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Please note, Follow-Up Procedure Revisions or Report Revisions do not include Authorization Pages, Indices, Section General, and/or Appendices unless revisions were required or requested.

Should you have any questions, after reviewing the material, or need to report any inaccuracies, please reach out to your UL representative or find UL contact details for your local Customer Service Department at <https://www.ul.com/about/locations>.

Please find attached the related material

For your convenience, the below describes the related updates:

E158873-volX13-Index
E158873-20210114-CertificateofCompliance
E158873-A6049-DescriptionUL
Figure-30-Total
E158873-A6049-TestRecordUL

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PUBLIC VIEW MONITOR	SMT-3230PV	E158873-A6045-UL	
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NETWORK CAMERA	XNP-9250R, XNP-8250R, XNP-6400R	E158873-A6049-UL	
NETWORK CAMERA	XNP-9250, XNP-8250, XNP-6400	E158873-A6050-UL	

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2013135-0
Report Reference E158873-20210114
Date 22-Jan-2021

Issued to: Hanwha Techwin Co Ltd
6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si ,
Gyeonggi-do,
Republic of Korea 13488

This is to certify that representative samples of AZOT - Audio/Video, Information and Communication Technology Equipment
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 62368-1, 2nd Ed., Issue Date: 2014-12-01

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

B. Mahlen

Bruce Mahrenholz, Director North American Certification Program

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2013135-0
Report Reference E158873-20210114
Date 22-Jan-2021

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
XNP-6400R	NETWORK CAMERA
XNP-8250R	NETWORK CAMERA
XNP-9250R	NETWORK CAMERA



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2010400-0
Report Reference E158873-20210114
Date 22-Jan-2021

Issued to: Hanwha Techwin Co Ltd
6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si ,
Gyeonggi-do,
Republic of Korea 13488

This is to certify that AZOT7 - Audio/Video, Information and Communication
representative samples of Technology Equipment Certified for Canada
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: CSA C22.2 NO. 62368-1-14, 2nd Ed., Issue Date: 2014-12-01

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information

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Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2010400-0
Report Reference E158873-20210114
Date 22-Jan-2021

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
XNP-6400R	NETWORK CAMERA
XNP-8250R	NETWORK CAMERA
XNP-9250R	NETWORK CAMERA



Bruce Mahrenholz, Director North American Certification Program

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UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Ed, Issued: 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements)
Certification Type:	Listing
CCN:	AZOT, AZOT7 (Audio/video, Information and Communication Technology Equipment)
Complementary CCN:	N/A
Product:	NETWORK CAMERA
Model:	XNP-9250R, XNP-8250R, XNP-6400R
Rating:	PoE (55 Vdc), 0.72 A
Applicant Name and Address:	HANWHA TECHWIN CO LTD 6, PANGYO-RO 319BEON-GIL, BUNDANG-GU SEONGNAM-SI GYEONGGI-DO 13488 KOREA

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

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Prepared By: Lawrence Lee / Project Handler Reviewed By: SeulKi Park / Reviewer

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

NETWORK CAMERA has been designed for INDOOR use and integrated a bracket for wall or ceiling mount. It is a commercial equipment supplied from PoE (Power over Ethernet) and installed by service personnel.

Model Differences

XNP-9250R is basic model.

XNP-8250R, XNP-6400R are identical to basic model except model designation and magnification.

Test Item Particulars

Classification of use by	Instructed person
Supply Connection	External Circuit - not Mains connected ES1
Supply % Tolerance	None
Supply Connection – Type	PoE (Power over Ethernet)
Considered current rating of protective device as part of building or equipment installation	N/A
Equipment mobility	wall-mounted
Over voltage category (OVC)	OVC I
Class of equipment	Class III
Access location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified maximum operating ambient (°C)	55
IP protection class	IPX0
Power Systems	N/A
Altitude during operation (m)	2000 m or less
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	3.1

Technical Considerations

- ☐ The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 55
- ☐ Considered current rating of protective device as part of the building installation (A) : N/A

- ☐ Mains supply tolerance (%) or absolute mains supply values : No direct connection
- ☐ The equipment disconnect device is considered to be : N/A
- ☐ The Risk Group of a lamp or lamp system (including LEDs) is : Exempt
- ☐ The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual

Additional Information



4789714689

- Continuous operation with heater on, fan operating, all motor operating and IR LED on.

Additional Standards

The product fulfills the requirements of: N/A

Markings and Instructions

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listee's or Recognized companys name, Trade Name, Trademark or File Number
Equipment identification marking – model identification	Model Number
Equipment rating marking – ratings	"Input Ratings (voltage, frequency/dc, current/power)", "Output Ratings (voltage, frequency/dc, current/power)"
Replaceable batteries	<p>"CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions."/"ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebus les batteries usagées selon les instructions." (Marking)</p> <p>Alternatively, symbol</p> <div style="text-align: center;">   </div> <p>(ISO 7000-0434 and/or ISO 7000-1641) on product where visible, with the above wording in the instruction manual.</p>
Hard Copy	<p>A. IMPORTANT</p> <p>B. Please check 'Manuals' from our website, before connecting to the supply.</p> <p>C. Company website URL (https://www.~~)</p>
Website Manual -1	This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE (55 Vdc), 0.72 A.

Website Manual -2	The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3.af shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.
Special Instructions to UL Representative N/A	

BD1.0	TABLE: Production-Line Testing Requirements					
BD1.1	Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.					
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
N/A	N/A	N/A	N/A	N/A	N/A	N/A
BD1.2	Earthing Continuity Test Exemptions – This test is not required for the following models:					
	All models					
BD1.3	Electric Strength Test Exemptions – This test is not required for the following models:					
	All models					
BD1.4	Electric Strength Test Component Exemptions – The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test.					
	All models					

BE1.0	Sample and Test Specifics for Follow-Up Tests at UL				
Model	Component	Material	Test	Sample (s)	Test Specifics
N/A	N/A	N/A	N/A	N/A	N/A

4.1.2	TABLE: List of critical components					Pass
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Product Category CCN(s)	Mark(s) of conformity	Supplement ID
HPoE Injector	CREATIVE LIANJIE NETWORK TECHNOLOGYCO LTD	PT-PSE106GBR- AH-S	Input: 100-240 Vac, 50/60 Hz, 1.5 A, Output: 55 Vdc, 1.1 A	AZOT/7	UL (E487558)	
Enclosure Dome cover (Plastic)	Covestro Deutschland AG [PC Resins]	2407 + (z)(f1)	Min. 0.75 mm thickness, rated Min. V- 2, 115 deg. C.	QMFZ2/8	UL (E41613)	
Enclosure Dome cover (Plastic) - Alternate	SABIC INNOVATIVE PLASTICS B V	EXL9330(X)(f1)(GG) (B1)(IP)	Min. 0.80 mm thickness, rated Min. V- 1, 105 deg. C.	QMFZ2/8	UL (E45329)	
Enclosure Dome cover (Plastic) - Alternate	MITSUBISHI ENGINEERING- PLASTICS CORP	S-2000V+(f1), S- 2001V+(f1), S- 2003V+(f1)	Min. 1.5 mm thickness, rated Min. V-2, 115 deg. C.	QMFZ2/8	UL (E41179)	
Enclosure Bottom (Metal)	Interchangeable	Interchangeable	Aluminium, Min. 2.0 mm thickness, see enclosure for dimension.	-	-	
Internal Plastic Part Materials	Interchangeable	Interchangeable	Min. HB	QMFZ2/8	UL (E121254)	
Thermal Pad	KOMOTECH CO LTD	KGP-1(a)	Min. 0.2 mm thickness, rated V-0, 150 deg. C	QMFZ2/8	UL (E245303)	
Transformer(T1)	CLOVER HI-TECH CO LTD	1400651 (marked 1400651, SC-05B)	130 deg. C, See enclosure for more detail.	-	-	
Transformer(T1)- Alternate	COREPLUS CO LTD	1400651 (marked 1400651, CP, LY, CP-130)	130 deg. C, See enclosure for more detail.	-	-	
Line filter (LF1)	TNC CO.,LTD	QV181610A	7.0 mH, 130 deg.C, See enclosure for more detail.	-	-	

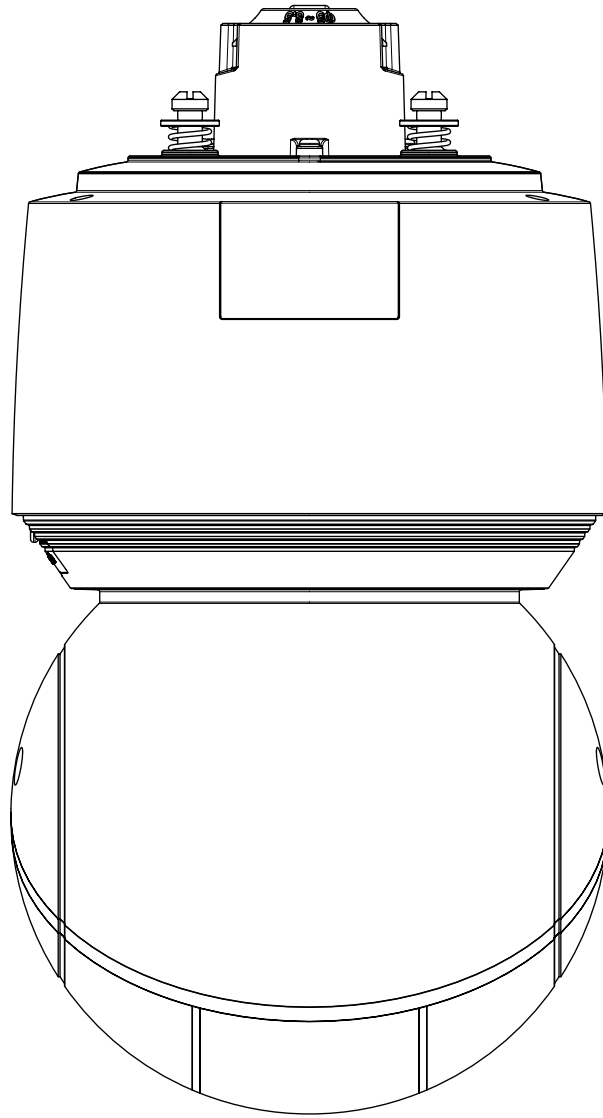
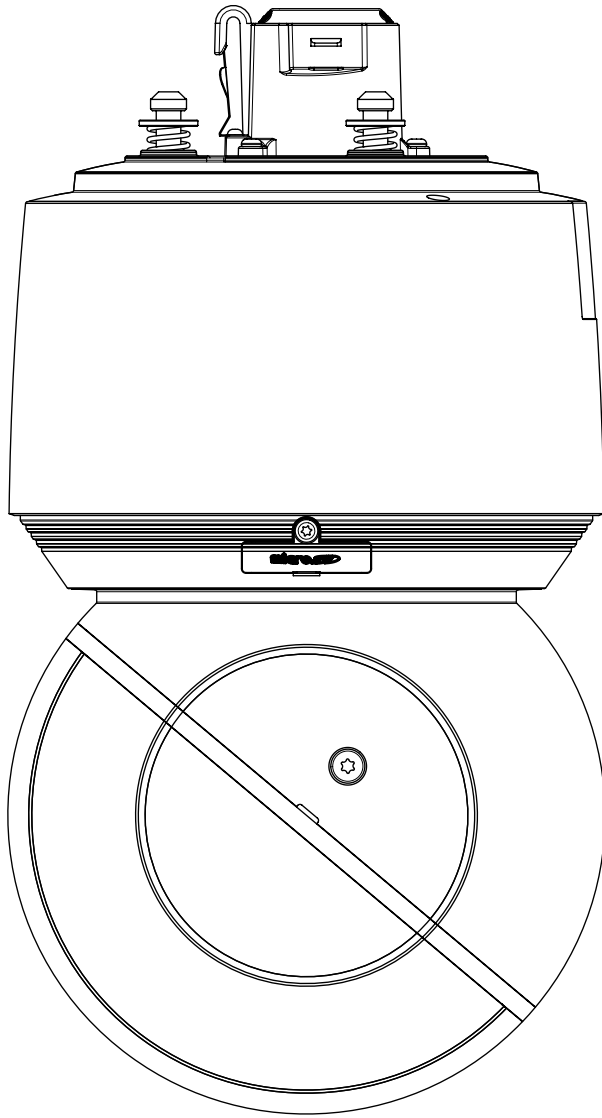
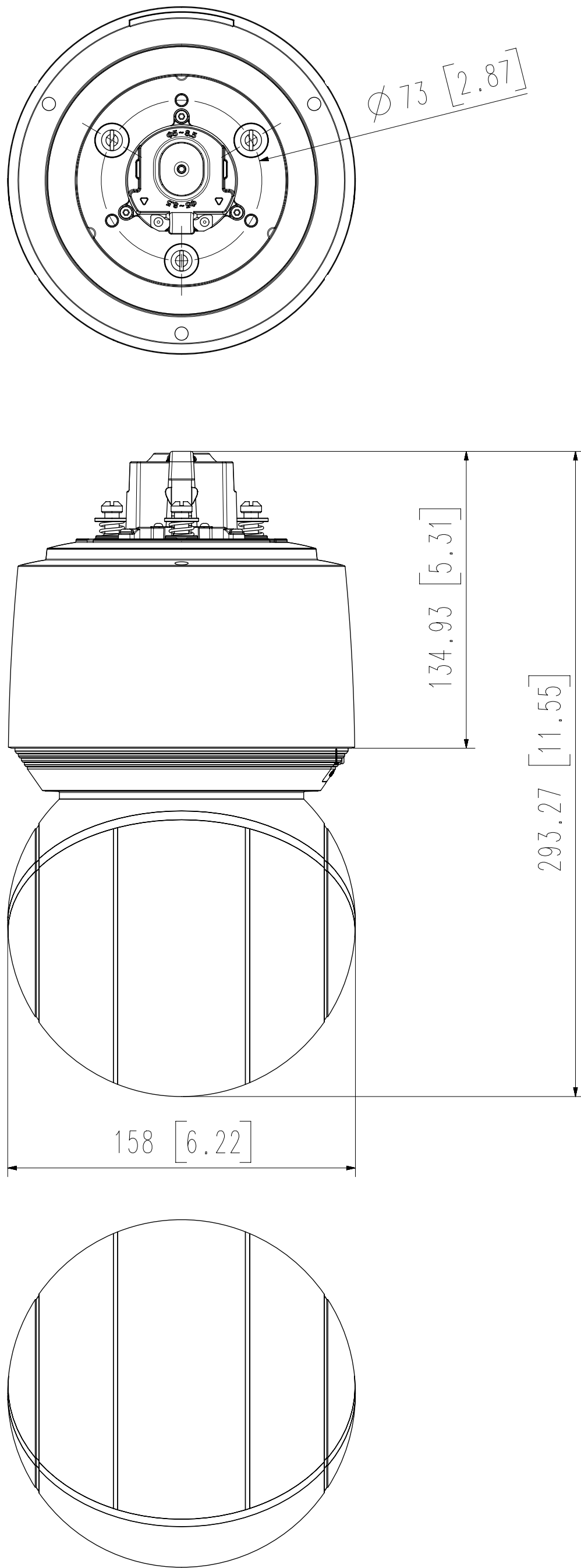
Line filter (LF2)	TNC CO.,LTD	CVA6011RNF2	11.0 uH, 130 deg.C, See enclosure for more detail.	-	-	
Line filter (LF2) - Alternate	HEFEI PHOENIX ELECTRONICS TECHNOLOGY CO LTD	CVA6011RNF2	11.0 uH, 130 deg.C, See enclosure for more detail.	-	-	
Stepping Motors for Tilt	Dongguan Shinano Motor Co., Ltd.	STH-36C0068-01	For Tilt, Rated 12.0 Vdc, 0.4 A	-	-	
Stepping Motors for Pan	Dongguan Shinano Motor Co., Ltd.	STH-42C2010	For pan. Rated 12.0 Vdc, 1.0 A	-	-	
Lithium Battery (SUB board - BAT1)	Seiko Instruments Inc	ML414H	Lithium (Coin), Rechargeable, Max. Charging Voltage: 3.4 Vdc, Max. ChargingCurrent: 300 mA	BBCV2	UL (MH15628)	
Opto-coupler (PC1)	LITE-ON TECHNOLOGY CORP	LTV-10xx (Marked: 1008, the "x" in the model name can be from 0 to 9.)	Isolation Voltage: 5 000. Max. Operation Temperature: 110 deg. C	FPQU2/8	UL (E113898)	
Opto-coupler (PC1)- Alternate	CT Microelectronics Far East Ltd	CT-10xx (Marked: 1018, Where "X" can be any alphanumeric character, blank, or "-",	Isolation Voltage: 5 000. Max. Operation Temperature: 110 deg. C	FPQU2/8	UL (E364000)	
DC Fan for Heater	HUI TONG ELECTRONIC CO LTD	HTD-025D12L	12 Vdc, 0.07 A	GPWV2/8	UL (E311396)	
DC Fan for Camera	HUI TONG ELECTRONIC CO LTD	HTD-040D12M	12 Vdc, 0.07 A	GPWV2/8	UL (E311396)	
Heater	Interchangeable	Interchangeable	117.6 ohm, 1.22 W	-	-	

