PCS	1	WANMING ELEC	WTR08D050MD2AL		
			THNTP4X-3R85R0C1H1	THERMISTOR, NTC	5D-9 F/T 5mm ; NTC 5D-9	TH1	PCS	1	HONGZHI ELEC	NTC 5D-9		
6			TFF517X-167KKDA1S2	TRANSFORMER, EPC	T-167KK-DA-01/SP-0500200S ; EPC1716	T1	PCS	1	SHINSUNG ELEC	T-167KK-DA-01/SP-0500200S		
			TFF517X-167KKDA1W1	TRANSFORMER, EPC	T-167KK-DA-01/SP-0500200S ; EPC1716	T1	PCS	1	WUSONG ELEC	T-167KK-DA-01/SP-0500200S		
			TFF517X-167KKDA1T1	TRANSFORMER, EPC	T-167KK-DA-01/SP-0500200S ; EPC1716	T1	PCS	1	TRANS ON VINA	T-167KK-DA-01/SP-0500200S		
7			VALDP5X-471452A1B1	VARISTOR, 14D	14D 471K R-FOR ; BK471KD14 / BK 471KD14J	VA1	PCS	1	BRIGHTKING	BK471KD14 / BK 471KD14J		
			VALDP5X-471452A1W1	VARISTOR, 14D	14D 471K R-FOR ; 14D-471K	VA1	PCS	1	WANMING ELEC	14D-471K		
ITEM 수			7 종									
SGNETWORKS					DATE				DOCUMENT NO.		ISSUE	PAGE
					MAR. 06. 2019						1.0	2/2
WRITTEN BY					CHECK				APPRO.		DOC ADMIN.	
PRODUCT NAME					Hazardous Substance				CUSTOMER PART NO		FILE NAME	
SGN-0502					L/F						PARTS LIST	
공정	NO		품목 Code	ITEM	SPEC	LOC NO.	UNIT	QTY	MAKER	PART NO.	REMARK	
AS	5		2LA-A223KS-DE1-AS	LA-A223KS-DE 반제품_조립	LA-A223KS-DE							
	1		TUHSX5B-6R0XXX1L1	TUBE, HEAT SHRINK	6Φ, 600V 125℃ ; GSHS-1625G (6Φ)	FOR F1	MT	0.022	LS CABLE	GSHS-1625G (6Φ)		
	2		TUHSX5B-9R0XXX1L1	TUBE, HEAT SHRINK	9Φ, 600V 125℃ ; GSHS-1625G (9Φ)	FOR TH1	MT	0.006	LS CABLE	GSHS-1625G (9Φ)		
	3		TUHSX5B-120XXX1L1	TUBE, HEAT SHRINK	12Φ, 600V 125℃ ; GSHS-1625G (12Φ)	FOR VA1	MT	0.016	LS CABLE	GSHS-1625G (12Φ)		
	4		CYU118B-223KSDA1R1	CABLE ASS'Y, DC	C-223KS-DA-01		PCS	1	RUNGE ELEC	C-223KS-DA-01		
			CYU118B-223KSDA1G1	CABLE ASS'Y, DC	C-223KS-DA-01		PCS	1	GREEN ELEC	C-223KS-DA-01		
	5		CSTPR6B-223KSDA1S3	CASE, TOP	M-223KS-DA-C2 ; BLACK		PCS	1	SAMXIN VINA	M-223KS-DA-C2		
			CSTPR6B-223KSDA1J1	CASE, TOP	M-223KS-DA-C2 ; BLACK		PCS	PCS	JICHEN	M-223KS-DA-C2		
	6		CSBTR6B-223KSDA1S3	CASE, BOTTOM	M-223KS-DA-C1 ; BLACK		PCS	1	SAMXIN VINA	M-223KS-DA-C1		
			CSBTR6B-223KSDA1J1	CASE, BOTTOM	M-223KS-DA-C1 ; BLACK		PCS	1	JICHEN	M-223KS-DA-C1		
	7		LBMAKRW-223KSDE1S1	LABEL, MAIN	M-223KS-DE-L1		PCS	1	SEOHAE PACKAGING	M-223KS-DE-L1		
	8		LBTOKRY-157KSDA1S1	LABEL, TAG	M-157KS-DA-L5		PCS	1	SEOHAE PACKAGING	M-157KS-DA-L5		
	9		AHPFSL-XXX00001O1	ADHESIVE, BOND	H828W		GR	1	OKONG	H828W		
	10		AHSTSOL-XXX00001B1	ADHESIVE (H)	BA-720		GR	1	BURIM CHEMICAL	BA-720		
	11		SLBASNS-XXX00001H1	SOLDER, PB	HSE-16-B20		GR	0.64	HEESUNG METAL	HSE-16-B20		
	12		SLWRSNS-XXX00001H1	SOLDER, PB WIRE	HSE-04 HGF32 1.0Φ		GR	0.19	HEESUNG METAL	HSE-04 HGF32 1.0Φ		
13		FXSWFTL-XXX00001C1	FLUX(H)	F6810		GR	0.8	CHUNGSOL CHEM	F6810			
ITEM 수			13 종									
PK	6		2LA-A223KS-DE1-PK	LA-A223KS-DE 반제품_포장	LA-A223KS-DE							
	1		LBBXKRW-223KSDE1S1	LABEL, BOX	M-223KS-DE-L2		PCS	1/100	SEOHAE PACKAGING	M-223KS-DE-L2		
	2		BXPKP4X-157KSDD1J1	BOX, PACKING	M-157KS-DD-P2		PCS	1/100	JIAMEI PACKING	M-157KS-DD-P2		
			BXPKP4X-157KSDD1B1	BOX, PACKING	M-157KS-DD-P2		PCS	1/100	BBCN (IPVN)	M-157KS-DD-P2		
	3		VNGEV2X-15120131H1	VINYL, BAG	M-114KK-CA-P3 ; 150*200*0.03T (LDPE)		PCS	1	HEZHI ELEC	M-114KK-CA-P3		
			VNGEV2X-15120131P1	VINYL, BAG	M-114KK-CA-P3 ; 150*200*0.03T (LDPE)		PCS	1	PHAMLE TRADING	M-114KK-CA-P3		
	4		TPVAV7X-500XXX01Y1	TAPE, OPP	OPP TAPE		MT	1.4	YAWEI	OPP TAPE		
ITEM 수			4 종									
TOTAL ITEM 수					47 종							

5. PCB LAYOUT



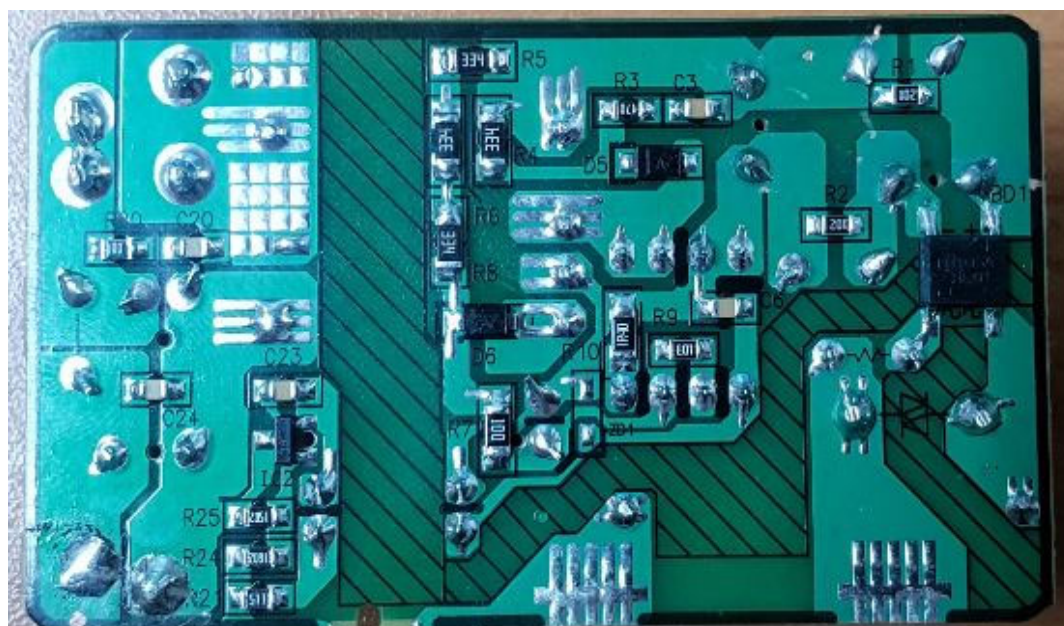
 SG NETWORKS Success Generator Networks		Date of preparation 2019.03.18	Document number TD-PA-A223KS-05	ISSUE 1.0	PAGE 2/2
preparing person	staff	grantor		document manager	
Title PCB LAYOUT		Model No			

2. PCB ASSEMBLY

1) Parts surface(Top)