Connectors and Receptacles (Secondary circuits)	Interchangeable	Interchangeable	Min. V-2	ECBT2	UL	
Connectors and Receptacles (Secondary circuits) - Alternate	Interchangeable	Interchangeable	Copper alloy pins housed in bodies of plastic rated Min. V-2	QMFZ2	UL	
Internal Wiring (Secondary)	Interchangeable	Interchangeable	Marked VW-1; Min. 30 V, 80 deg. C	AVLV2	UL	
Cable	Interchangeable	Interchangeable	Marked VW-1; Min. 30 V, 80 deg. C	AVLV2	UL	
FFC	Interchangeable	Interchangeable	Min. VW-1, 60 V, 105 deg. C	AVLV2	UL	
Label	Interchangeable	Interchangeable	Min.55 deg. C if max. surface temperature not specified.	PGDQ2 or PGJI2	UL	

Enclosures

Type	Supplement Id	Description
Photographs	03-01	Overall View -1
Photographs	03-02	Overall View -2
Photographs	03-03	Internal View-1
Photographs	03-04	Internal View-2
Photographs	03-05	Internal View-3
Photographs	03-06	Internal View-4
Photographs	03-07	Drive board (Top)
Photographs	03-08	Drive board (Bottom)
Photographs	03-09	Hall board (Top)
Photographs	03-10	Hall board (Bottom)
Photographs	03-11	IR control board
Photographs	03-12	Motion board
Photographs	03-13	Network board (Top)
Photographs	03-14	Network board (Bottom)
Photographs	03-15	Sensor board (Top)
Photographs	03-16	Sensor board (Bottom)
Photographs	03-17	PoE SMPS (Top)
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Photographs	03-19	DC fan 1
Photographs	03-20	DC fan 2
Photographs	03-21	Heater (Top)
Diagrams	04-01	Enclosure Dimension
Manuals	06-01	Manual
Miscellaneous	07-01	PoE Transformer (T1) spec (CLOVER Hi-Tech Co., LTD.)
Miscellaneous	07-02	PoE Transformer (T1) spec (CORE Pluse)
Miscellaneous	07-03	Line Filter (LF1) spec (TNC Co., LTD)
Miscellaneous	07-04	Line Filter (LF2) spec (TNC Co., LTD)
Miscellaneous	07-05	Line Filter (LF2) spec (HEFEI PHOENIX ELECTRONICS)
Miscellaneous	07-06	Label
Miscellaneous	07-07	Dual language safety labeling CRD

The following Page(s) are related to Diagrams-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.



3	XNP-8250(R)	
2	XNP-6400(R)	
1	XNP-9250(R)	'20.11.06
No.	MODEL NAME	DATE
Unit:mm[inch]		SCALE:1/2
Hanwha Techwin		

The following Page(s) are related to Manuals-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth.
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from PoE(55 Vdc), 0.72 A.(XNP-9300R/XNP-8300R/XNP-6400R)
16. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from PoE(53 Vdc), 0.48 A.(XNP-9300/XNP-8300/XNP-6400)
17. This product is intended to be supplied by isolation power.
18. If you use excessive force when installing the product, the camera may be damaged and malfunction.
If you forcibly install the product using non-compliant tools, the product may be damaged.
19. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.
This may cause damage to the product.
20. When installing the product, be careful not to allow the surface of the product to be stained with chemical substance.
Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.
21. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.
Install the product by referring to "Installation & connection" in the user manual.



22. Installing or using the product in water can cause serious damage to the product.
23. If your product works normal, the degree of preset precision is 0.1°. In the case of reboot due to outage, firmware upgrade, etc., its tolerance might have to be adjusted after checking for any changes in Preset setup.

WARNING

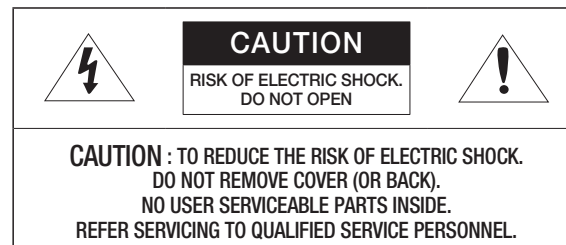
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

Pan/Tilt/Zoom motors and slip ring are warrantied for one year under continuous operation.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

The battery cannot be replaced.

Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

ATTENTION

IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT.
METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

CAUTION

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Please use the input power with just one camera and other devices must not be connected.

The ITE is to be connected only to PoE networks without routing to the outside plant.

The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3bt shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.(XNP-9300R/XNP-8300R/XNP-6400R)

The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3at shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.(XNP-9300/XNP-8300/XNP-6400)

Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102.
As such, associated Ethernet wiring shall be limited to inside the building.

Please read the following recommended safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Please wear protective gloves when installing/removing the camera.
The high temperature of the product surface may cause a burn.
- When connecting the HPoE injector to the external Internet, use either one of network cable port (LAN) or fiber optic port (SFP) but not both.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

We do not guarantee the quality of third-party products (e.g. lenses, accessories) that you separately purchase.

WARNING

To Prevent damage which may caused by IR LED, don't stare at operating lamp.

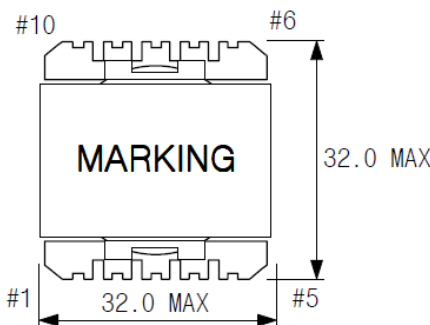
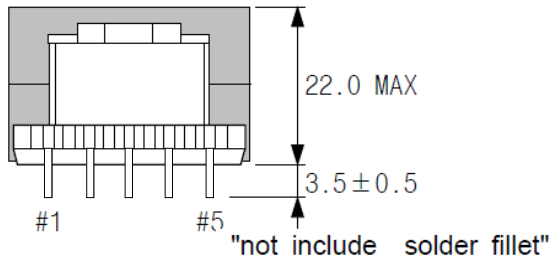
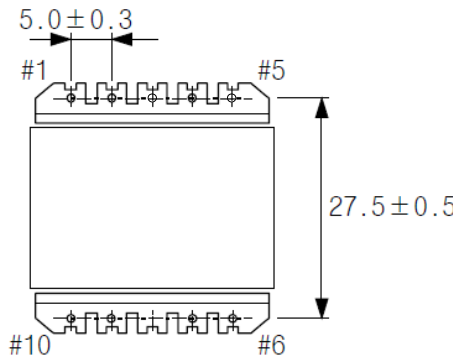
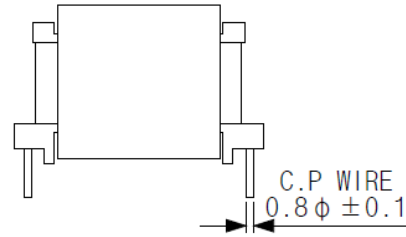
For below models only.

- XNP-9300R
- XNP-8300R
- XNP-6400R

Risk Group 1
WARNING IR emitted from this product. Do not stare at operating lamp.
Product tested against IEC 62471

The following Page(s) are related to Miscellaneous-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

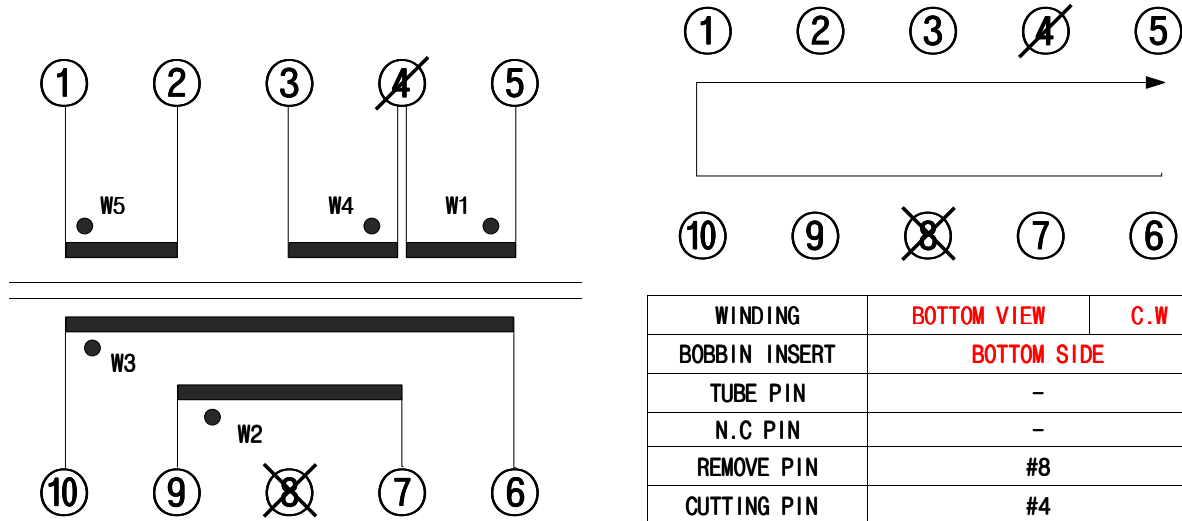
CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS		DATE	2017.03.13																							
PART NAME	TRANS-POWER S/W	PART NO	1400651																							
<div>6. DIMENSION (UNIT:mm)</div> <div></div> <div>◆TOP VIEW◆</div> <div></div> <div>◆FRONT VIEW◆</div> <div></div> <div>◆BOTTOM VIEW◆</div>		<div><div>*MARKING(BLACK)*</div><div>1400651 -- PART NO.</div><div>SC-05B SC-AABBCCDE-- LOT NO.</div><div>MAKER(TRADENAME)</div><div>INSULATION SYSTEM DESIGN NO(CLASS-B)</div></div> <div><div>LOT NO</div><table><tr><th>YEAR(AA)</th><th>MONTH(BB)</th><th>DAY(CC)</th></tr><tr><td>2016Y→16</td><td>JAN→01</td><td>1st DAY→01</td></tr><tr><td>2017Y→17</td><td>FEB→02</td><td>2nd DAY→02</td></tr><tr><td>2018Y→18</td><td>DEC→12</td><td>31thDAY→31</td></tr></table><table><tr><th>PRODUCT CODE(D)</th><th>MANUFACTURER OF CORE(E)</th></tr><tr><td>A:KOREA PRODUCT</td><td>K:DONGYANGGUANG</td></tr><tr><td>C:CHINA(WENDENG)</td><td>N:JISHUN</td></tr><tr><td>D:CHINA(DONGGUAN)</td><td>S:SAMHWA</td></tr><tr><td>E:CHINA(ZAOZHUANG)</td><td></td></tr></table></div> <div></div> <div>◆SIDE VIEW◆</div> <div><div>* REMOVE PIN : #8</div><div>* CUTTING PIN : #4</div><div>* GAP CORE : TOP</div><div>* CENTER BOND : SW-860HF</div></div>			YEAR(AA)	MONTH(BB)	DAY(CC)	2016Y→16	JAN→01	1st DAY→01	2017Y→17	FEB→02	2nd DAY→02	2018Y→18	DEC→12	31thDAY→31	PRODUCT CODE(D)	MANUFACTURER OF CORE(E)	A:KOREA PRODUCT	K:DONGYANGGUANG	C:CHINA(WENDENG)	N:JISHUN	D:CHINA(DONGGUAN)	S:SAMHWA	E:CHINA(ZAOZHUANG)	
		YEAR(AA)	MONTH(BB)	DAY(CC)																						
		2016Y→16	JAN→01	1st DAY→01																						
		2017Y→17	FEB→02	2nd DAY→02																						
		2018Y→18	DEC→12	31thDAY→31																						
PRODUCT CODE(D)	MANUFACTURER OF CORE(E)																									
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D:CHINA(DONGGUAN)	S:SAMHWA																									
E:CHINA(ZAOZHUANG)																										
CLOVER Hi-Tech CO., LTD.		DESIGN	CHECK	APPROVAL																						
		Y.H CHA	K.T KIM	D.K PARK																						
				PAGE																						
				2/19																						

CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS		DATE	2017.03.13
PART NAME	TRANS-POWER S/W	PART NO	1400651

7. SCHEMATIC DIAGRAM



8. WINDING SPECIFICATION

NO	NAME	TERMINAL NO.		WINDING		
		START	FINISH	WIRE	TURNS	WINDING METHOD
1	W1	5	4	1UEW 0.50 ϕ \times 2	7	SOLENOID
2	W2	9	7	1UEW 0.50 ϕ \times 2	7	SOLENOID
3	W3	10	6	1UEW 0.50 ϕ \times 2	7	SOLENOID
4	W4	4	3	1UEW 0.50 ϕ \times 2	7	SOLENOID
5	W5	1	2	1UEW 0.40 ϕ	12	SOLENOID
WIRE SPECIFICATION				CONDUCTOR		
				WIRE	DIAMETER[mm]	TOLERANCE OF DIAMETER[mm]
				1UEW	0.40	± 0.004
				1UEW	0.50	± 0.005

* REGARDING ABOVE TABLE STANDARD, THICKNESS OF WIRE MUST BE OVER SPECIFICATION.

CLOVER Hi-Tech CO., LTD.	DESIGN	CHECK	APPROVAL	PAGE
	Y.H CHA	K.T KIM	D.K PARK	3/19

CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS		DATE	2017.03.13
PART NAME	TRANS-POWER S/W	PART NO	1400651

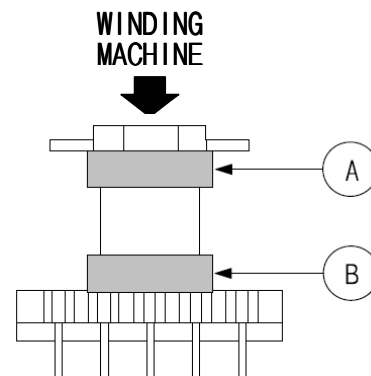
9. BARRIER INSULATION

NO	COIL	MATERIALS	LAYERS	THICKNESS (mm) x WIDTH (mm)
1	W1	PNW TAPE	B PART : 1T	B : 0.45T x 2.0mm
2	W2	PNW TAPE	B PART : 1T	B : 0.45T x 2.0mm
3	W3	PNW TAPE	B PART : 1T	B : 0.45T x 2.0mm
4	W4	PNW TAPE	B PART : 1T	B : 0.45T x 2.0mm
5	W5	PNW TAPE	B PART : 1T	B : 0.45T x 2.0mm

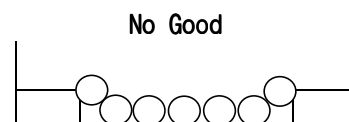
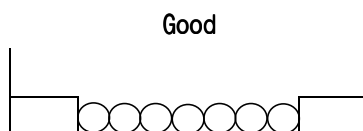
* REGARDING ABOVE TABLE STANDARD, WIDTH, THICKNESS, TURNS OF TAPE MUST BE OVER SPECIFICATION RANGE. SPECIFICATION RANGE.

* BARRIER TAPE TOLERANCE

① $2.0 \pm 0.2\text{mm}$



※ Winding wire should not be over barrier(margin) tape as shown below.



CLOVER Hi-Tech CO., LTD.	DESIGN	CHECK	APPROVAL	PAGE
	Y.H CHA	K.T KIM	D.K PARK	4/19

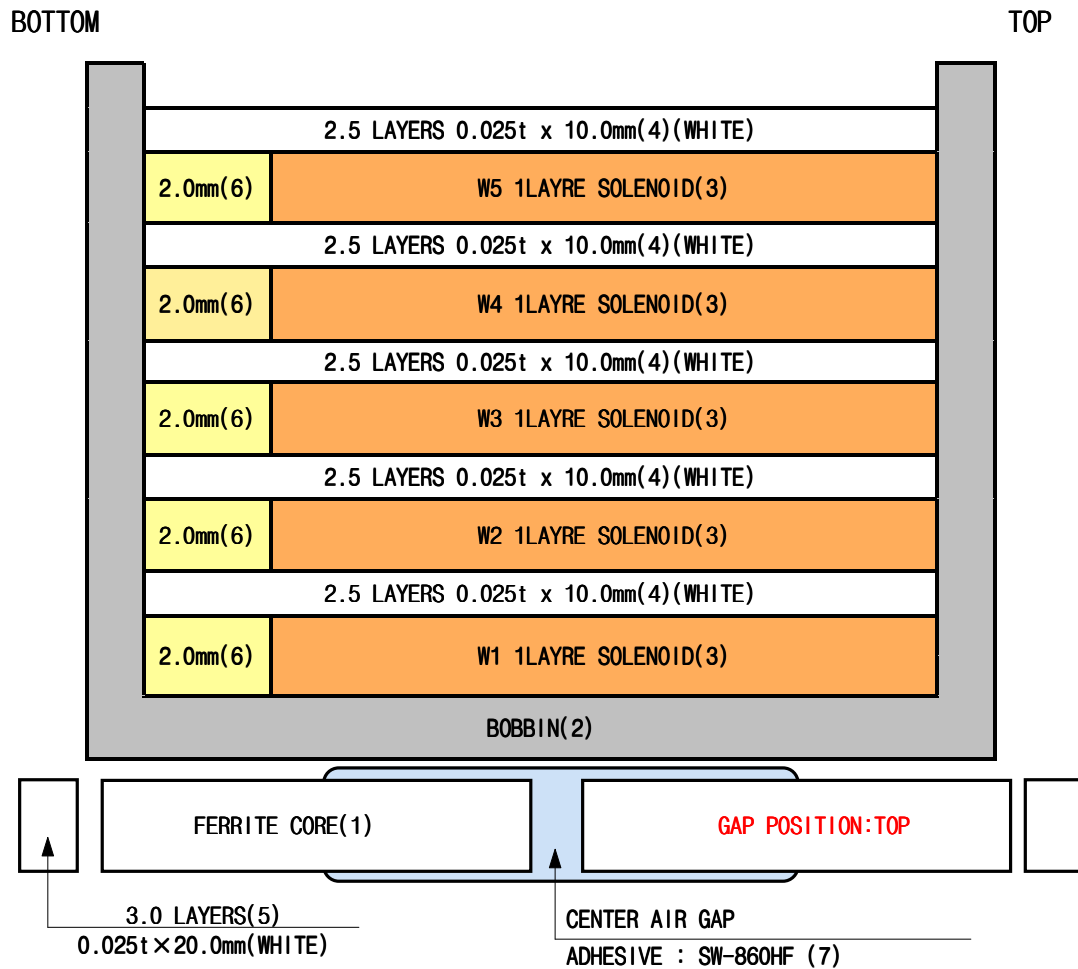
CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS			DATE	2017.03.13
PART NAME	TRANS-POWER S/W		PART NO	1400651
10. INSULATION TAPE				
NO	COIL	MATERIALS	WRAPS(T)	THICKNESS (mm) x WIDTH (mm)
1	W1 TO W2	POLYESTER FILM TAPE	2.5 Ts	0.025T x 10.0W (WHITE COLOR)
2	W2 TO W3	POLYESTER FILM TAPE	2.5 Ts	0.025T x 10.0W (WHITE COLOR)
3	W3 TO W4	POLYESTER FILM TAPE	2.5 Ts	0.025T x 10.0W (WHITE COLOR)
4	W4 TO W5	POLYESTER FILM TAPE	2.5 Ts	0.025T x 10.0W (WHITE COLOR)
5	W5 TO CORE	POLYESTER FILM TAPE	2.5 Ts	0.025T x 10.0W (WHITE COLOR)
CORE FIXING TAPE		POLYESTER FILM TAPE	3.0 Ts	0.025T x 20.0W (WHITE COLOR)
* POLYESTER FILM TAPE TOLERANCE				
① 10.0mm ± 0.5mm				
② 20.0mm ± 0.5mm				
CLOVER Hi-Tech CO., LTD.			DESIGN	CHECK
			Y.H CHA	K.T KIM
			APPROVAL	PAGE
			D.K PARK	5/19

CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS		DATE	2017.03.13
PART NAME	TRANS-POWER S/W	PART NO	1400651

11. CONSTRUCTION



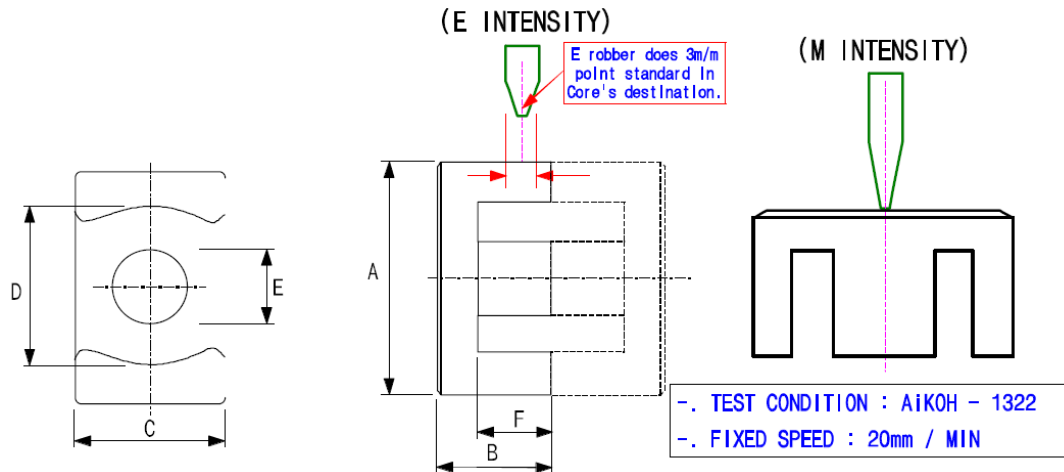
- WINDING :
- PS TAPE :
- BARRIER :

CLOVER Hi-Tech CO., LTD.	DESIGN	CHECK	APPROVAL	PAGE
	Y.H CHA	K.T KIM	D.K PARK	6/19

CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS		DATE	2017.03.13
PART NAME	TRANS-POWER S/W	PART NO	1400651

※ CORE DIMENSION ※

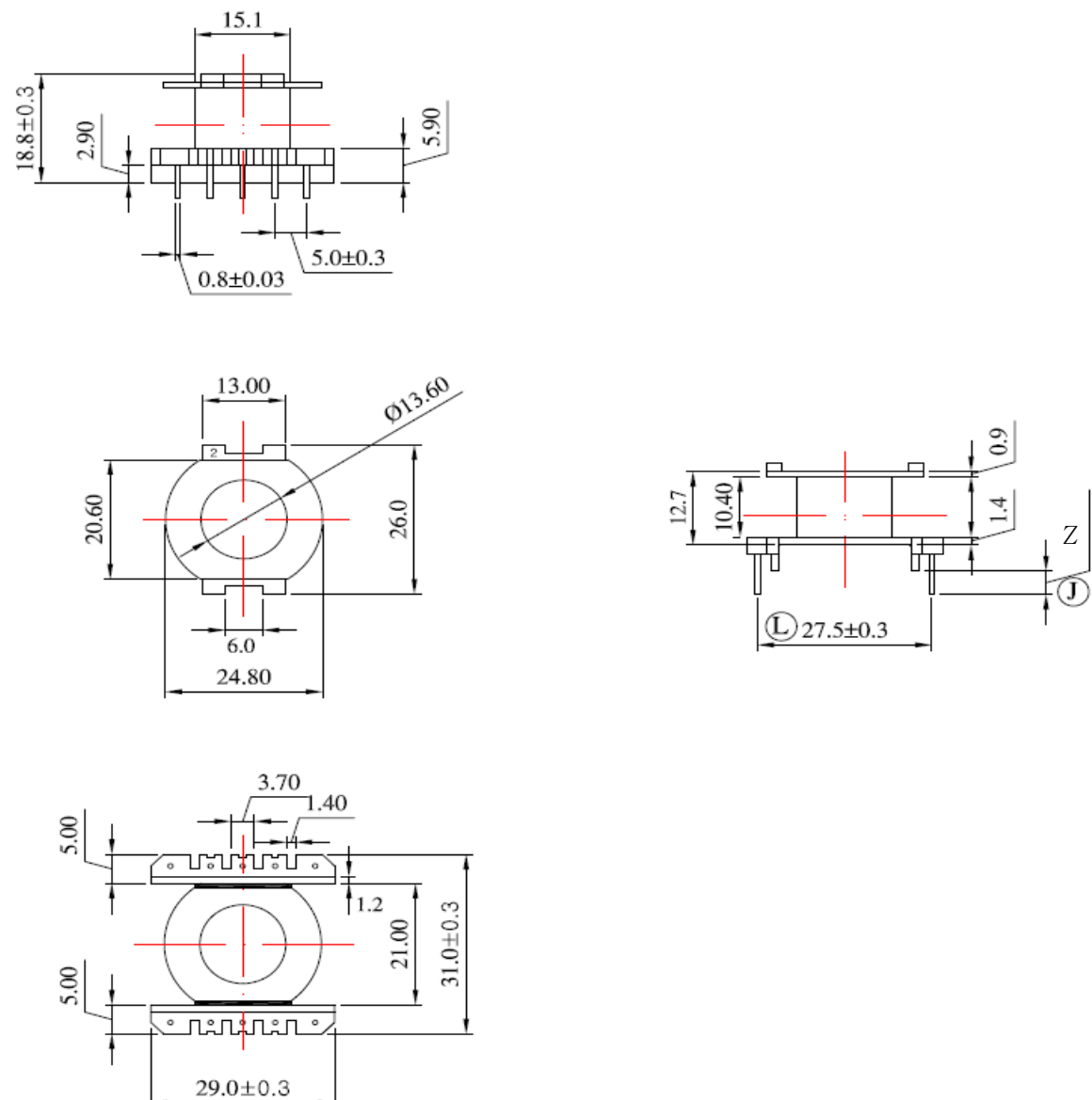


TYPE	DIMENSION(mm)						EFFECTIVE PARAMETER			INTENSITY (Kgf MIN.)		RE MARKS
	A	B	C	D	E	F	Le(mm)	Ae(mm ²)	Ve(cm ²)	M	E	
EER3019 (EC30-4R)	30.00 ±0.40	9.40 ±0.15	20.30 ±0.30	25.70 ±0.40	13.30 ±0.20	6.60 ±0.20	47.7	132.0	6298	9.5	16.5	DONGYANG GUANG
EER3019	30.00 ±0.40	9.40 ±0.15	20.30 ±0.30	25.70 ±0.40	13.30 ±0.20	6.60 ±0.20	47.7	132.0	6298	9.5	16.5	JISHUN
EER3019S	30.00 ±0.40	9.40 ±0.15	20.30 ±0.30	25.70 ±0.40	13.30 ±0.20	6.60 ±0.20	47.7	132.0	6298	9.5	16.5	SAMHWA

	A	B	C	D	E	F
1	30.69	9.46	20.30	25.73	13.38	6.60
2	30.72	9.47	20.38	25.71	13.38	6.65
3	30.73	9.40	20.37	25.78	13.41	6.63
4	30.72	9.46	20.33	25.77	13.39	6.65
5	30.68	9.45	20.35	25.72	13.36	6.68

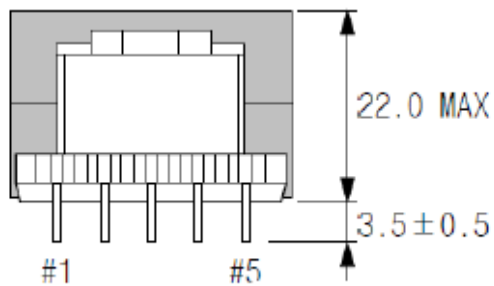
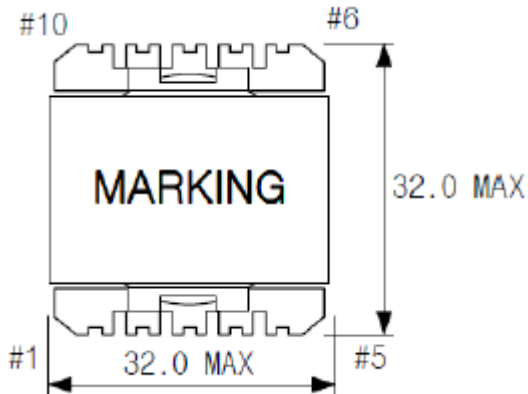
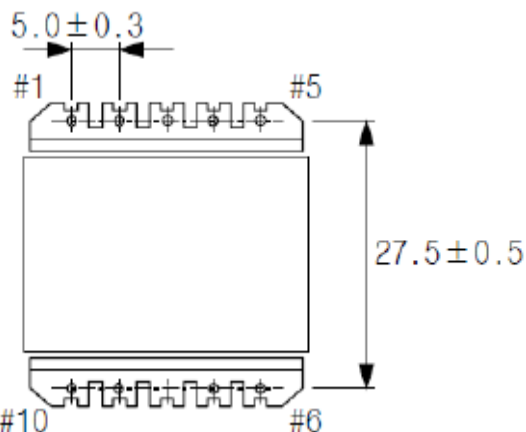
CLOVER Hi-Tech CO., LTD.	DESIGN	CHECK	APPROVAL	PAGE
	Y.H CHA	K.T KIM	D.K PARK	14/19

CUSTOMER : POWERNET TECHNOLOGIES.