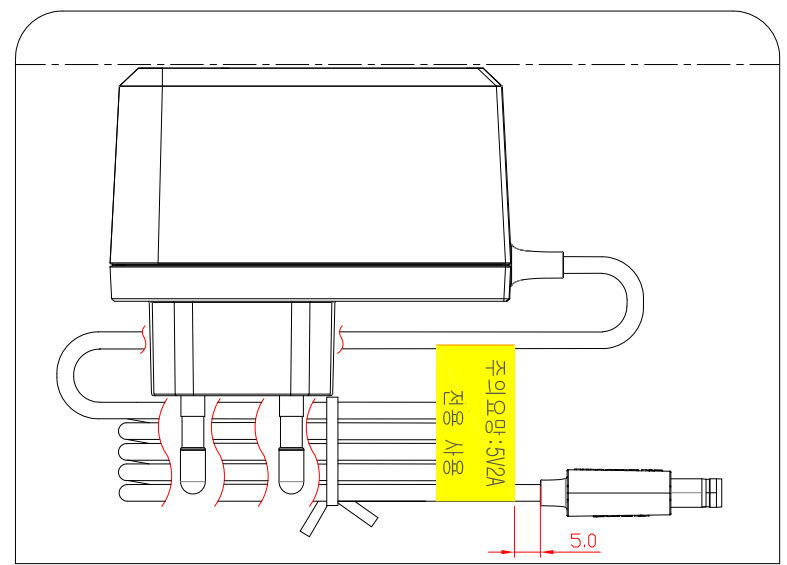
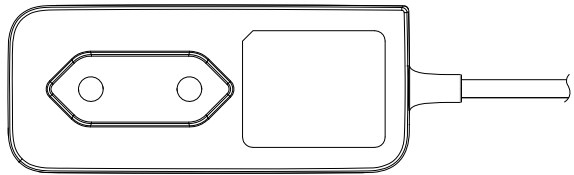
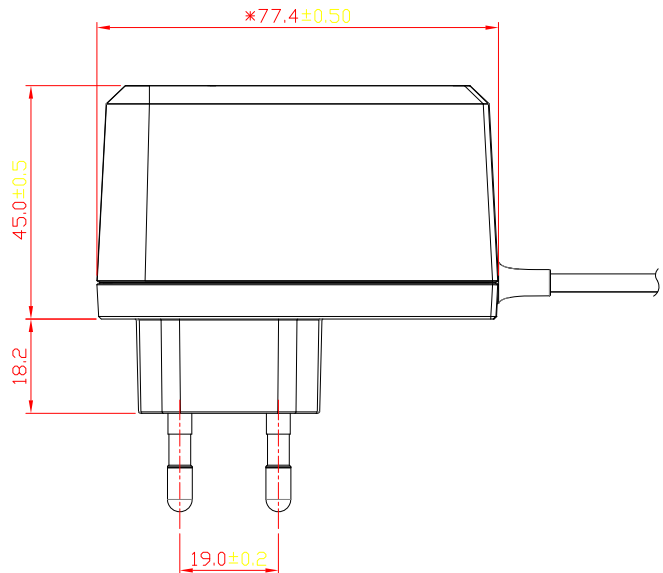
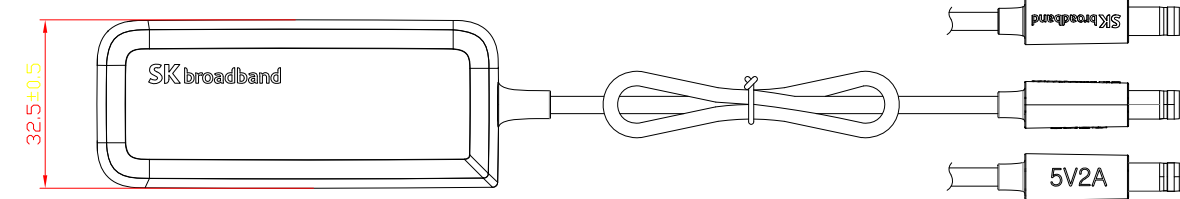
2) Parts surface(Bottom)



6. MECHANICAL DRAWING

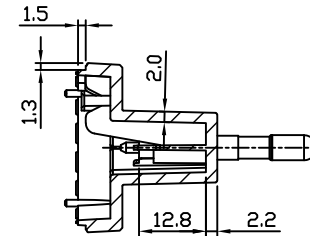
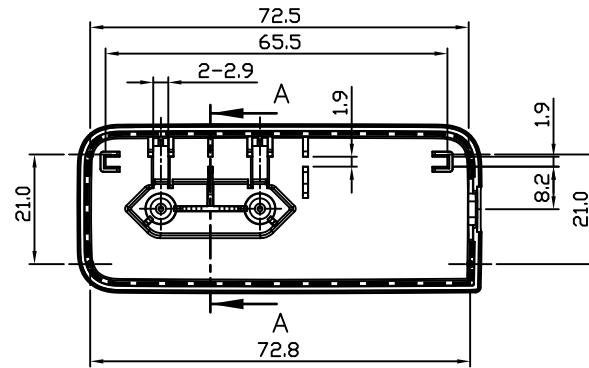
No	Description	Drawing No. / Standard	Unit	Q'ty	Remarks
1	ASS'Y DRAWING	SGN-0502	PCS	1	
2	CASE, BOTTOM	SGN-0502	PCS	1	
3	CASE, TOP	SGN-0502	PCS	1	
4	DC CABLE ASS'Y	SGN-0502	PCS	1	
5	AC PLUG PIN, KOR	SGN-0502	PCS	2	
6	CONTACT TERMINAL	SGN-0502	PCS	2	
7	LABEL, MAIN	SGN-0502	PCS	1	
8	LABEL, TAG	SGN-0502	PCS	1	
9	LABEL, BOX	SGN-0502	PCS	1/100	
10	BOX, PACKING	SGN-0502	PCS	1/100	
11	VINYL	SGN-0502	PCS	1	
12					
13					
14					

REVISION				
ISSUE NO.	CONTENTS	ENGINEER	APPROVER	DATE
1	초도발령	박기원	허위정	180906

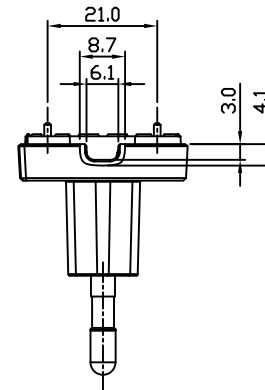
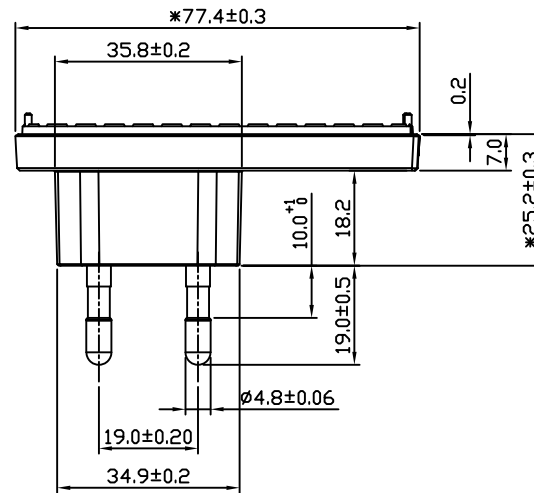
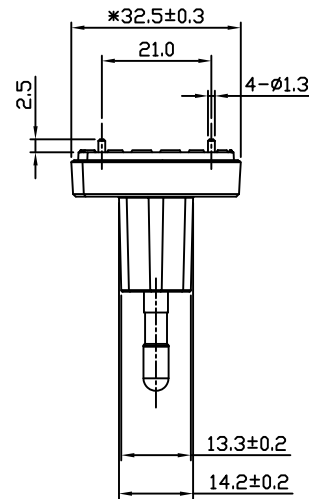
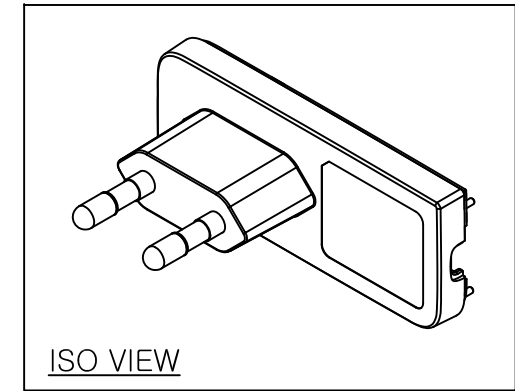


UNIT	SCALE	NOL.	DESCRIPTION	Q'TY	DRAWING NOL.	REMARK
mm	1:1					
PARTS INDEX						
공차 TOLERANCE		DATE	NAME	재질 MATERIAL		
-	APP	180906	허위정	관련도면 REL. DWG		
표면처리 FINISH	CHEC	180906	박기원	도명 DWG NAME		
None	DESIG			도번 DWG NO.	AC/DC ADAPTOR	
F/N			SIZE		SGN-0502	
SGNETWORKS Success Generator Networks			A 3			