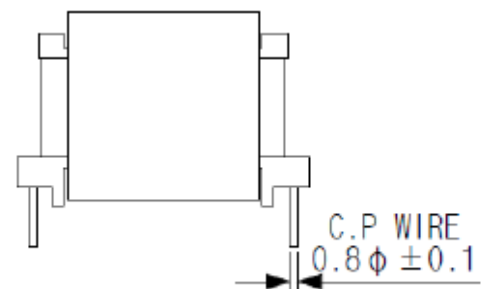
SPECIFICATIONS		DATE	2017.03.13	
PART NAME	TRANS-POWER S/W	PART NO	1400651	
※ BOBBIN DIMENSION ※				
				
CLOVER Hi-Tech CO., LTD.		DESIGN	CHECK	APPROVAL
		Y.H CHA	K.T KIM	D.K PARK
		PAGE		18/19

The following Page(s) are related to Miscellaneous-02. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

SPECIFICATIONS		SHEET NO.	2 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019

6. DIMENSIONS (UNIT: m/m)**TOP VIEW****FRONT VIEW****BOTTOM VIEW****MARKING**

PART NO.	1400651
TRADE NAME	CP(COREPLUS)
CHINA FACTORY	LY(LIAOYANG)
CP-130	COREPLUS 'CLASS B' SYSTEM
Year	2016 → 16 2017 → 17...
Week	First Week → 1 Second Week → 2...
Product Area	A: KOREA C: CHINA I: INDONESIA
MANUFACTURE R OF CORE	S: SMAWHA T: TDG N: NANTONG
	1400651 CP LY CP-130 1612CT

**SIDE VIEW**

**CUSTOMER
CHECK**

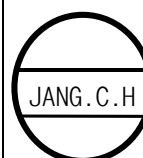
CORE Plus

DESIGN

CHECK

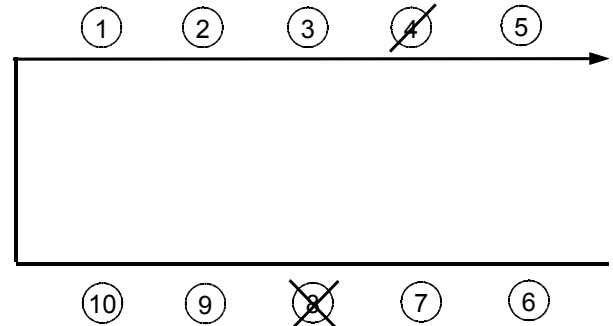
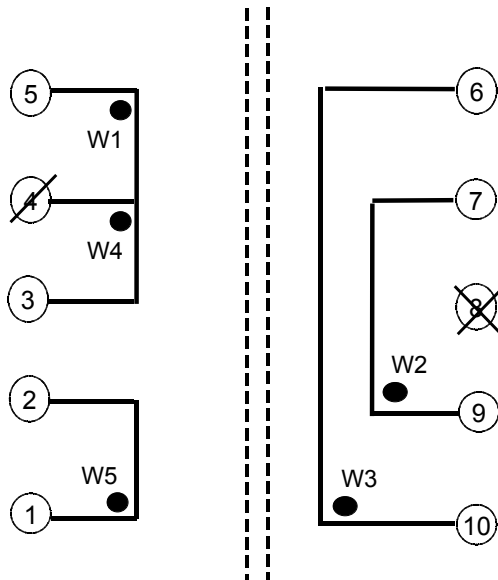
CONFIRM

APPROVAL



SPECIFICATIONS		SHEET NO.	3 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019

7. SCHEMATIC DIAGRAM








WINDING	BOTTOM VIEW	C.W
BOBBIN INSERT	BOTTOM	
REMOVE PIN	#8	
N.C PIN	NONE	
CUT PIN	#4	
TEFLON TUBE	NONE	

8. WINDING SPECIFICATION

WINDING ORDER	TERMINAL NO		WIRE	TURNS	WINDING METHOD	REMARKS
	S	F				
W1	5	4	1UEW 0.50Ø * 2P	7	SOLENOID	1 LAYERS
W2	9	7	1UEW 0.50Ø * 2P	7	SOLENOID	1 LAYERS
W3	10	6	1UEW 0.50Ø * 2P	7	SOLENOID	1 LAYERS
W4	4	3	1UEW 0.50Ø * 2P	7	SOLENOID	1 LAYERS
W5	1	2	1UEW 0.40Ø	12	SOLENOID	1 LAYERS

* REGARDING ABOVE TABLE STANDARD, THICKNESS OF WIRE MUST BE OVER SPECIFICATION RANGE.

CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					

SPECIFICATIONS		SHEET NO.	4 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019

9. BARRIER INSULATION

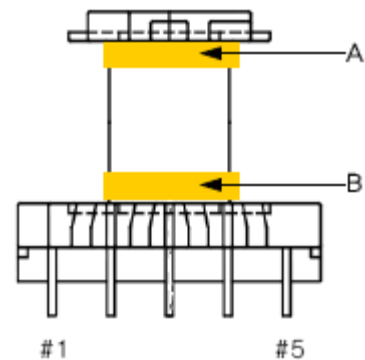
NO	COIL	MATERIALS	LAYERS	THICKNESS(mm) × WIDTH(mm)
1	W1	P.N.W TAPE	B PART : 1Ts	B : 0.45T x 2.0mm
2	W2	P.N.W TAPE	B PART : 1Ts	B : 0.45T x 2.0mm
3	W3	P.N.W TAPE	B PART : 1Ts	B : 0.45T x 2.0mm
4	W4	P.N.W TAPE	B PART : 1Ts	B : 0.45T x 2.0mm
5	W5	P.N.W TAPE	B PART : 1Ts	B : 0.45T x 2.0mm

* CONCERNING ABOVE TABLE STANDARD, WIDTH, THICKNESS, TURNS OF TAPE
MUST BE OVER SPECIFICATION RANGE.

※ Barrier tape tolerance

① 2.0 mm ±0.2mm

※ Winding wire should not be over
barrier(margin) tapes as shown below.



GOOD








(○)

NO GOOD



(×)

CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					

SPECIFICATIONS		SHEET NO.	5 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019






10. INSULATION

NO	COIL	MATERIALS	WRAPS (T)	THICKNESS(mm) × WIDTH(mm)
1	W1 TO W2	POLYESTER FILM TAPE	2.5	0.025t × 10.0mm (WHITE COLOR)
2	W2 TO W3	POLYESTER FILM TAPE	2.5	0.025t × 10.0mm (WHITE COLOR)
3	W3 TO W4	POLYESTER FILM TAPE	2.5	0.025t × 10.0mm (WHITE COLOR)
4	W4 TO W5	POLYESTER FILM TAPE	2.5	0.025t × 10.0mm (WHITE COLOR)
5	W5 TO CORE	POLYESTER FILM TAPE	2.5	0.025t × 10.0mm (WHITE COLOR)
6	CORE FIXING TAPE	POLYESTER FILM TAPE	3.0	0.025t × 20.0mm (WHITE COLOR)

※ REGARDING ABOVE TABLE STANDARD, WIDTH, THICKNESS, TURNS OF TAPE MUST BE OVER SPECIFICATION RANGE.

※ POLYESTER FILM TAPE TOLERANCE

- ① 10.0mm ± 0.5mm
- ② 20.0mm ± 0.5mm

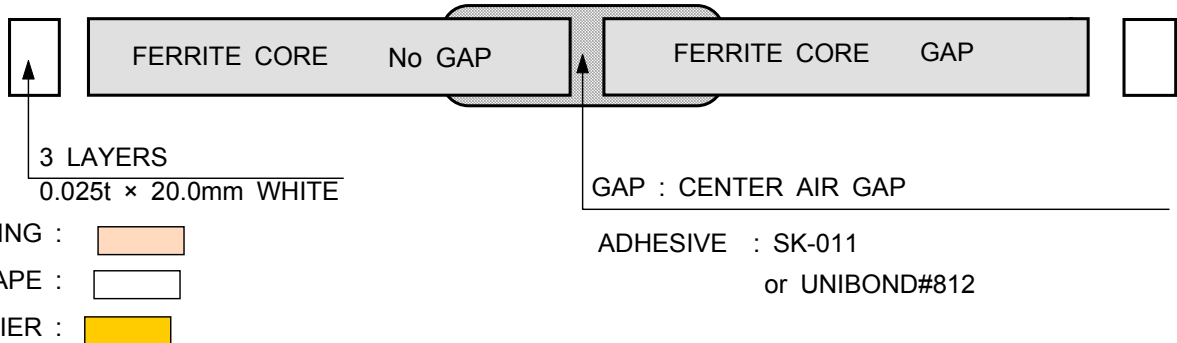
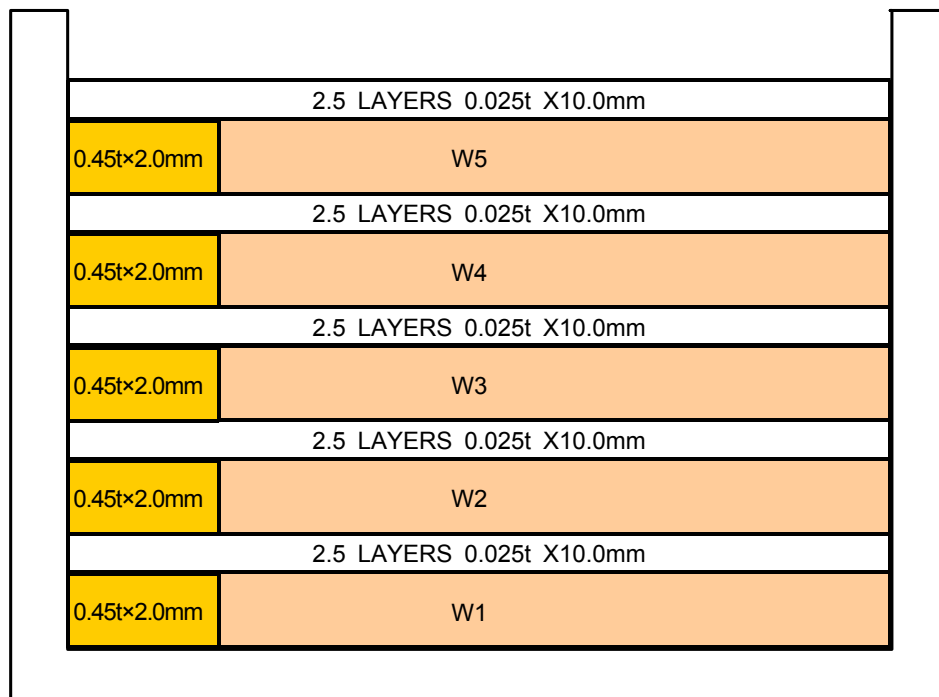
CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					






SPECIFICATIONS		SHEET NO.	6 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019

11. INTERNAL CONSTRUCTION

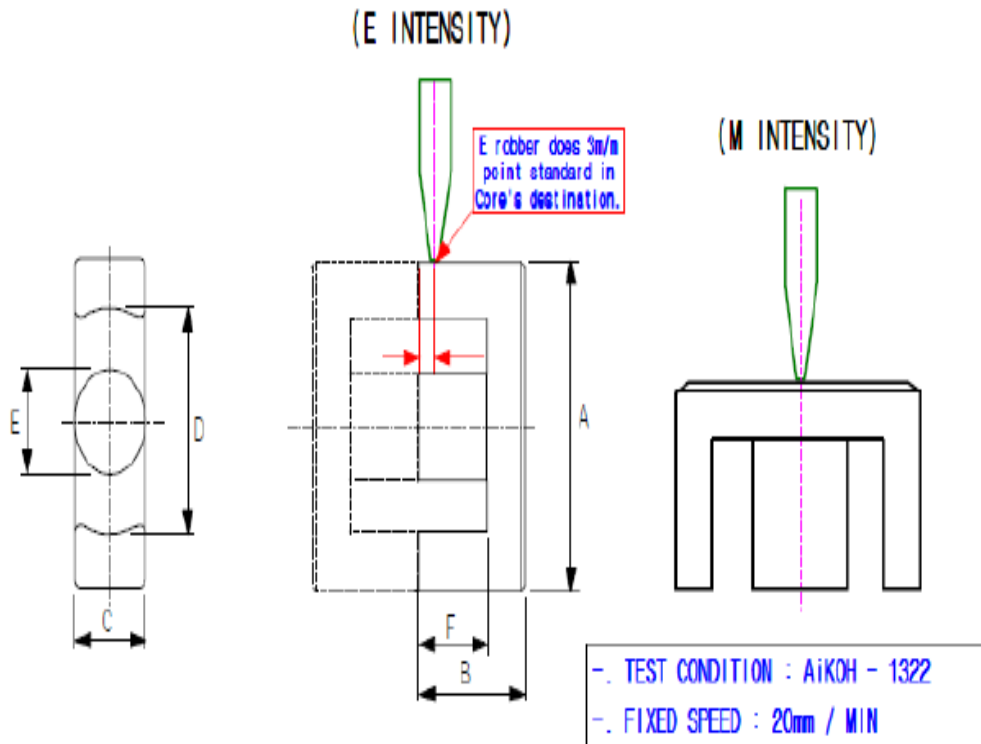
PIN

TOP


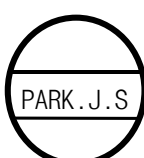





CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					

SPECIFICATIONS		SHEET NO.	20 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019

21. CORE DIMENSION

TYPE	DIMENSION(mm)						EFFECTIVE PARAMETERS			INTENSITY (Kgf MIN)		REMARKS
	A	B	C	D	E	F	Le(mm)	Ae(mm ²)	Ve(mm ²)	M	E	
EER3124N	30.00 ±0.5	9.40 ±0.15	20.30 ±0.30	25.70 ±0.40	13.30 ±0.20	6.60 ±0.20	47.7	132.0	6298	9.5	16.5	SAMWHA
EER3124	30.00 ±0.5	9.40 ±0.15	20.30 ±0.30	25.70 ±0.40	13.30 ±0.20	6.60 ±0.20	47.7	132.0	6298	9.5	16.5	TDG
EER3124	30.00 ±0.5	9.40 ±0.15	20.30 ±0.30	25.70 ±0.40	13.30 ±0.20	6.60 ±0.20	47.7	132.0	6298	9.5	16.5	NANTONG

CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					

SPECIFICATIONS

SHEET NO.

22 OF 21

DATE

2017. 03. 13.

PART NAME

S/W TRANS

MODEL NAME

PN042HTCA-9080VQ

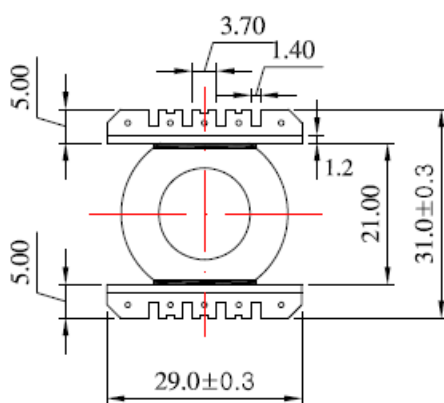
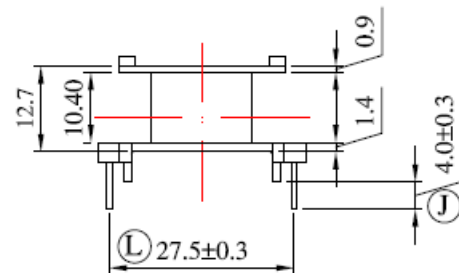
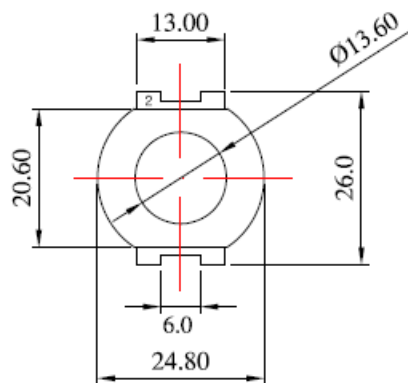
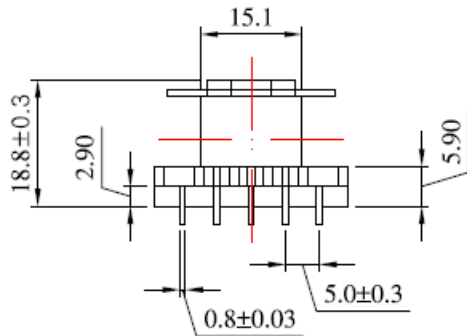
PART NO.

1400651

TYPE

EER3019

23. BOBBIN DIMENSION

CUSTOMER
CHECK

CORE Plus+

DESIGN

CHECK

CONFIRM

APPROVAL

PARK.J.S

YANG.S.J

JANG.C.H

LEE.Y.G

The following Page(s) are related to Miscellaneous-03. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

SPECIFICATIONS	ITEM	LINE FILTER	Rev
	TNC SPEC NO	QV181610A	1

2. ELECTRICAL CHARACTERISTIC

NO	ITEM	TERMINAL	SPECIFICATION			REMARKS
1	RATED VOLTAGE	LINE TO LINE	AC 300V			
2	RATED CURRENT	START-FINISH	2.0A			
3	INDUCTANCE	START-FINISH	16KHz	7.0mH	MIN.	HP-4194A 1V (25℃±2℃)
4	TEMPERATURE RISE	AT RATED CURRENT	55℃ MAX			
5	DC RESISTANCE	START-FINISH	156.0 mΩ MAX			HIOKI 3540 (25℃±2℃)
6	WITHSTANDING VOLTAGE	LINE TO LINE	AC 1,500V 1 MINUTE.			TOS-5101 CUT OFF CURRENT (5mA)

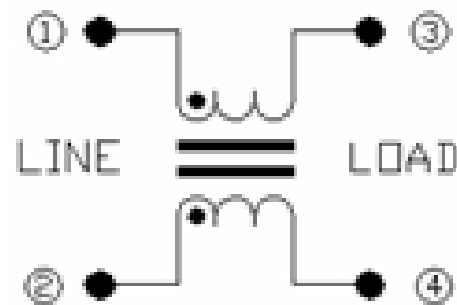
3. OPERATING TEMPERATURE RANGE

-30℃ TO +120℃ INCLUDING TEMPERATURE RISE.

4. KEEP TEMPERATURE RANGE

-30℃ ~ +60℃.

5. CIRCUIT DIAGRAM



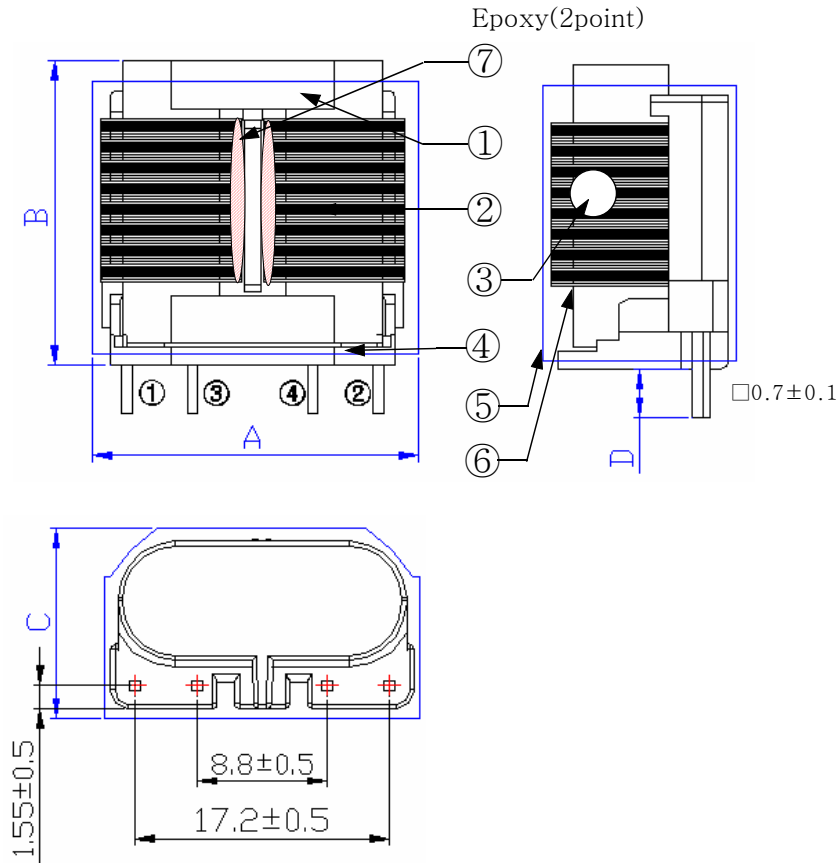
 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
				3/15

SPECIFICATIONS	ITEM		LINE FILTER	Rev
	TNC SPEC NO		QV181610A	1

6. WINDING SPECIFICATION

NO	TERMINAL		WIRE	TURNS	WINDING METHOD	UNBALANCE SPECIFICATION
	START	FINISH				
L1	1	3	UEW 0.20X1.0mm	44Ts Ref	AUTO WINDING	BETWEEN L1 AND L2 (0.23mH MAX)
L2	2	4				

7. SHAPE AND DIMENSION



DIMENSION	A	B	C	D
	25.0mm MAX	19.5mm MAX	16.0mm MAX	Not include solder fillet 2.8 ± 0.5mm

<div>TNC</div> <div>TNC CO.,LTD</div>	DESIGN	CHECK	APPROVAL	PAGE
	<div>RYU.H.E</div> <div>R&D</div>	<div>KANG.S.W</div> <div>R&D</div>	<div>KOO.J.H</div> <div>R&D</div>	4/15

SPECIFICATIONS	ITEM	LINE FILTER	Rev
	TNC SPEC NO	QV181610A	1

8. MATERIAL LIST

No.	NAME	SPECIFICATION		MANUFACTURER	COLOR	UL No.
1	Core Cover	LCP GA130(r)		POLYPLASTICS CO LTD	BLACK	E106764
2	Rectangular Copper Wire	UEW 0.20X1.0mm / 44Ts Ref	SFT- UEWH	WELL ASCENT ELECTRONIC CO LTD	YELLOW	E318511
			1UEWF /180	SHANDONG PENGTAI STOCK CO LTD	YELLOW	E166187
3	Ferrite Core	R12KF SQ1816 HL12 1816SQ		LAIWU CHAINWELL ELECTRONIC&MATERIAL.CO.,Ltd RUYUAN DONGYANGGUANG MAGNETIC MATERIAS CO.,LTD	BLACK	
4	Coil Base	Phenolic (PF 2736(a)(b)) UL 94 V-0 Class		Hexion GmbH	BLACK	E61040
		Phenolic (T375HF) UL 94 V-0 Class		CHANG CHUN Plastics Co.,Ltd	BLACK	E59481
5	Insulation tube	Heat Shrink Tube HKCT2(HF)		HAN KYUNG COMPONENT	BLACK	E222852
6	Impregnant	DVB-2177(M)		NOROO PAINT & COATING CO.,LTD	Transparent	E93947
7	Epoxy	EPOXY RESIN	NA-010	ND Chemical	WHITE BLACK	
			EA610A / EA610B	Chem Tech	WHITE	
A	Marking	Bon Mar Que		T&K Toka	SILVER	
		IR-254WTSPB/MC-254WT		DOMINO	WHITE	

MARKING
181610



 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
				5/15

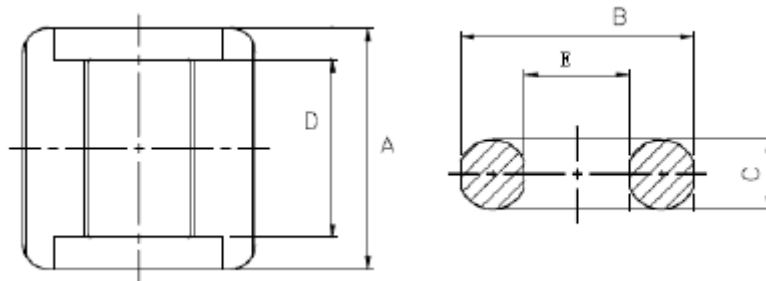
SPECIFICATIONS	ITEM	LINE FILTER	Rev
	TNC SPEC NO	QV181610A	1

15. FERRITE CORE SPECIFICATION

- Characteristics

Symbol	Unit	R12KF SQ1816	HL12 1816SQ
μ_i	-	12,000±30%	12,000±30%
B _{ms}	mT	380	360
H _{cms}	A/m	6.0	4.5
B _{rms}	mT	100	100
T _c	℃	>110	>110
TANδ /μiac	*10 ⁻⁶	<9.0	<7.0
α _{μr}	*10 ⁻⁶ /℃	0~1.5	-0.5~3.0
ρ	Ω.m	0.1	0.15
d	g/cm ³	4.9	4.95

- Dimension



A: 17.8 ±0.30 **B: 16.2 ±0.30** **C: 5.5 ±0.20**
D: 13.0 ±0.20 **E: 6.0 ±0.20**

The following Page(s) are related to Miscellaneous-04. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

SPECIFICATIONS	ITEM	COMMON FILTER	Rev
	TNC SPEC NO	CVA6011RNF2	0

2. ELECTRICAL CHARACTERISTIC

NO	ITEM	TERMINAL	SPECIFICATION			REMARKS
1	RATED VOLTAGE	LINE TO LINE	DC 50V			
2	RATED CURRENT	START-FINISH	6.0A			
3	INDUCTANCE	START-FINISH	160KHz	11.0uH	+ 50%, -30%	HP-4194A 1V (25℃±2℃)
4	TEMPERATURE RISE	AT RATED CURRENT	55℃ MAX			
5	DC RESISTANCE	START-FINISH	16.0 mΩ MAX			HIOKI 3540 (25℃±2℃)
6	WITHSTANDING VOLTAGE	LINE TO LINE	AC 100V 1 MINUNE.			TOS-5101 CUN OFF CURRENT (5mA)

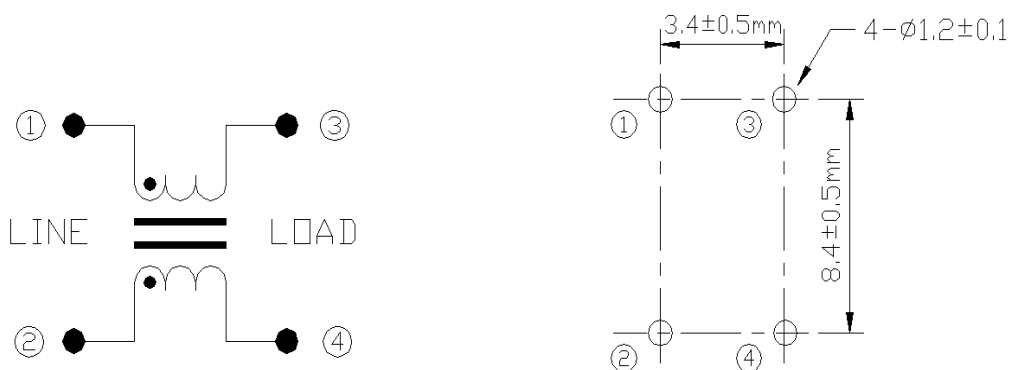
3. OPERATING TEMPERATURE RANGE

-30℃ TO +105℃ INCLUDING TEMPERATURE RISE.

4. KEEP TEMPERATURE RANGE

-30℃ ~ +60℃.

5. CIRCUIT DIAGRAM



Minimum PCB Piercing HOLE

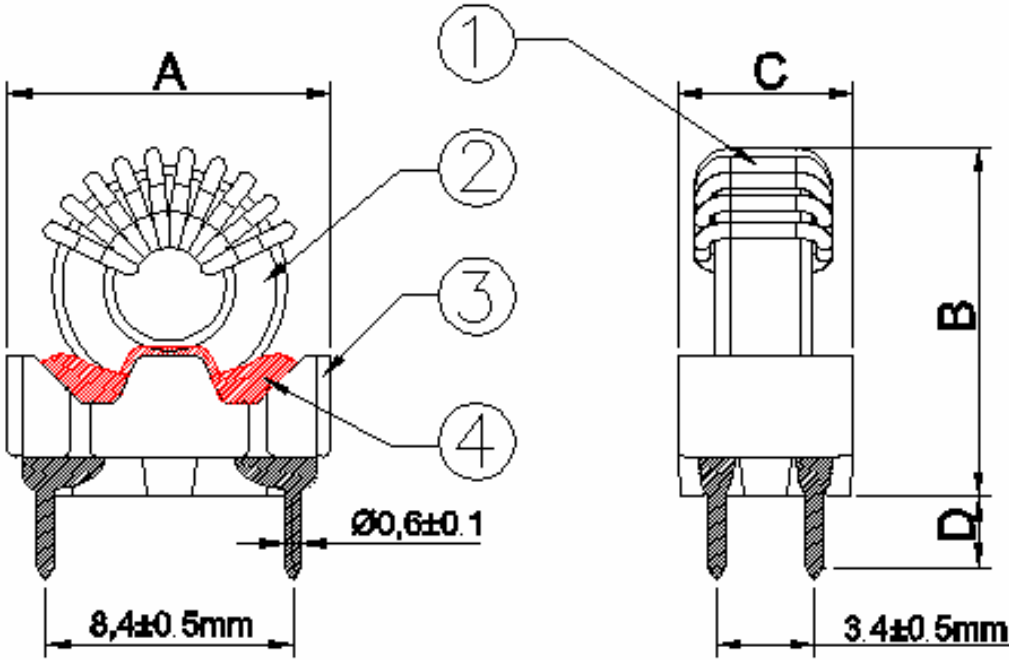
 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
	 RYU.H.E. R&D	 KANG.S.W. R&D	 KOO.J.H. R&D	3/12

SPECIFICATIONS	ITEM		COMMON FILTER	Rev
	TNC SPEC NO		CVA6011RNF2	0

6. WINDING SPECIFICATION

NO	TERMINAL		WIRE	TURNS	WINDING METHOD	UNBALANCE SPECIFICATION
	START	FINISH				
L1	1	3	UEW 0.55Φ (RED)	6 ±1Ts	HANDMADE	BETWEEN L1 AND L2 (1.99uH MAX)
L2	2	4	UEW 0.55Φ (NATURAL)			

7. SHAPE AND DIMENSION



DIMENSION	A	B	C	D
	11.5mm MAX	13.0mm MAX	6.5mm MAX	Not include solder fillet 2.8 ± 0.5mm

<div>TNC</div> <div>TNC CO.,LTD</div>	DESIGN	CHECK	APPROVAL	PAGE
	<div>RYU.H.E</div> <div>R&D</div>	<div>KANG.S.W</div> <div>R&D</div>	<div>KOO.J.H</div> <div>R&D</div>	4/12

SPECIFICATIONS	ITEM	COMMON FILTER	Rev
	TNC SPEC NO	CVA6011RNF2	0

8. MATERIAL LIST

No.	NAME	SPECIFICATION		MANUFACTURER	COLOR	UL No.
1	Enamel Wire	UEW 0.55Φ / 6±1Ts	UEW	Hwa Il Electronics Co.,Ltd	YELLOW RED	E140246
			UEW	SHANDONG PENGTAI STOCK CO LTD	YELLOW RED	E166187
2	Ferrite Core	L7H T 8x3x4-K K081 T 8X4X3UC		Korea TDK Co., Ltd ACME Electronics Corporation	WHITE	
3	Coil Base	Phenolic (PF 2736(a)(b)) UL 94 V-0 Class		Hexion GmbH	BLACK	E61040
		Phenolic (T375HF) UL 94 V-0 Class		CHANG CHUN Plastics Co.,Ltd	BLACK	E59481
4	Epoxy	EPOXY RESIN	NA-010	ND Chemical	WHITE	
			EA610A / EA610B	Chem Tech	Transparent	