REVISION				
ISSUE	CONTENTS	ENGINEER	APPROVER	DATE
1	초도발행	박기원	허위정	180906

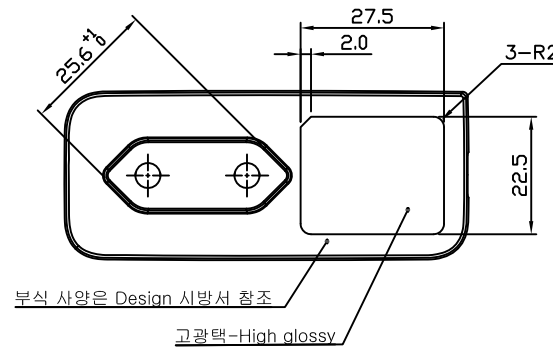


단면 A-A



Notes

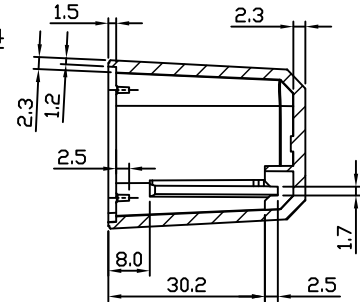
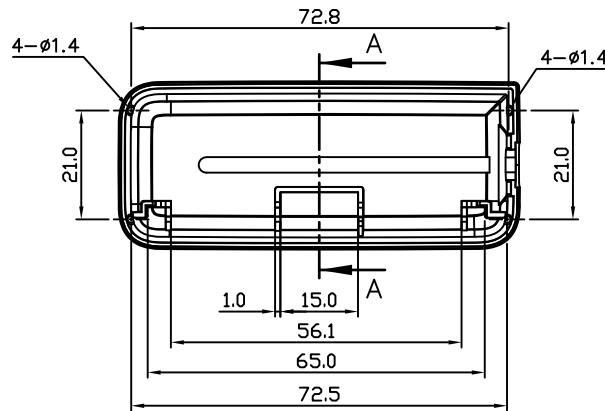
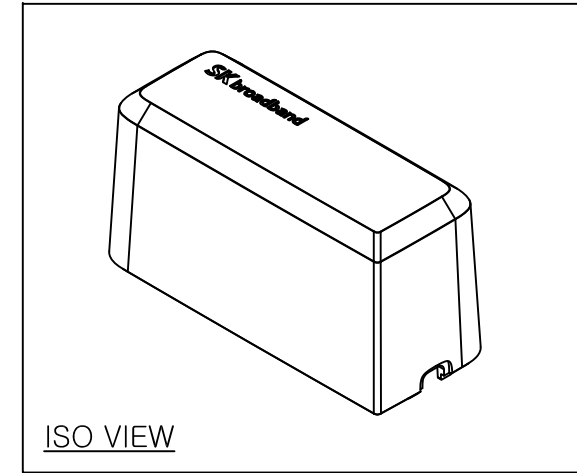
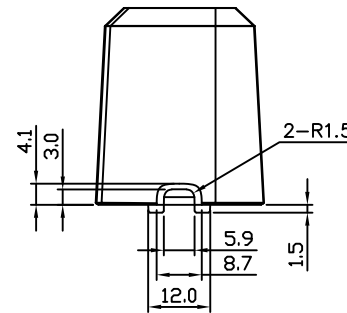
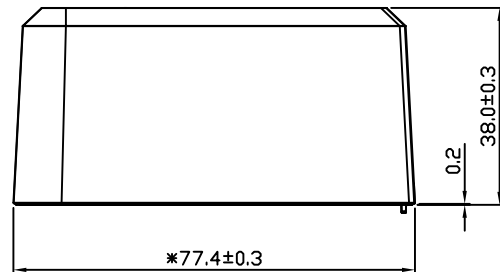
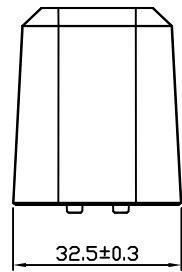
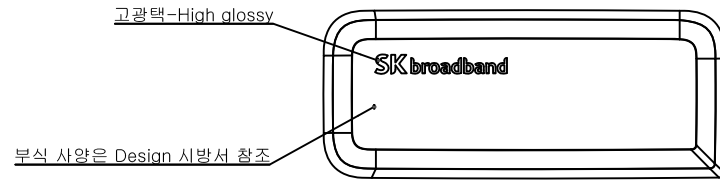
1. 금형제작상의 불합리한점은 설계자와 협의후 개선 하시오.
2. 지시없는 ROUND는 R0.2, 모따기는 C0.2로 할것.
3. 지정의 제품공차는 2급을 적용할것.
4. 양산전 SAMPLE 제시하여 승인을 받을것.
5. 치수선에 *표시는 관리치수 임.



치수표준	X.XXX	±0.005			
	X.XX	±0.01			
	X.X	±0.03			
	X	±0.05			
	XX	±0.1			
공차표준	치수구분	1급	2급	3급	4급
	~5	0.05	0.08	0.2	0.3
	6~18	0.08	0.1	0.3	0.4
	19~50	0.1	0.15	0.4	0.6
	51~180	0.2	0.2	0.8	1.2
	181~500	0.3	0.5	1.2	2.0
	501~1000	0.6	1.0	2.5	4.0

UNIT		SCALE		NOL		DESCRIPTION		Q'TY		DRAWING NOL		REMARK	
mm		1:1		PARTS INDEX									
공차 TOLERANCE						DATE		NAME		재 질 MATERIAL		PC (Vo)	
-				APP		180906		허위정		관련도면 REL DWG			
표면처리 FINISH				CHEC						도명 DWG NAME			
None				DESG		180906		박기원		도번 DWG NO.		AC/DC ADAPTOR	
F/N								SIZE		도명 DWG NAME		AC/DC ADAPTOR	
 SGNETWORKS Success Generator Networks								A 3		도번 DWG NO.		SGN-0502	