 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
				5/12

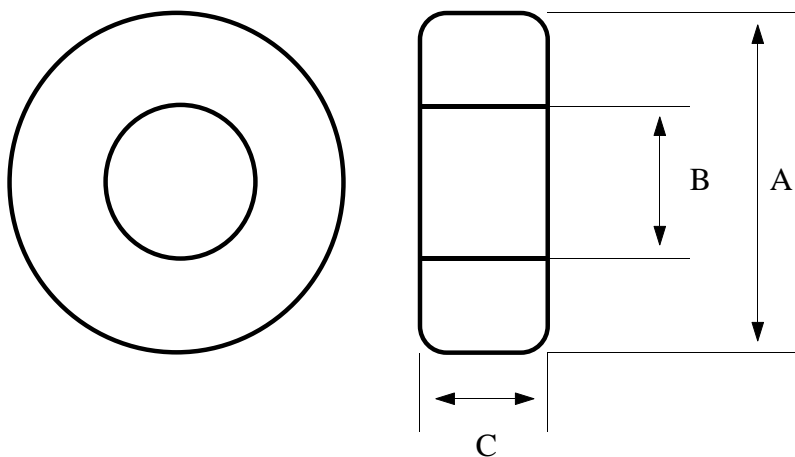
SPECIFICATIONS	ITEM	COMMON FILTER	Rev
	TNC SPEC NO	CVA6011RNF2	0

14. FERRITE CORE SPECIFICATION

- Characteristics

Symbol	Unit	L7H T 8/3/4 - K	K081 T8*4*3UC
μ_i	-	800±25%	800±25%
B _{ms}	mT	390	410
H _{cms}	A/m	16	27
B _{rms}	mT	220	272
T _c	℃	>180	>190
TANδ /μiac	*10 ⁻⁶	<80	<80
α _{μr}	*10 ⁻⁶ /℃	7~15	7~15
ρ	Ω.m	10 ⁵	10 ⁶
d	g/cm ³	5.1	5.1

- Dimension (Before Coating)



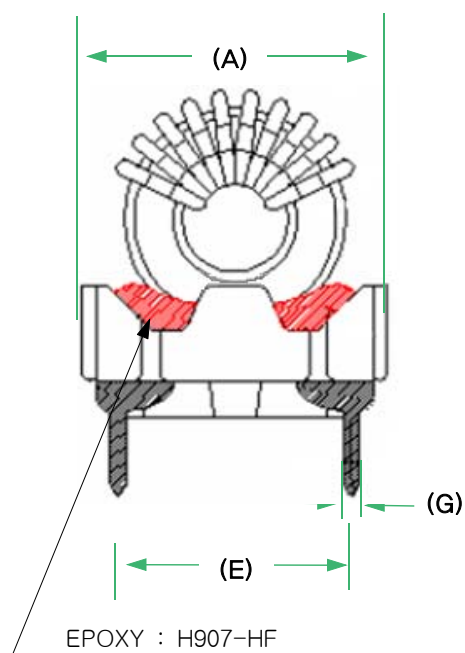
A: 8.0 ±0.4 B: 4.0 ±0.2 C: 3.0 ±0.3

The following Page(s) are related to Miscellaneous-05. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

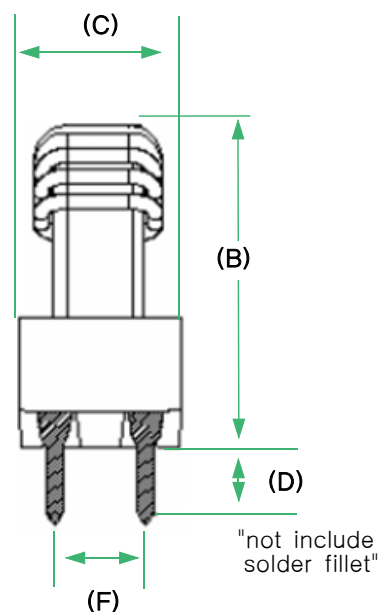
SPECIFICATIONS		SHEET NO.	6 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

6. APPEARANCE & DIMENSION (UNIT:mm)

<< FRONT VIEW >>



<< SIDE VIEW >>



	A	B	C	D	E	F	G
DIMENSION	11.5mm MAX	13.0mm MAX	6.7mm MAX	2.8 ±0.5	8.4 ±0.5	3.4 ±0.5	Φ0.6 ±0.1



HEFEI PHOENIX ELECTRONICS
TECHNOLOGY CO LTD

QiShan Road Juchao Economy development area ChaoHu
Hefei, Anhui 230000 CHINA

DESIGN

QQ.GAO

FILE NO.

CHECK

SJ.KIM

APPROVAL

HL.PARK

SPECIFICATIONS		SHEET NO.	7 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

7. METHOD OF WORK



(TOP VIEW)



(SIDE VIEW)



(BOTTOM VIEW)



(FRONT VIEW)



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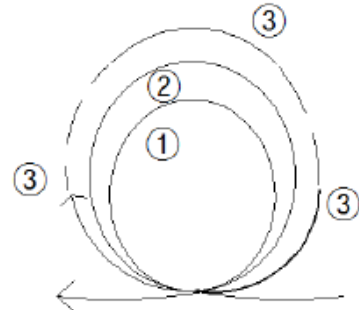
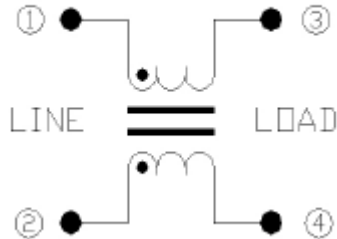
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HL.PARK

SPECIFICATIONS		SHEET NO.	8 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

8. SCHEMATIC DIAGRAM



WINDING	BASE VIEW C.W
CUTTING PIN	-
N.C PIN	-
TUBE PIN	-

9. WINDING SPECIFICATION

WINDING ORDER	SYMBOL	TERMINAL NO		WIRE	TURNS	WINDING METHOD	REMARKS
		START	FINISH				
W1	L1	1	3	1UEW 0.55φ (RED)	6 ± 1	BIFILAR	HANDMADE
W2	L2	2	4	1UEW 0.55φ (NATURAL)			
WIRE SPECIFICATION		CONDUCTOR					
		WIRE		DIAMETER(mm)	TOLERANCE OF DIAMETER(mm)		
		1UEW		0.55	±0.004		

* REGARDING ABOVE TABLE STANDARD THICKNESS OF WIRE MUST BE OVER SPECIFICATION RANGE.



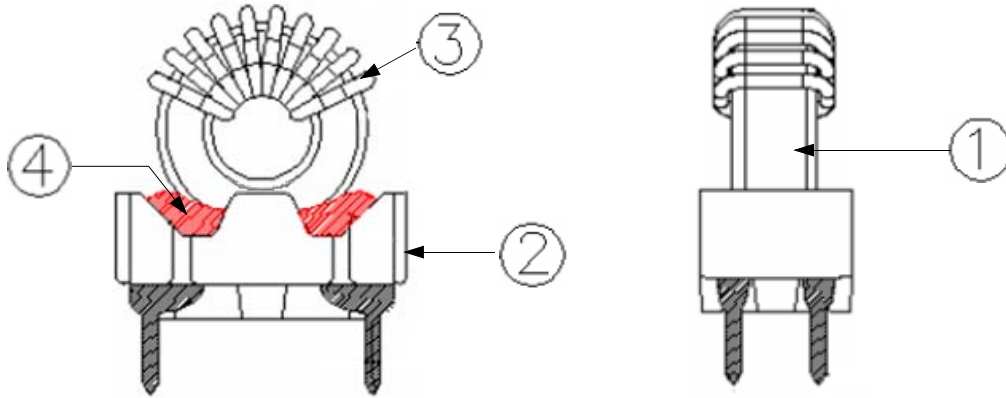
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DESIGN	CHECK	APPROVAL
QQ.GAO	SJ.KIM	HL.PARK
FILE NO.		

SPECIFICATIONS		SHEET NO.	12 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

15. MATERIAL LIST



No	Component	Name of Material	Manufacturer Component	Manufacturer of Site	Class	UL file No
1	Core	T8x4x3 HP-10	HUZHOU HANGYU ELECTRONICS CO.,LTD	CHINA		
		T8x4x3 L800	HAININ LIANFENG MAGNET INDUSTRY CO.,LTD	CHINA		
2	BASE	94V-0 PHENOLIC (T375HF), 4p	CHANG CHUN Plastics Co.,Ltd	CHINA		E59481
		94V-0 PHENOLIC (PF 2736(a)(b)), 4p	HEXION GMBH	GERMANY		E61040
3	Wire	POLYURETHANE 1UEW 0.55Φ	HANGZHOU HONGTONG WIRE & CABLE CO.,LTD	CHINA		E326617
			SHANDONG SAINT ELECTRIC CO.,LTD	CHINA		E194410
			GUANGZHOU WANBAO ENAMELLED WIRE CO LTD	CHINA		E167402
4	EPOXY	H907-HF	DONG GUAN HUA CHUANG ELECTRONIC MATERIAL FACTORY			
5	Solder	LEAD FREE	ZHEJIANG QIANGLI ELECTRONIC MATERIAL CO.,LTD			
6	Flux	DA-800A	HUI ZHOU QIANGDA ELECTRONICS INDUSTRY CO.,LTD	CHINA		



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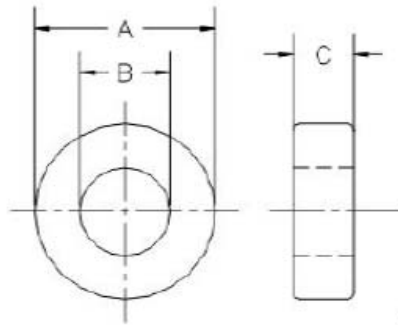
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FILE NO.

SPECIFICATIONS		SHEET NO.	13 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

16. CORES DIMENSIONS (UNIT:mm)

喷涂前

A:8.0±0.3mm B:3.0±0.3mm C:4.5±0.2mm

喷涂后

A:8.15±0.3mm B:3.15±0.3mm C:4.35±0.25mm

ITEM	SYMBOL	TEMP.	Freq.	LIANFENG (L800)	HANGYU (HP10)
INITIAL PERMEABILITY	μ_i	25 °C	≤10KHz	800±25%	800±25%
SATURATION FLUX DENSITY	B _{ms} (mt)	25 °C	10KHz	410	410
RESIDUAL FLUX DENSITY	Br _{ms} (mt)	25 °C	10KHz	272	272
COERCIVITY	H _c (A/m(Oe))	25 °C	10KHz	21	21
RELATIVE LOSS FACTOR	$\frac{\tan\delta}{\mu_i}$ (10 ⁻⁶ / °C)	25°C	100KHz	17	17
TEMPERATURE FACTOR OF PERMEABILITY	a _F (10 ⁻⁶ / °C)	20°C~60°C	10KHz	8	8
CURIE TEMPERATURE	T _c (°C)			≥190	≥190
ELECTRICAL RESISTIVITY	ρ (Ω·m)			> 10 ⁶	> 10 ⁶
APPARENT DENSITY	d (g/cm ³)			5.10	5.10



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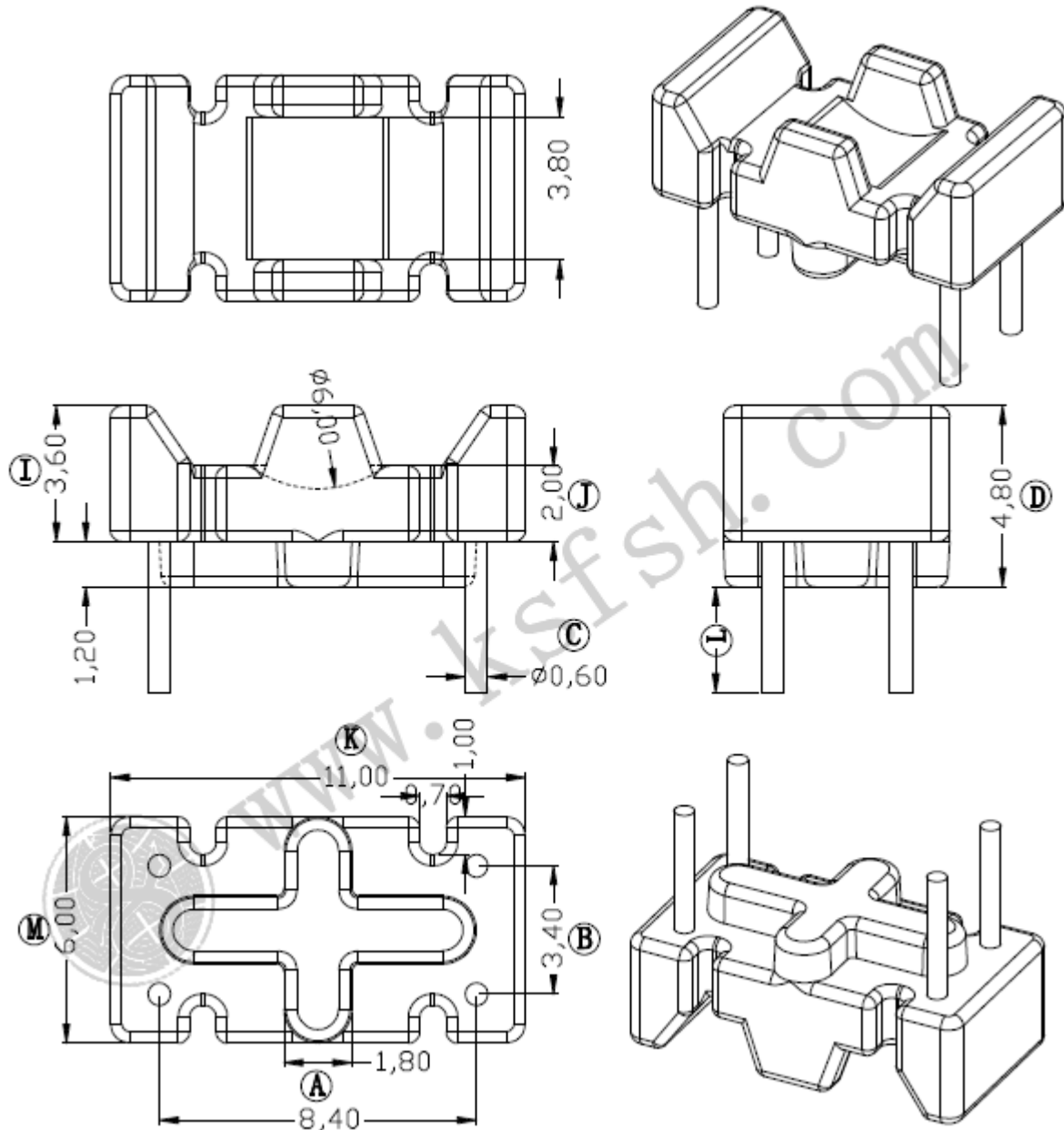
HL.PARK

FILE NO.

SPECIFICATIONS

DESCRIPTION	COMMON FILTER	SHEET NO.	1 OF 26
		DATE	2018. 11. 16.
CODE NO.	1420830	MODEL	A3514_RPN
		TYPE	T8Φ

17. BASE DIMENSIONS (UNIT:mm)



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FILE NO.



NETWORK CAMERA
MODEL: XNP-9250R
PoE (55V ) 0.72A



M/C: XNP-9250R/KUS Fac. ID: D



DATE S/N: Serial No.
MAC ADDRESS: XX-XX-XX-XX-XX-XX
CAN ICES-3(A)/NMB-3(A)
HANWHA TECHWIN CO.,LTD.
MADE IN KOREA



The following Page(s) are related to Miscellaneous-07. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

Standard SCC Requirements and Guidance - Product Certification Body Accreditation Program Edition/ Revision Date 2016-04-06

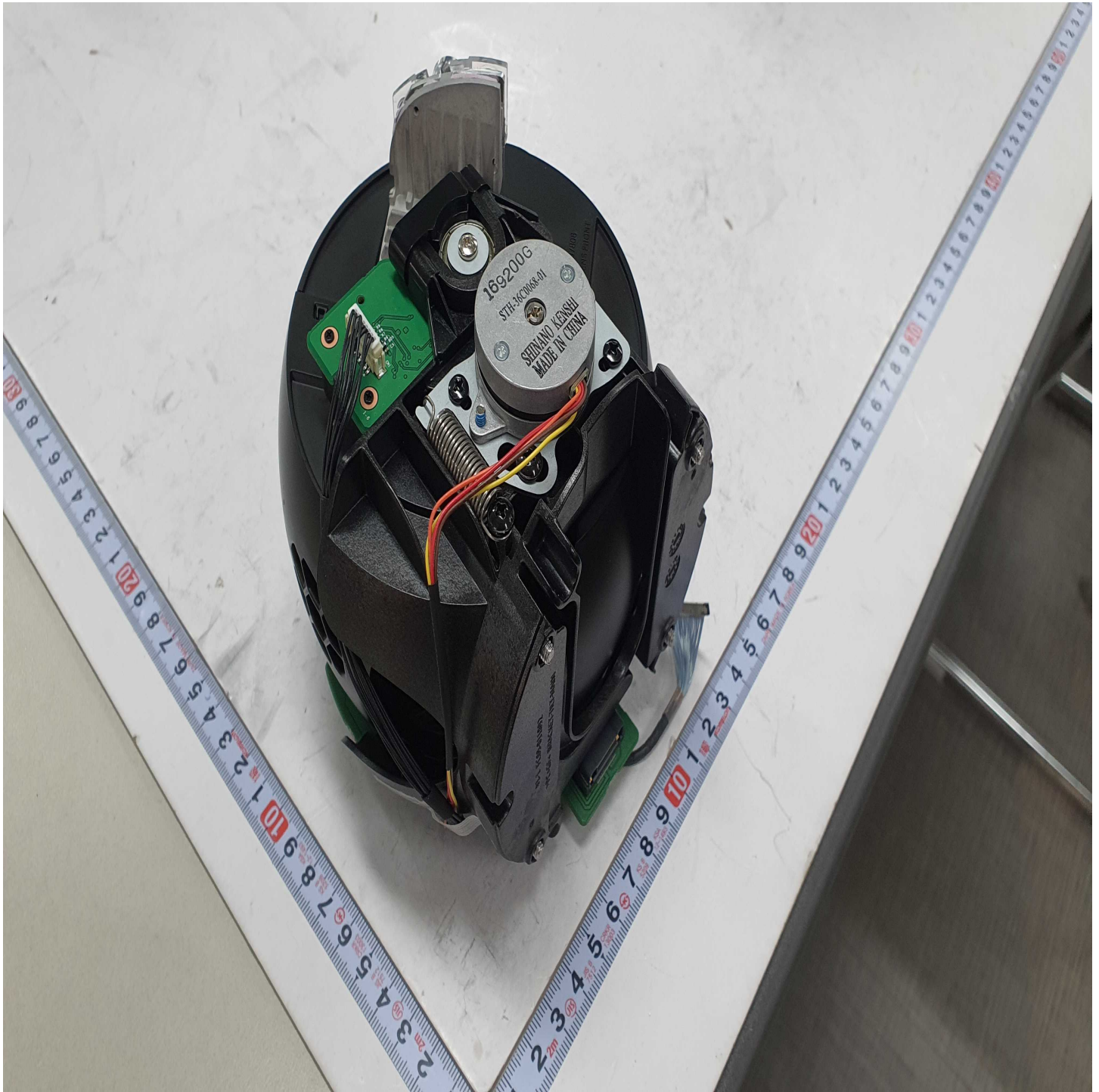
Clause/Par. Reference and Construction Requirement	Comply			Comments/Measurements	Inst. ID No.
	Yes	No	N/A		
9.2.3 CBs shall include dual language safety labeling within their product certification requirements, if so required by the standard or by the authority having jurisdiction.					
The manufacturer has confirmed they have the ability to include English and French safety labeling exactly as specified in the product standard; or, if NOT specified in the product standard, the ability to include English and French safety labelling consisting of markings associated with the signal words DANGER, WARNING, and CAUTION when required.	X			The ability of the manufacturer to include these markings was verified by either (1) visual inspection of the markings on the actual product or (2) draft of labels that will be applied to the product or (3) written confirmation from the customer of the markings that will appear on the product. If the product standard provides the exact translation, the evidence must match the exact translation. If the product standard does NOT provide the exact translation, the evidence must simply include both the English and French text (no verification of translation is required).	N/A

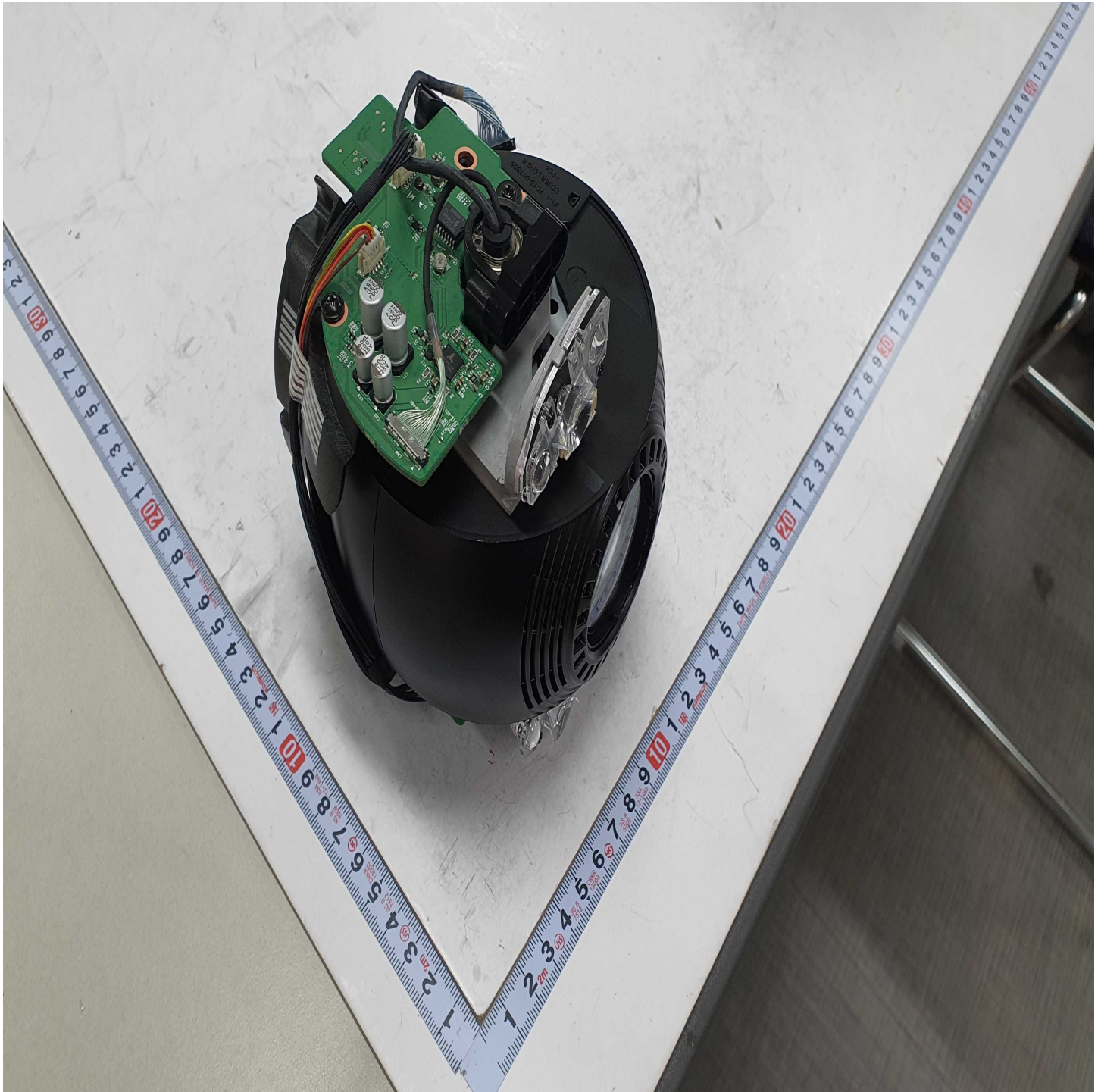
Clause/Par. Reference and Construction Requirement	Comply			Comments/Measurements	Inst. ID No.
	Yes	No	N/A		
Manufacturer has a method to manage distribution of products, IF all products with the Canadian certification mark are NOT going to include the dual language.	X			Evaluation staff are to only verify that the manufacturer has a method to control distribution. Evaluation staff do not have to record the method of control nor are the evaluation staff expected to verify the effectiveness of the method of control. This requirement to verify that a method exists will be noted in the FUS Procedure. The UL Field Engineer will verify the method during surveillance. If the manufacturer is going to include the dual language on all products with the Canadian certification mark, then this item is N/A; no further action required.	N/A