REVISION				
ISSUE NO.	CONTENTS	ENGINEER	APPROVER	DATE
1	초도발행	박기원	허위정	180906

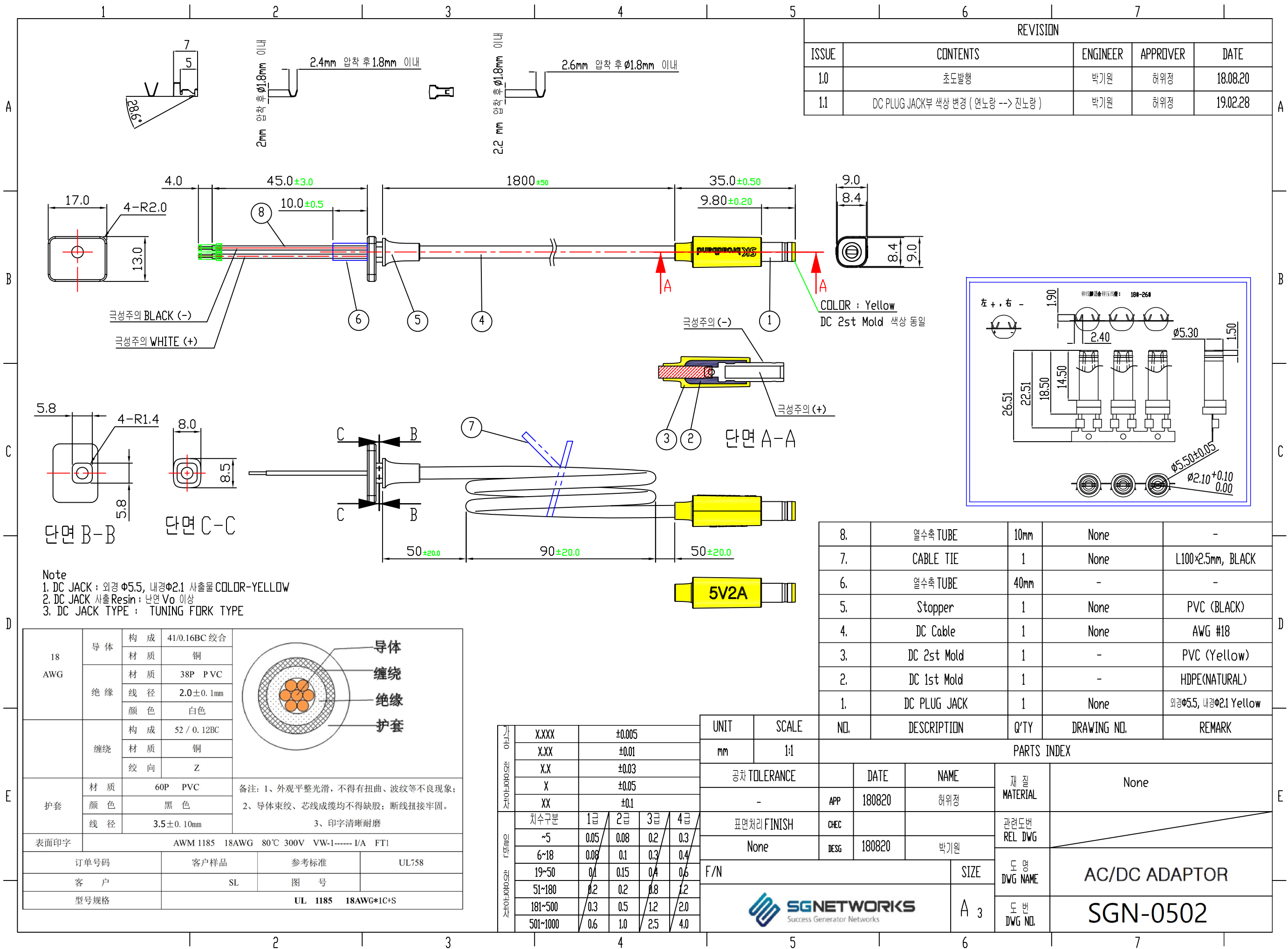


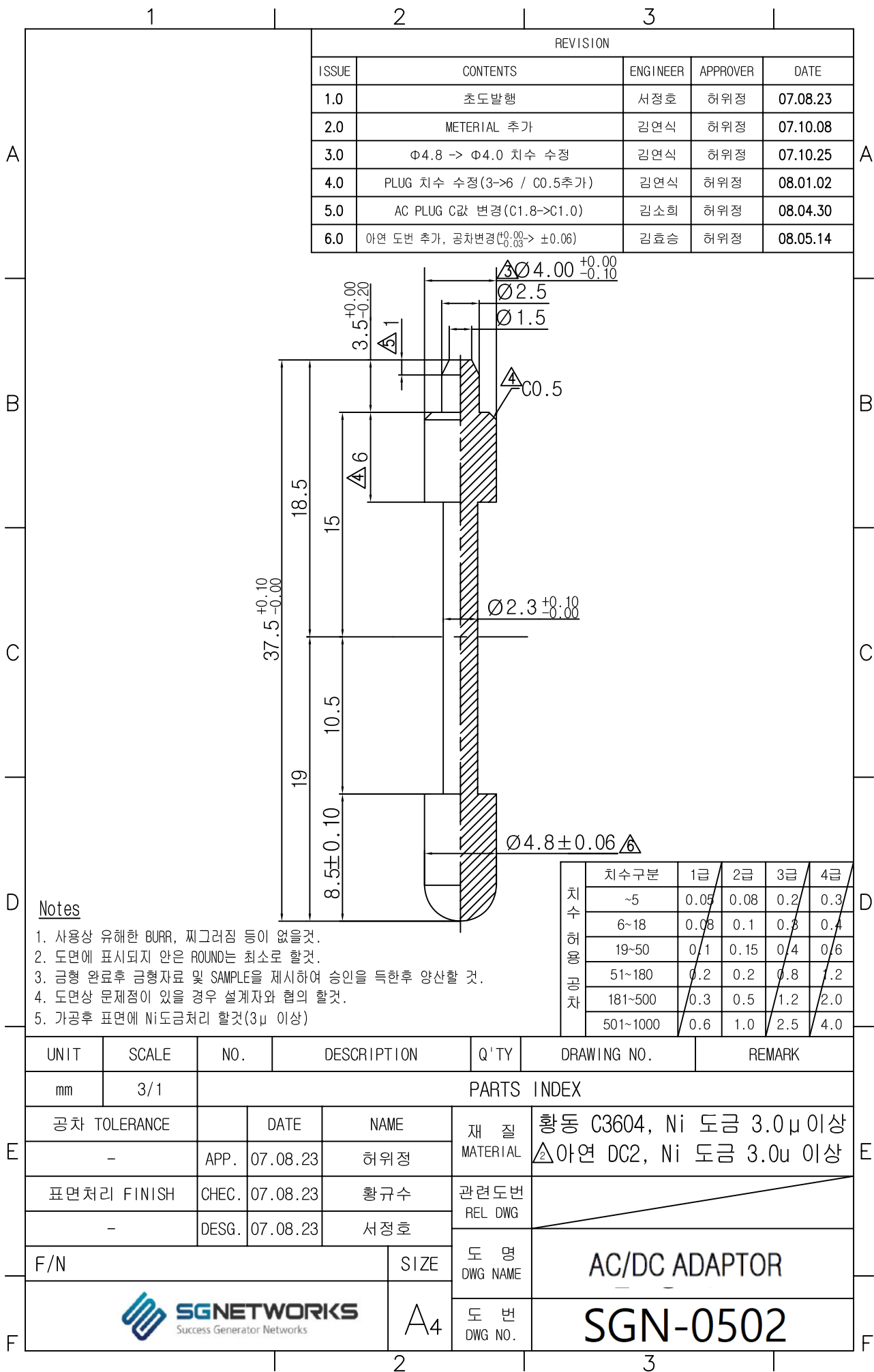
Notes

- 금형제작상의 불합리한점은 설계자와 협의후 개선 하시오.
- 지시없는 ROUND는 R0.2, 모따기는 C0.2로 할것.
- 지정과 제품공차는 2급을 적용할것.
- 양산전 SAMPLE 제시하여 승인을 받을것.
- 치수선에 *표시는 관리치수 임.

표면처리	X.XXX	±0.005
	X.XX	±0.01
	X.X	±0.03
	X	±0.05
치수공차	XX	±0.1
	치수구분	1급 2급 3급 4급
	~5	0.05 0.08 0.2 0.3
	6~18	0.08 0.1 0.3 0.4
소재	19~50	0.1 0.15 0.4 0.6
	51~180	0.2 0.2 0.8 1.2
	181~500	0.3 0.5 1.2 2.0
	501~1000	0.6 1.0 2.5 4.0

UNIT	SCALE	NOL	DESCRIPTION	Q'TY	DRAWING NOL	REMARK
mm	1:1					
PARTS INDEX						
公差 TOLERANCE		DATE	NAME	재 질 MATERIAL	PC (Vo)	
-		APP	180906	허위정		
표면처리 FINISH		CHEC		관련도면 REL. DWG		
None		DESIG	180906	박기원		
F/N				SIZE	AC/DC ADAPTOR	
 Success Generator Networks				DWG NAME		
				DWG NO.	SGN-0502	





1

2

3

REVISION

ISSUE	CONTENTS	ENGINEER	APPROVER	DATE
1.0	초도발행	박기원	허위정	19.02.27

A

A

B

B

C

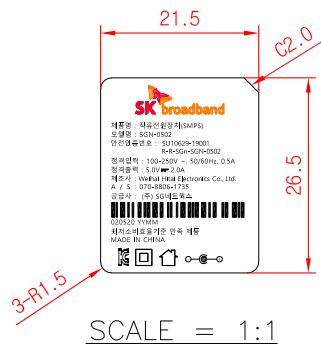
C

D

D

주 기

- 바탕면 색상 : WHITE
- CI 로고 색상 : RED - Pantone 186C , Orange - Pantone 158C
- 문자 색상 : BLACK
- 바코드 및 제조년월 기입 방법
 - 02 : 제조사 (예시 - 01 : 드림, 02 : SG네트웍스, 03 : SK네트웍스 서비스, 04 : 선린테크)
 - 05 : 출력 전압 (예시 - 12 : 12V , 05 : 5V)
 - 20 : 전류 용량 (예시 - 20 : 2A)
 - YY : 제조년도 표시
 - MM : 제조월 표시 (예시 - 01,02,03,.....12)
- MATERIAL : 유포지 80g
표면처리 : OPP 라미네이팅 0.02mm
- 도면의 바코드 인쇄는 라벨 제작 시 적용하지 말 것.



UNIT	SCALE	NO.	DESCRIPTION	Q'TY	DRAWING NO.	REMARK	
mm	1:1	PARTS INDEX					
공차 OLERANCE			DATE	NAME	재 질 MATERIAL	유포지 80g	
±0.2		APP.	19.02.27	허위정			
표면처리 FINISH		CHEC.			관련도번 REL DWG		
—		DESG.	19.02.27	박기원			
F/N	—			SIZE	도 명 DWG NAME		AC/DC ADAPTOR
				A4	도 번 DWG NO.		

F

F

2

1

2

3

REVISION				
ISSUE	CONTENTS	ENGINEER	APPROVER	DATE
1.0	초도발행	K.Y.H	허위정	15. 12. 10
2.0	바코드 추가, Note 7번 추가	K.Y.H	허위정	16. 8. 19
3.0	기입방법 2)문구변경 (12->05)	K.Y.H	허위정	16. 9. 02
4.0	바코드 굴곡 스캔불량(6.3mm 공간 확보)	K.Y.H	허위정	16.09.08
5.0	칼선 추가	K.Y.H	허위정	16.09.09

주의요망:5V2A

전용 사용

6.5

2.9

15

60

020520YYMM

중심선(칼선)

Notes

1. 바탕면 색상 : 노란색 (YELLOW)

2. 문자 색상: 검정색

3. 문자체/문자높이 : 굴림체/3.5mm

4. 표면처리 : OPP 라미네이팅 0.02mm

5. 인쇄 내용은 위 내용을 참조 할것.

6. 표면에 굽힘, 찌힘, 얼룩, 잉크 번짐, 등 유해한 결함이 없을 것.

7. 바코드 및 제조년월 기입 방법

1) 02 : 제조사 (예시 - 01 : 드림, 02 : SG네트웍스, 03 : SK네트웍스 서비스, 04 : 선린테크)

2) 05 : 출력 전압 (예시 - 12 : 12V , 05 : 5V)

3) 20 : 전류 용량 (예시 - 20 : 2A)

4) YY : 제조년도 표시

5) MM : 제조월 표시 (예시 - 01,02,03,.....12)

UNIT	SCALE	NO.	DESCRIPTION	Q'TY	DRAWING NO.	REMARK
mm	2:1	PARTS INDEX				
공차 TOLERANCE			DATE	NAME	재 질	AC/DC ADAPTOR
±0.2		APP.	15. 12. 10	허위정	MATERIAL	
표면처리 FINISH		CHEC.	-	-	관련도번	
OPP 라미네이팅 0.02mm		DESIG.	15. 12. 10	K.Y.H	REL DWG	
F/N			SIZE	도 명	DWG NAME	
SGNETWORKS Success Generator Networks			A4	도 번	DWG NO.	
				SGN-0502		

2

3

1		2		3		
	REVISION					
	ISSUE	CONTENTS		ENGINEER	APPROVER	DATE
	1.0	초도발행		박기원	허위정	18. 12. 05

120	공급사명	(주)SG네트웍스			
	품목코드	SGN-0502 (Bulk)			
	품 명	전원 어댑터 (5V 2A)			
	수 량	100EA			
	DATA CODE				
24		30	90		

Notes

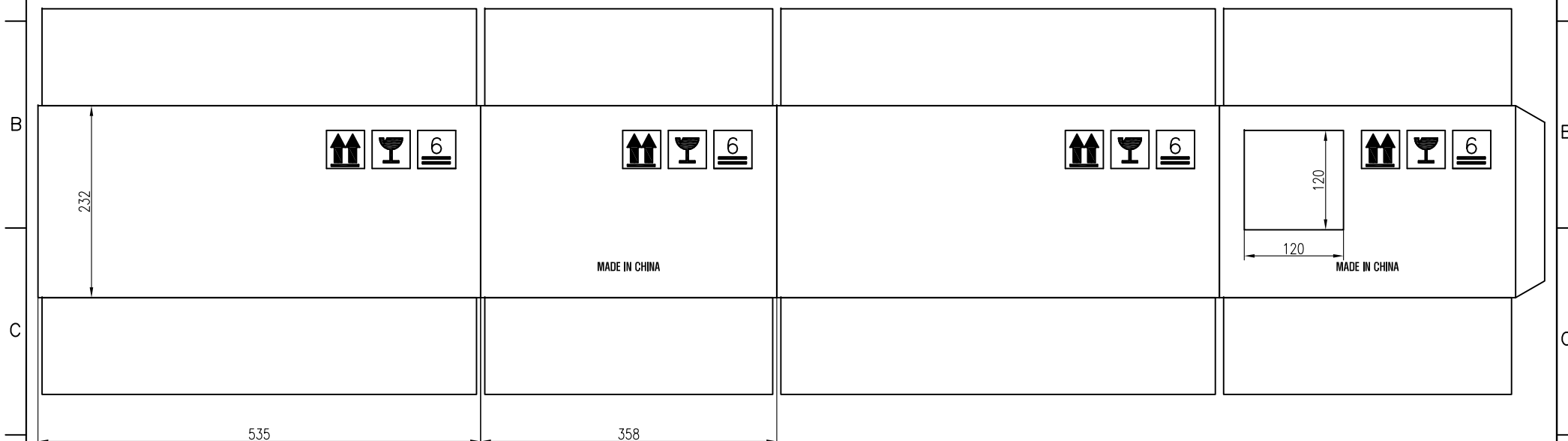
- 바탕면 색상 : PMS WHITE
- 문자 색상 : PMS Black
Font : Gothic
- Material : 아드지 0.025mm
- 인쇄 내용은 위 내용을 참조 할것

치수 허용 공차	치수구분	1급	2급	3급	4급
	~5	0.05	0.08	0.2	0.3
	6~18	0.08	0.1	0.3	0.4
	19~50	0.1	0.15	0.4	0.6
	51~180	0.2	0.2	0.8	1.2
	181~500	0.3	0.5	1.2	2.0
	501~1000	0.6	1.0	2.5	4.0

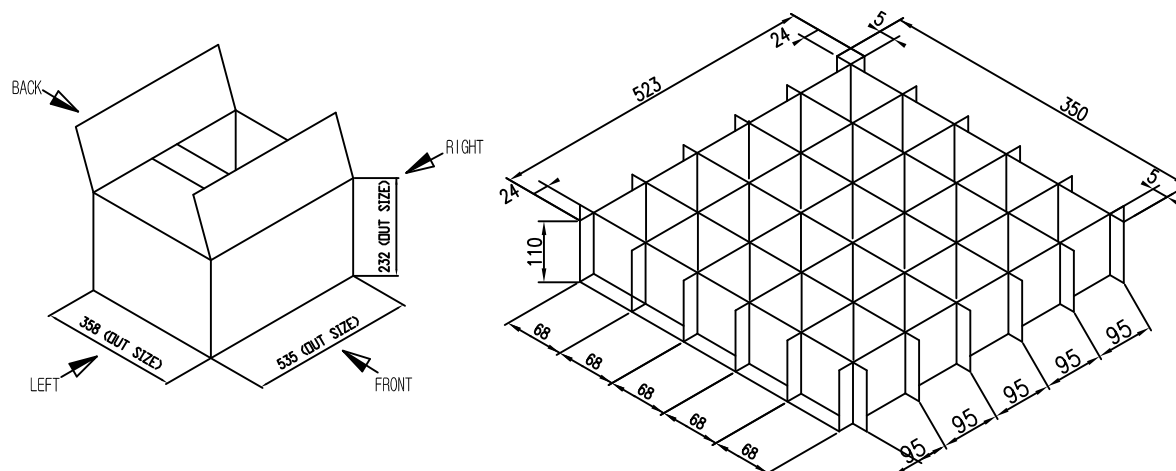
UNIT	SCALE	NO.	DESCRIPTION		Q'TY	DRAWING NO.	REMARK
mm	-	PARTS INDEX					
공차 TOLERANCE			DATE	NAME	재 질 MATERIAL	아드지 0.025mm	
-		APP.	18.12.05	허 위 정			
표면처리 FINISH		CHEC.			관련도번 REL DWG		
-		DESG.	18.12.05	박 기 원			
F/N				SIZE	도 명 DWG NAME	AC/DC ADAPTOR	
				A4	도 번 DWG NO.	SGN-0502	

대) 523 * 350 3개
중) 523 * 110 12개
소) 350 * 110 12개

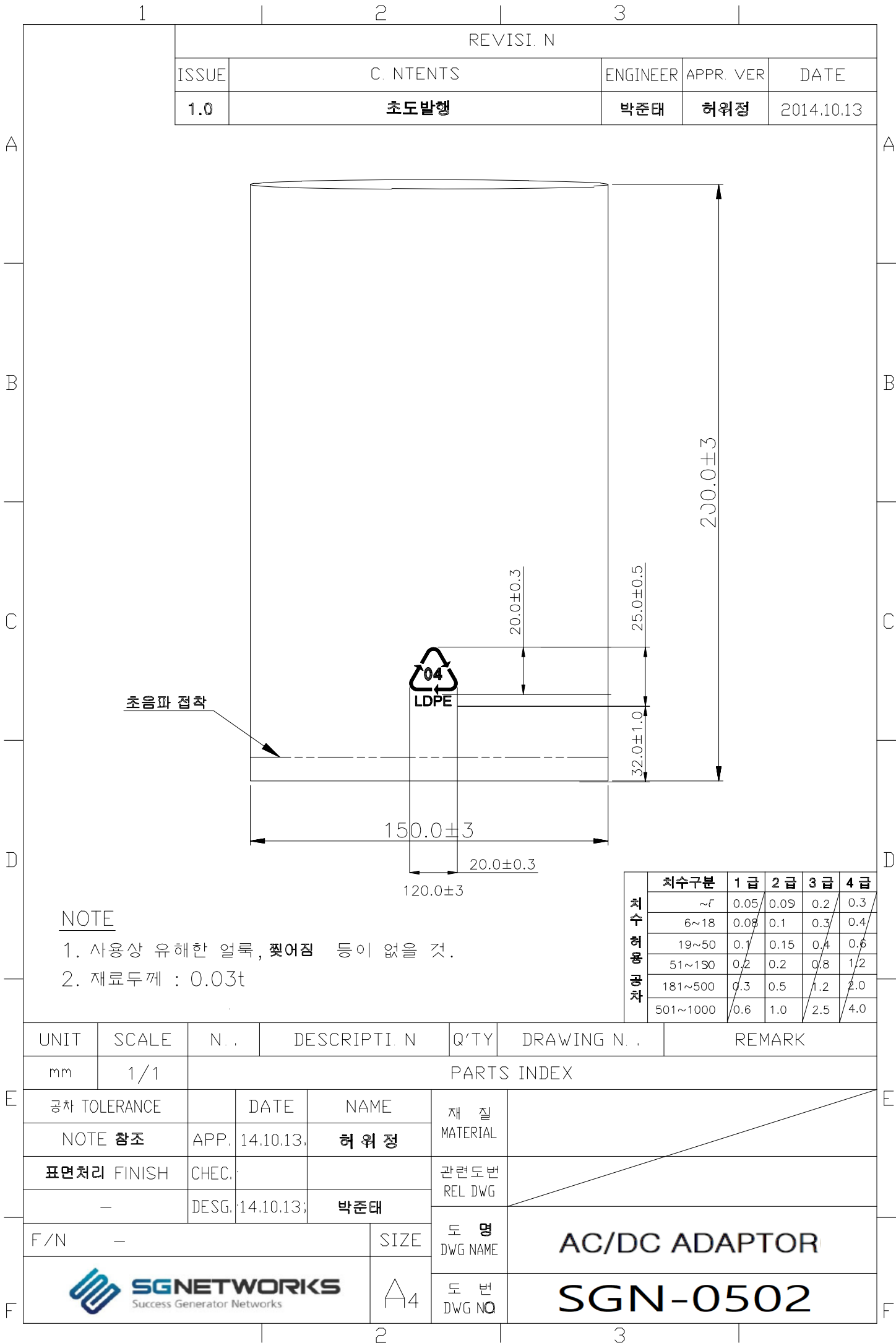
REVISION				
ISSUE	CONTENTS	ENGINEER	APPROVER	DATE
1.0	초도발행	박기원	허위정	18.10.24
1.1	BOX SIZE 변경.(PACKING 120EA --> 100EA)	박기원	허위정	19.02.21



1. 표기된 Dimensions는 가공치수임.
2. 전 인쇄부 바탕색은 소지색이며, 지정하지 않은 인쇄 색상은 BLACK 임.
3. 인쇄는 설계에서 지급하는 FILM, COLOR CHIP에 준할 것.
4. BOX 가공 후 가공면이 깨끗하고 손상이 없을 것.
5. 도면 지정 공차는 일반 공차 5등급 적용.
6. 양산 전 Sample을 제시하여 승인을 득할 것.
7. Folding 시 꺾선 부분이 한 줄임 것.



UNIT		SCALE	NO.	DESCRIPTION		Q'TY	DRAWING NO.	REMARK
mm		NONE	PARTS INDEX					
TOLERANCE			DATE	NAME		재 질 MATERIAL	SK B B_A글	
FINISH		APP.	18.10.24	허위정		관련도면 REL DWG		
		DESG.	18.10.24	박기원		도 명 DWG NAME	AC/DC ADAPTOR	
F/N				SIZE		도 번 DWG NO.	SGN-0502	
 SGNETWORKS Success Generator Networks				A ₃				

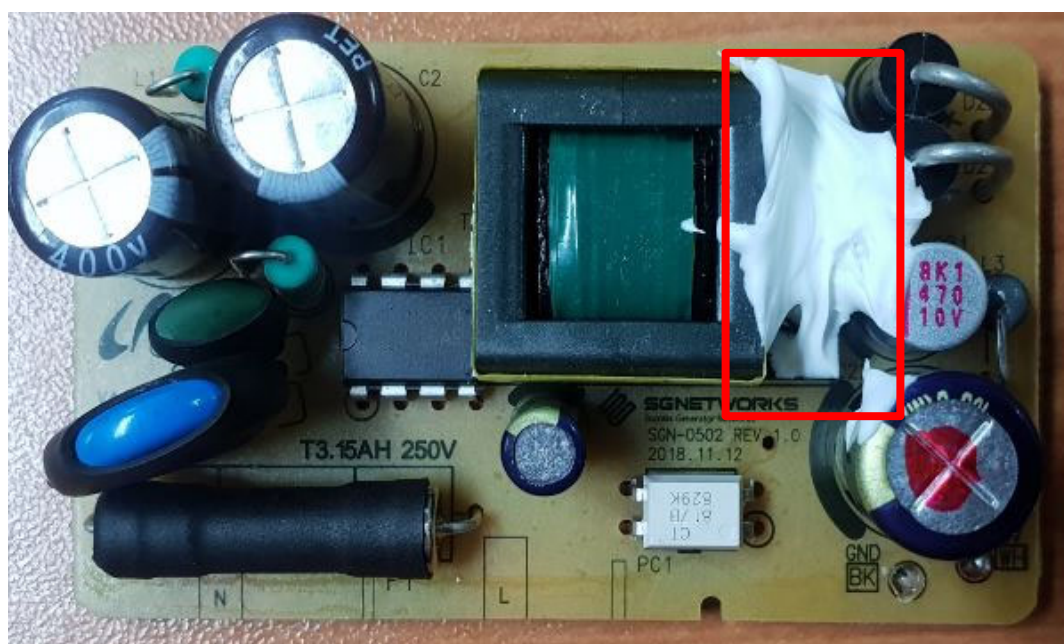


7. WORKS MANUAL

No	Title	Page	Remarks
1	silicon coating work	35	
2	PACKING method	36	

 SG NETWORKS Success Generator Networks		Date of preparation 2019.03.18	Document number TD-PA-A223KS-06	ISSUE 1.0	PAGE 1/2
preparing person	staff	grantor	document manager		
Title 1. silicon coating work		Model No			

1. RED BOX Marking part Silicon bond coating



Apply silicone as shown above.

preparing person

staff

grantor

document manager

Title

2. Packing method

Model No

1. Packing method : BULK BOX TYPE

1-1 Materials used

Item	Drawing No. / Standard	Remarks
VINYL, BAG	M-114KK-CA-P3	
BOX, PACKING	M-157KS-DD-P2	1/100
TAPE, OPP	OPP TAPE	

1-2 Packing method

Division	Packing method
Individual packaging	1) We put product in Vinyl Bag
PACKING BOX	1) Accumulation of products that are Vinil packed in Packing Box 2) Horizontal and vertical = 5 * 10, total 2 stages (total water volume 100EA) 2) Sealed to OPP TAPE

8. QUALITY GUARANTEE

1. A/S

THIS PRODUCT IS FREE FOR 2 YEARS AFTER SERVICE.

2. A/S TEL

COMPANY : SGNETWORKS

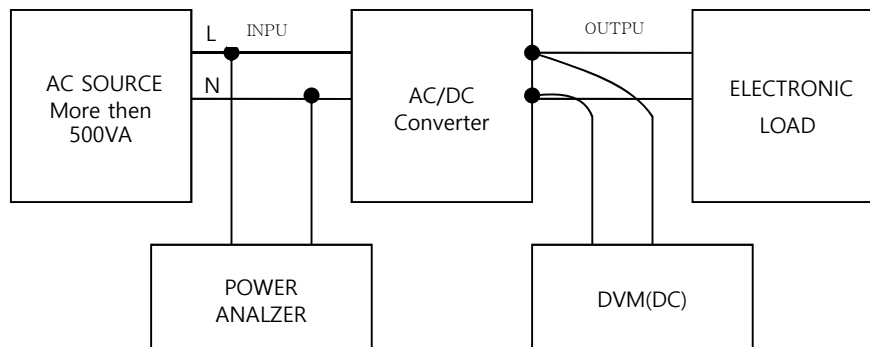
TEL : 070-8806-1735

9. TEST PROCEDURE

		Date of preparation 2019.03.18	Document number TD-PA-A223KS-07	ISSUE 1.0	PAGE 1/4
preparing person	staff	grantor	document manager		
Title TEST PROCEDURE		Model No			

The electrical property test is a test after aging for 5 minutes at a rated load.

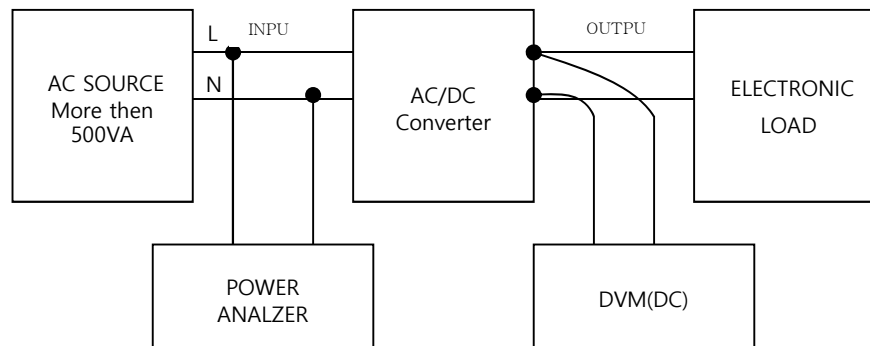
1. Output Voltage



- 1) Set AC Source to 220V
- 2) Apply a load of 0.0A to the output terminal.
- 3) Verify that the output voltage is within the $5V \pm 0.25V$ range.
- 4) Apply a load of 2.0A to the output terminal.
- 5) Verify that the output voltage is within the $5V \pm 0.25V$ range.

※ Measuring Instruments : AC SOURCE, POWER ANALYZER, DVM, ELE LOAD

2. Line Regulation



- 1) Set AC source to 110V
- 2) Apply a load of 2.0A to the output terminal.
- 3) Verify that the output voltage is within the $5V \pm 0.1V$ range.
- 4) Set AC source to 220V
- 5) Apply a load of 2.0A to the output terminal.
- 6) Verify that the output voltage is within $5V \pm 0.1V$ range.

※ Measuring Instruments : AC SOURCE, POWER ANALYZER, DVM, ELE LOAD

preparing person

staff

grantor

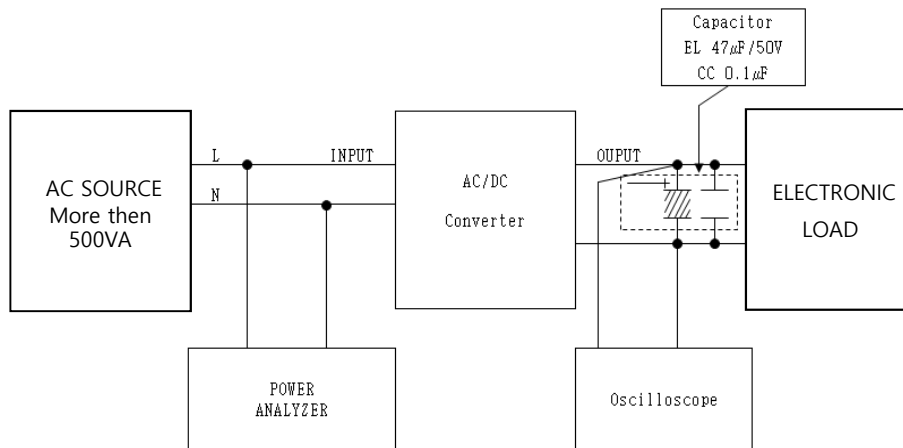
document manager

Title

TEST PROCEDURE

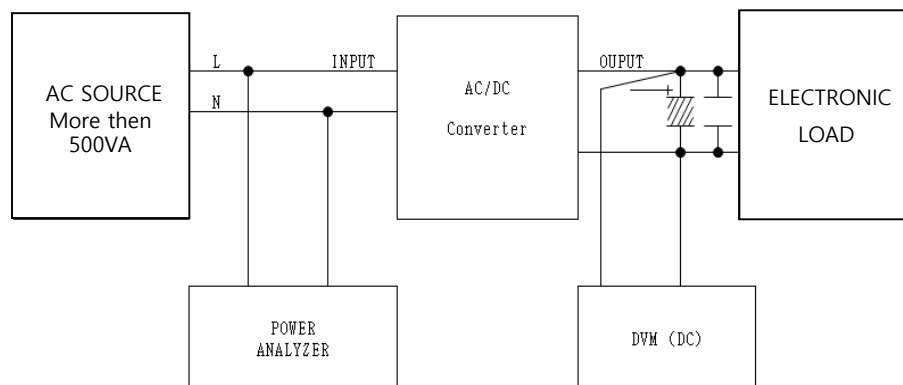
Model No

3. Ripple & Noise



- 1) Set AC Source to 220V
 - 2) Apply a load of 2.0A to the output terminal.
 - 3) Ripple & Noise Check (less than 50mVp-p)
 - Electrolytic Capacitor 47µF and Ceramic Capacitor 0.1µF are connected in parallel to the output terminal, and Oscilloscope Bandwidth is 20Mhz
- ※ Measuring Instruments : AC SOURCE, POWER ANALYZER, DVM, ELE LOAD, OSCILLOSCOPE

4. Over current Protection



- 1) Set AC Source to 220V
 - 2) Continue to increase the load on the output terminal so that the voltage is 0V.
 - 3) Check that the output current is 2.4A to 3.5A.
- ※ Measuring Instruments : AC SOURCE, POWER ANALYZER, DVM, ELE LOAD

preparing person

staff

grantor

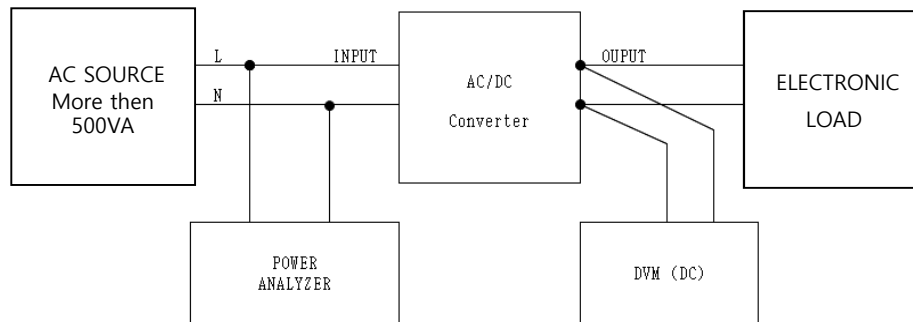
document manager

Title

TEST PROCEDURE

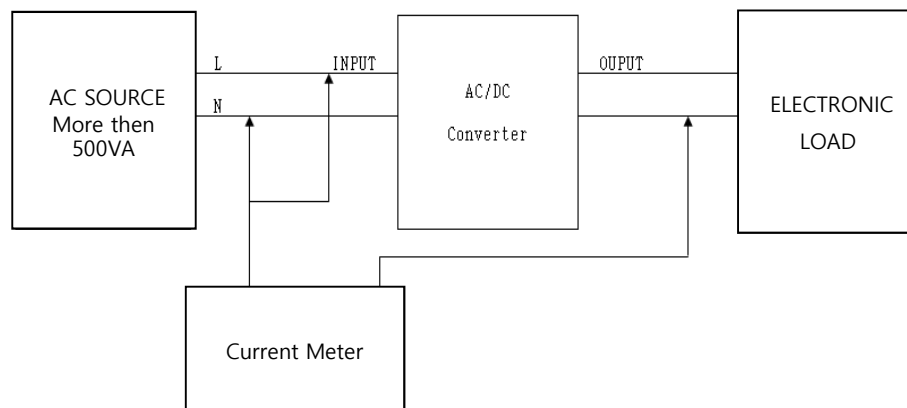
Model No

5. efficiency



- 1) Set AC Source to 220V
 - 2) Apply a load of 2.0A to the output terminal.(aging for 30 minutes)
 - 3) Check by Input and output efficiency.(75% MIN)
- ※ Measuring Instruments : AC SOURCE, POWER ANALYZER, DVM, ELE LOAD

6. Leakage current



- 1) Set AC source to 253V
 - 2) Connect to each AC input terminal and output side GND with a leakage current meter.
 - 3) Check the indication value of the leak current meter.(0.25mA MAX)
- ※ Measuring Instruments : AC SOURCE, POWER ANALYZER, DVM, ELE LOAD,CURRENT METER

작성자

검토자

승인자

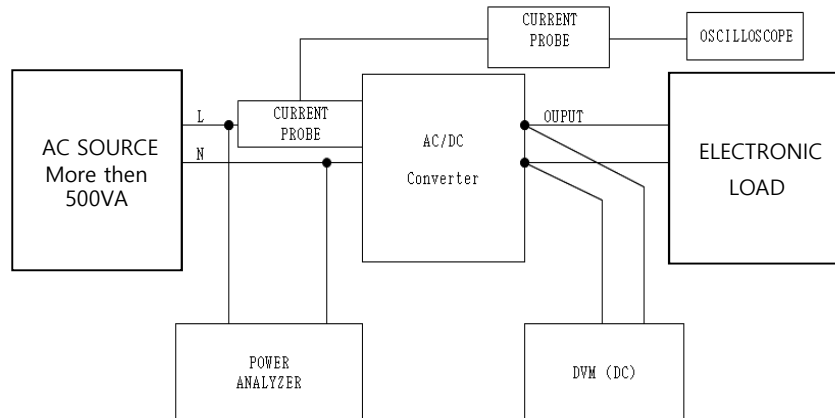
문서관리자

제목

시험절차서

품번

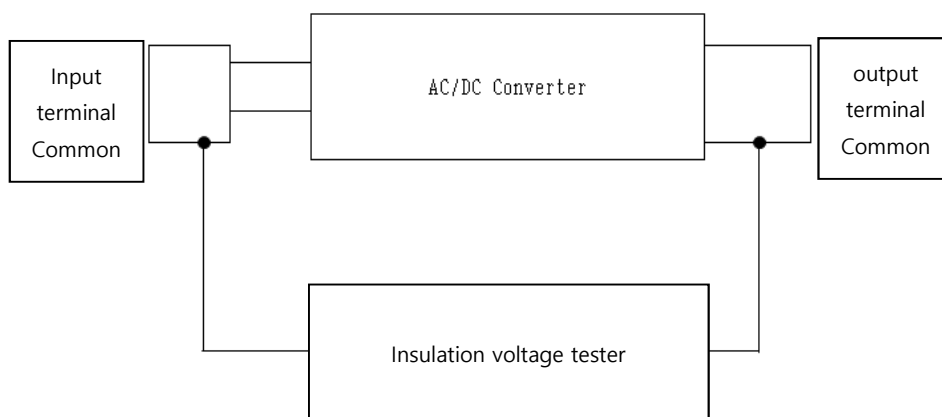
7. Inrush current



- 1) Set AC Source to 220V
- 2) Apply a load of 2.0A to the output terminal.
- 3) Connect Current Probe to AC source live or neutral line.
- 4) When the power is applied, check the Inrush Current detected by Current Probe with an oscilloscope (30A MAX)

※ Measuring Instruments : AC SOURCE, POWER ANALYZER, DVM, ELE LOAD, OSCILLOSCOPE

8. Isolation Voltage



- 1) Connect each input AC Line to the output terminal.
- 2) Connect to both sides of the Insulation Withstand Voltage meter.
- 3) After applying an insulation voltage of 3 KV, the voltage is maintained for 1 minute to check if there is any abnormality.

※ Measuring Instruments : Insulation voltage tester

10. TEST REPORT

전기적 특성 TEST - 1

MODEL			SGN-0502								PAGE						1	
ITEM			Electrical characteristic								DATE						2019-03-05	
											Tested by						Y.S.KIM	
ITEM			SPEC		DATA										RESULT			
					#1	#2	#3	#4	#5	#6	#7	#8	#9	#10				
Line & Load Regulation	264VAC	0	4.75V ~ 5.25V		5.17V	5.17V	5.17V	5.16V	5.17V	5.15V	5.16V	5.18V	5.16V	5.15V	PASS			
		2A			4.89V	4.89V	4.90V	4.88V	4.90V	4.88V	4.89V	4.91V	4.87V	4.83V				
	220VAC	0	4.75V ~ 5.25V		5.17V	5.17V	5.17V	5.16V	5.17V	5.15V	5.16V	5.18V	5.16V	5.16V				
		2A			4.89V	4.89V	4.90V	4.88V	4.90V	4.88V	4.89V	4.91V	4.87V	4.83V				
	110VAC	0	4.75V ~ 5.25V		5.17V	5.17V	5.17V	5.16V	5.17V	5.15V	5.16V	5.18V	5.16V	5.16V				
		2A			4.89V	4.88V	4.90V	4.88V	4.88V	4.89V	4.91V	4.87V	4.83V					
	90VAC	0	4.75V ~ 5.25V		5.17V	5.17V	5.17V	5.16V	5.17V	5.15V	5.16V	5.18V	5.16V	5.16V				
		2A			4.89V	4.88V	4.90V	4.87V	4.88V	4.87V	4.89V	4.91V	4.86V	4.83V				
	Frequency Regulation		47Hz	4.75V ~ 5.25V		5.17V	5.17V	5.17V	5.16V	5.17V	5.15V	5.16V	5.18V	5.16V		5.15V		
			63Hz			5.16V	5.17V	5.17V	5.16V	5.17V	5.15V	5.16V	5.18V	5.16V		5.16V		
RIPPLE & NOISE		Max Load	50mVp-p	220V 60Hz	44.0mV	40.0mV	44.0mV	36.0mV	36.0mV	36.0mV	36.0mV	36.0mV	36.0mV	36.0mV				
Over Current Protection		220V 60Hz	2,400mA ~ 3,500mA		3.1A	3.0A	3.0A	3.1A	3.2A	3.1A	3.0A	3.2A	3.1A	3.1A				
Efficiency (EPS)		220V 60Hz	75%(25%, 50%, 75%, 100% AVG)		75.78%	75.18%	75.44%	75.15%	75.11%	75.52%	75.31%	75.09%	74.74%	75.13%				
Stand-by power			0.5W Max at AC220V		0.110W	0.110W	0.110W	0.120W	0.110W	0.120W	0.110W	0.120W	0.100W	0.110W				
Short Test			-		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK				
Inrush Current			30A Max		19.2A	26.5A	27.8A	27.5A	23.3A	24.7A	23.6A	25.7A	25.9A	28.1A				
Leakage Current			0.1mA Max (No load)		0.008mA	0.009mA	0.008mA	0.008mA	0.008mA	0.009mA	0.008mA	0.008mA	0.008mA	0.010mA				

REMARK :

11. QUALITY CERTIFICATION

No	Title	Page	Remarks
1	KC Safety certificate	47	
2	Electromagnetic wave certificate	48	
3	Energy efficiency report	49	

접수번호 : 19-001816-01-1
(Receipt No.)



안전인증서

Safety Certificate

안전인증번호 : SU10629-19001
(Certificate No.)

제조사/수입자명 : (주)에스지네트웍스 (SG Networks)
(Manufacturer/importer)

주소 : 경기도 용인시 기흥구 용구대로2518번길 15 202-1901
(보정동, 신촌마을포스홀타운)

제품명 : 직류전원장치
(Product) (AC/DC adapter)

기본모델명 : SGN-0502
(Basic Model)

파생모델명 : Not Applicable
(Series Model)

정격/안전기준상의 모델구분 : 100-250 V~, 50/60 Hz, 0.5 A (Output: DC 5 V, 2 A)
(Rating)

시험기준 : K60950-1(2011-12)
(Standard)

본인증서는 제조국명 : 중국
제조사명 : WEIHAI HITAI ELECTRONICS CO., LTD
제조공장의 주소 : ROOM 301 NO.1517-7, HEXING ROAD, CHUCUN INDUSTRIAL ZONE,
HI-TECH SCIENCE PARK, WEIHAI, SHANDONG, CHINA
의 제품에만 해당함

「전기용품 및 생활용품 안전관리법 시행규칙」 제9조제2항, 제4항, 제10조제2항 또는 제15조제2항에 따라
안전인증서를 발급합니다.

We Issue This Safety Certificate for the above appliances in accordance with the Article 9(2), 9(4), 10(2)
or 15(2) of the Enforcement Rule of the Electrical Appliances and Consumer Products Safety Control
Act.

2019 년 03 월 05 일
Year month day

한국산업기술시험원
KOREA TESTING LABORATORY



※ 이 인증서는 「전기용품 및 생활용품 안전관리법 시행규칙」에 따른 제품의 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는
제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨부서류

1. 전기용품의 안전관리부품 및 재질목록(List of Critical Components)
2. 기본모델·파생모델의 내용 (Descriptions of the basic and series model)
3. 안전인증의 변경 현황 (Revisions Status)

방송통신기자재등의 적합등록 필증

Registration of Broadcasting and Communication Equipments

상호 또는 성명
Trade Name or Registrant

(주) 에스지네트웍스 (SG Networks)

기자재명칭(제품명칭)
Equipment Name

직류전원장치

기본모델명
Basic Model Number

SGN-0502

파생모델명
Series Model Number

등록번호
Registration No.

R-R-SGn-SGN-0502

제조사/제조(조립)국가
Manufacturer/Country of Origin

WEIHAI HITAI ELECTRONICS CO.,LTD / 중국

등록연월일
Date of Registration

2019-02-20

기타
Others

위 기자재는 「전파법」 제58조의2 제3항에 따라 등록되었음을 증명합니다.
It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

2019년(Year) 02월(Month) 20일(Day)

국립전파연구원장



Director General of National Radio Research Agency

※ 적합등록 방송통신기자재는 반드시 "적합성평가표시" 를 부착하여 유통하여야 합니다.
위반시 과태료 처분 및 등록이 취소될 수 있습니다.

효율관리기자재 신고 확인서

접 수 번 호	: 125190287
품 목 명	: 어댑터
업 체 명	: (주)에스지네트웍스
업 체 대 표 번 호	: 123-86-28187
모 델 명	: SGN-0502
효 율 등 급	: 최저소비효율기준만족
명관표시출력전력(W)	: 10
동작효율(%)	: 77.1
무부하모드 소비전력(W)	: 0.16
동작효율 MEPS(%)	: 69.72

『에너지이용합리화법』 및 "효율관리기자재 운용규정"
(산업통상자원부 고시)에 따라 상기 효율관리기자재가 신고되었음을
확인합니다.

효율관리기자재 신고확인서에 기재된 제품사양 및 효율 등의 내용은 신고업체의
책임 하에 기재된 사항이오니, 신고내용에 대한 문의는 해당업체에 문의하시기
바랍니다.

2019년03월07일

한국에너지공단 이 사