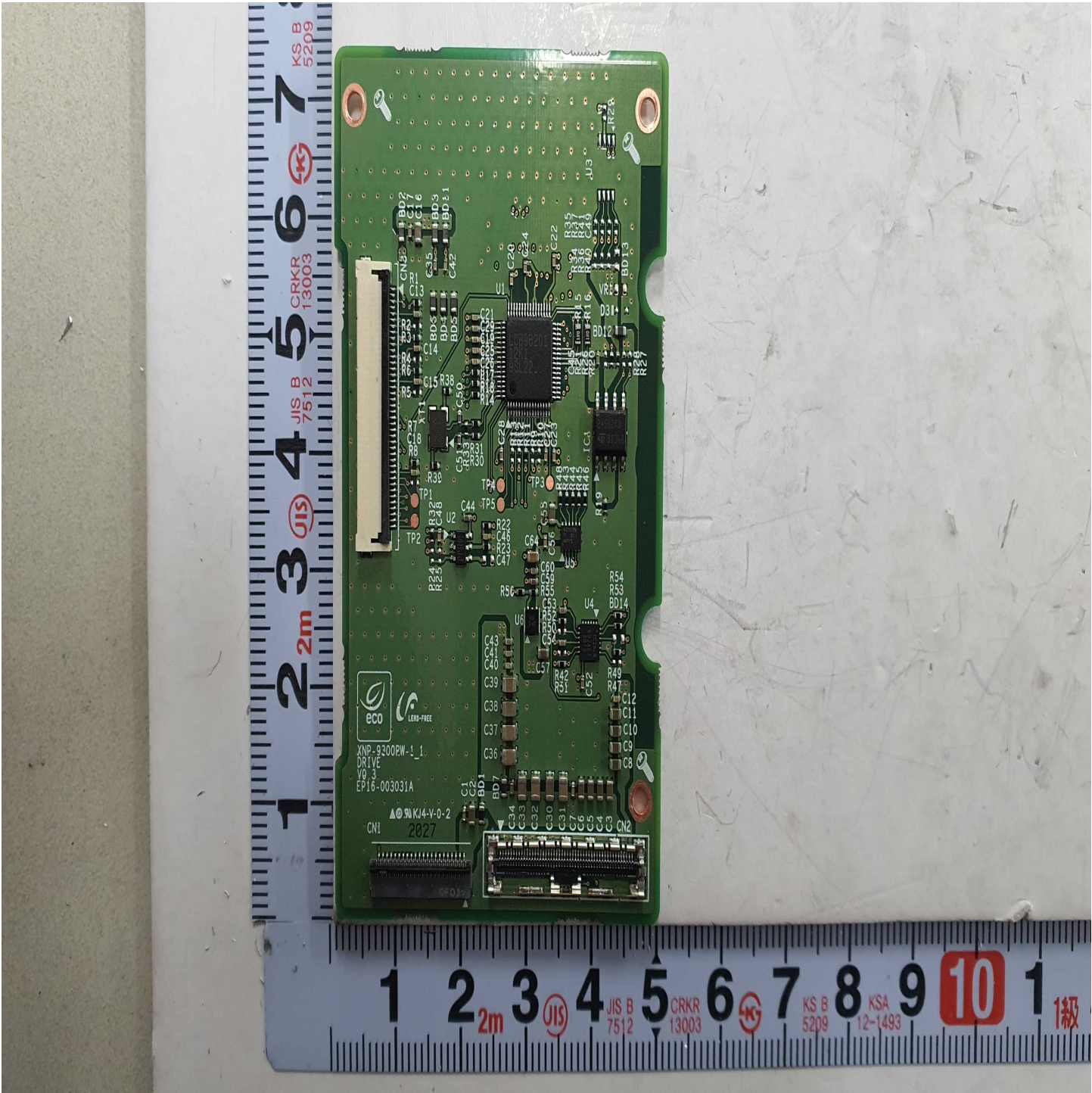


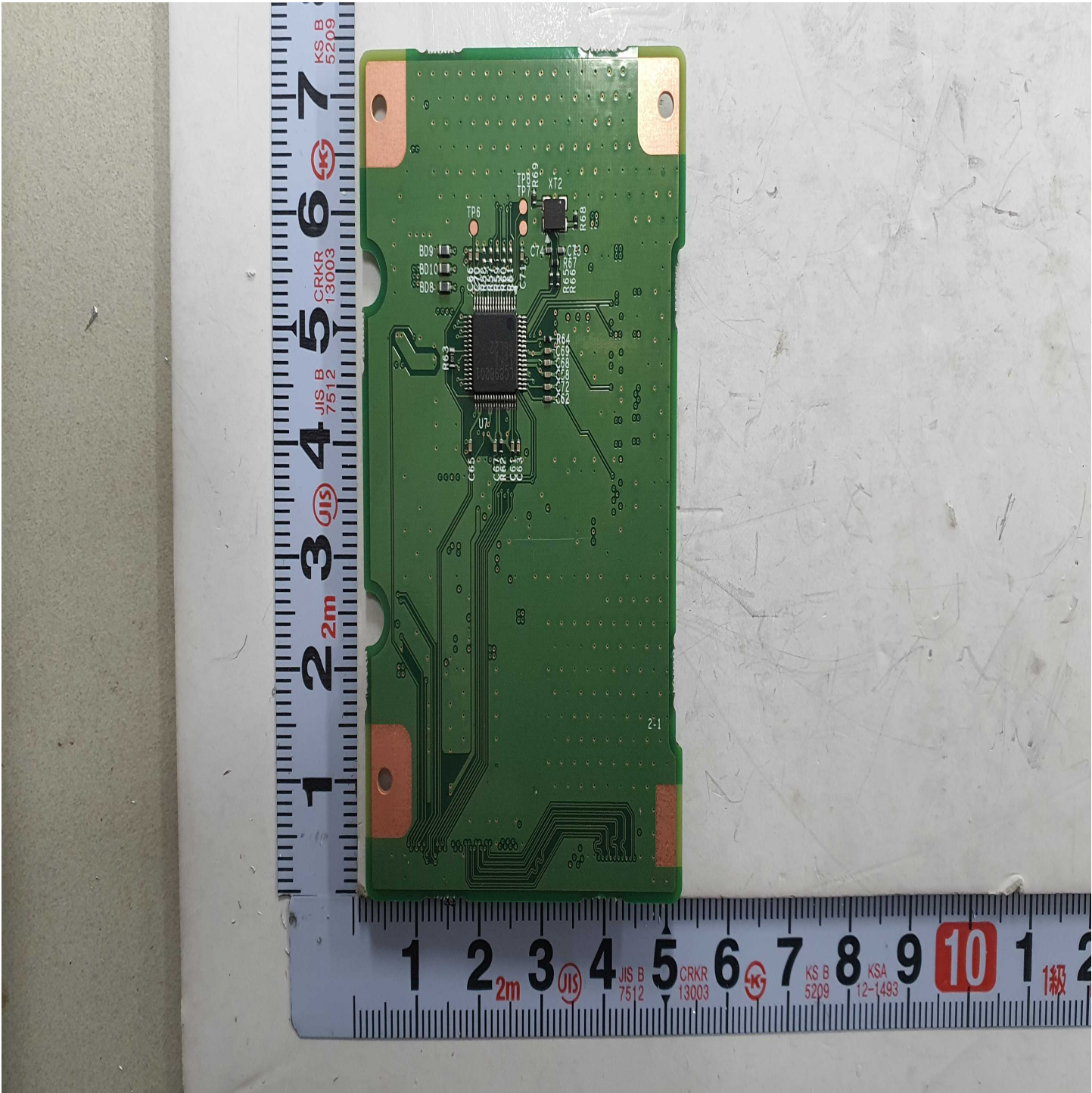


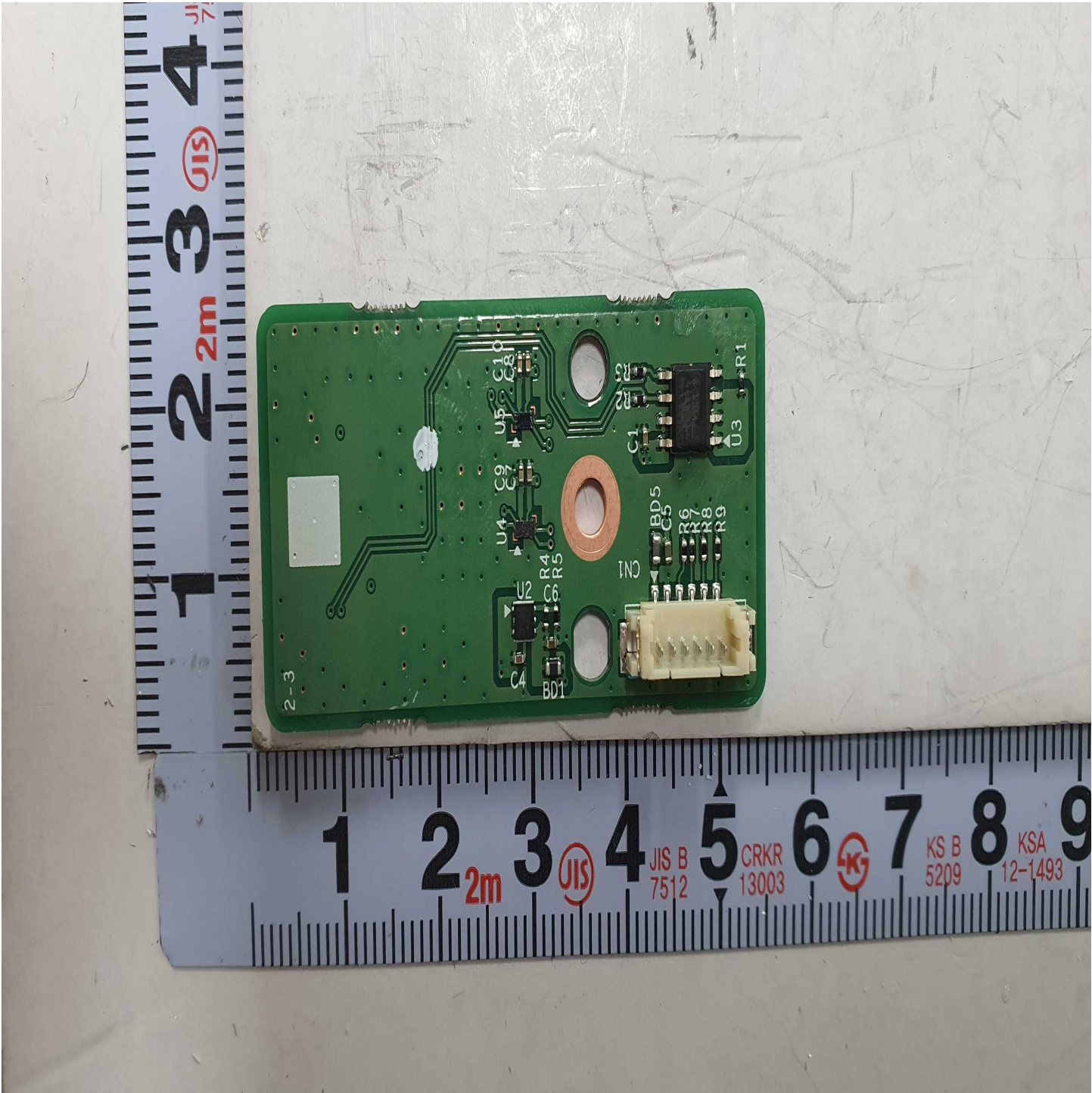


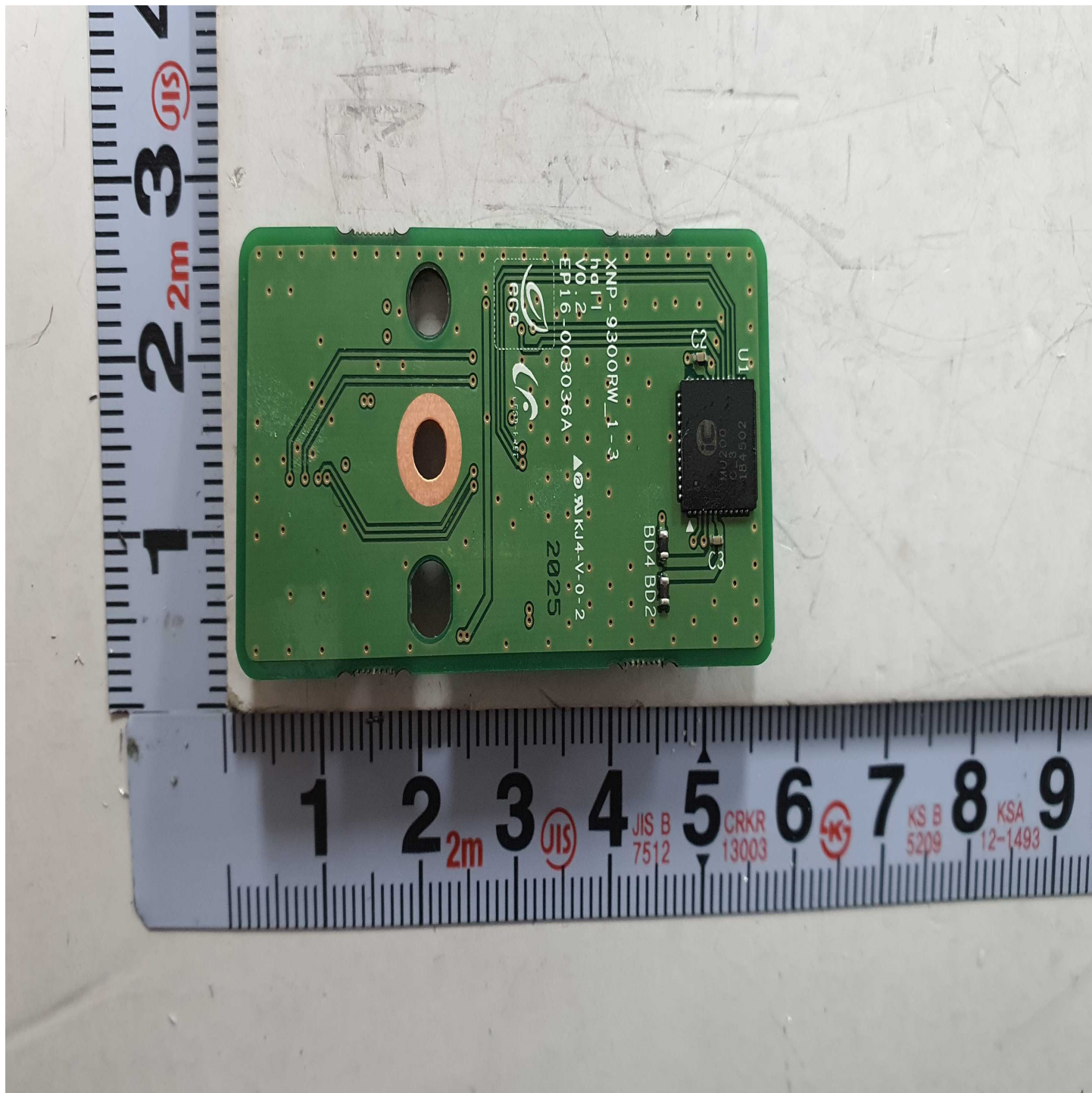


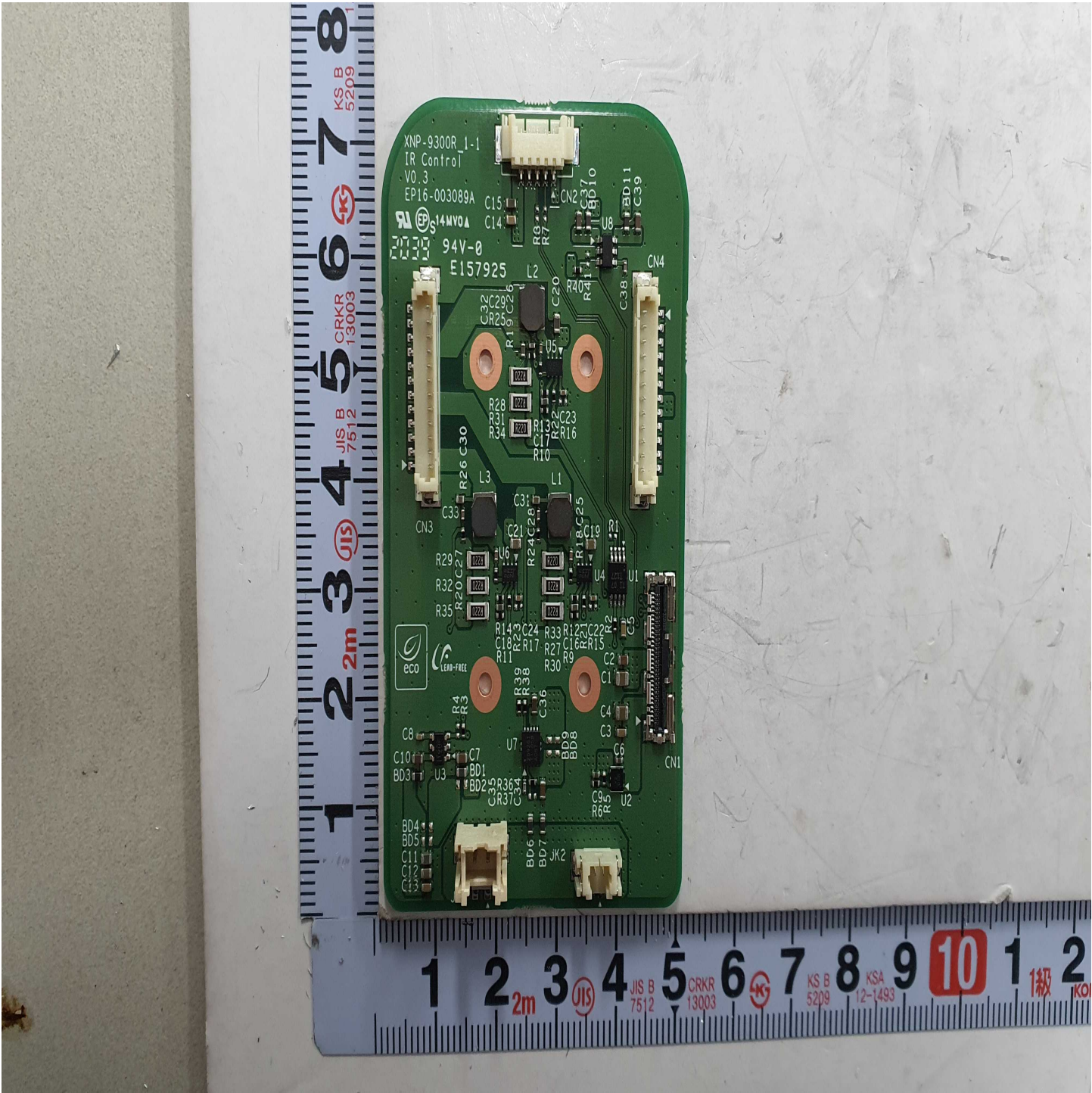




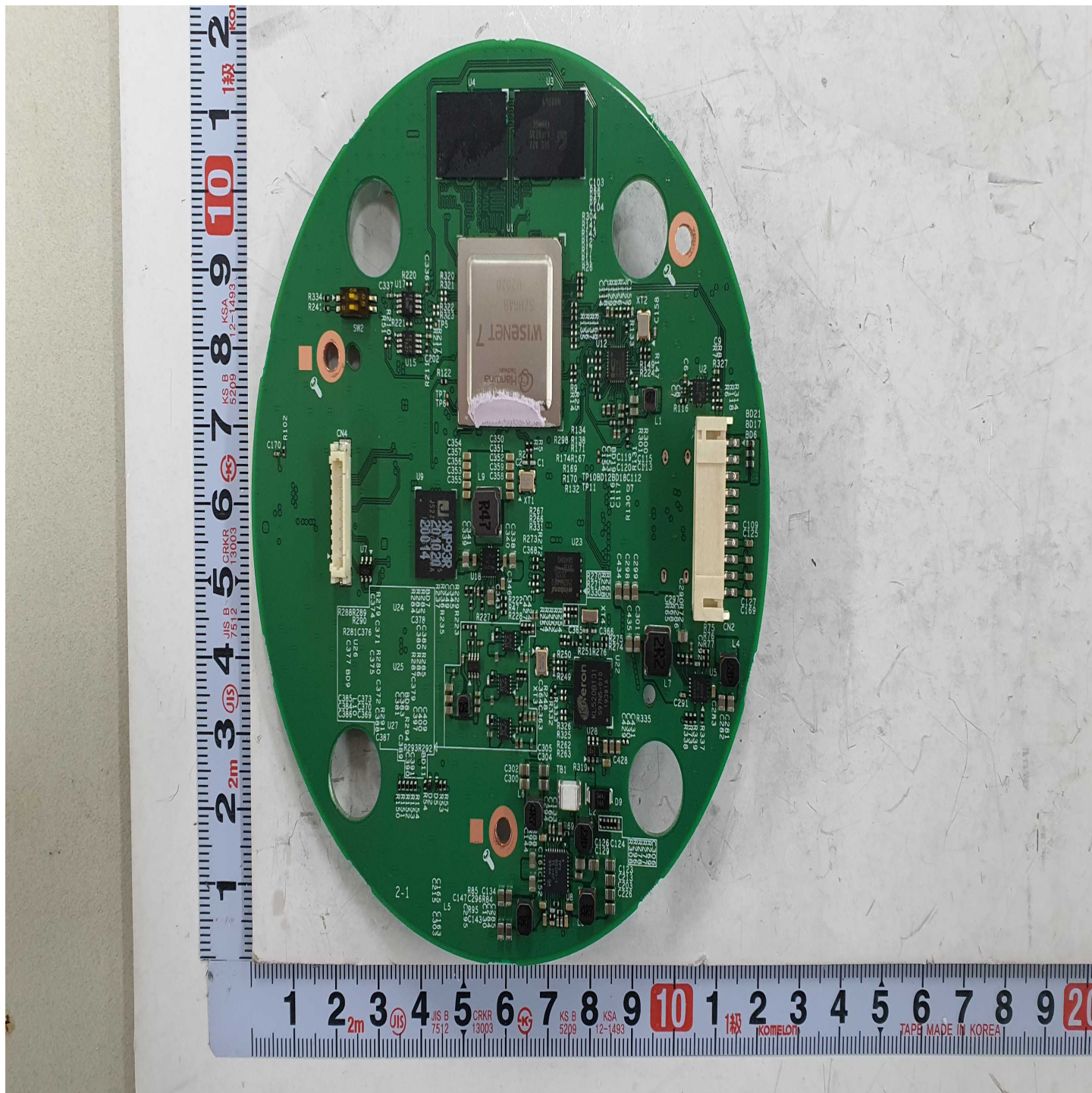




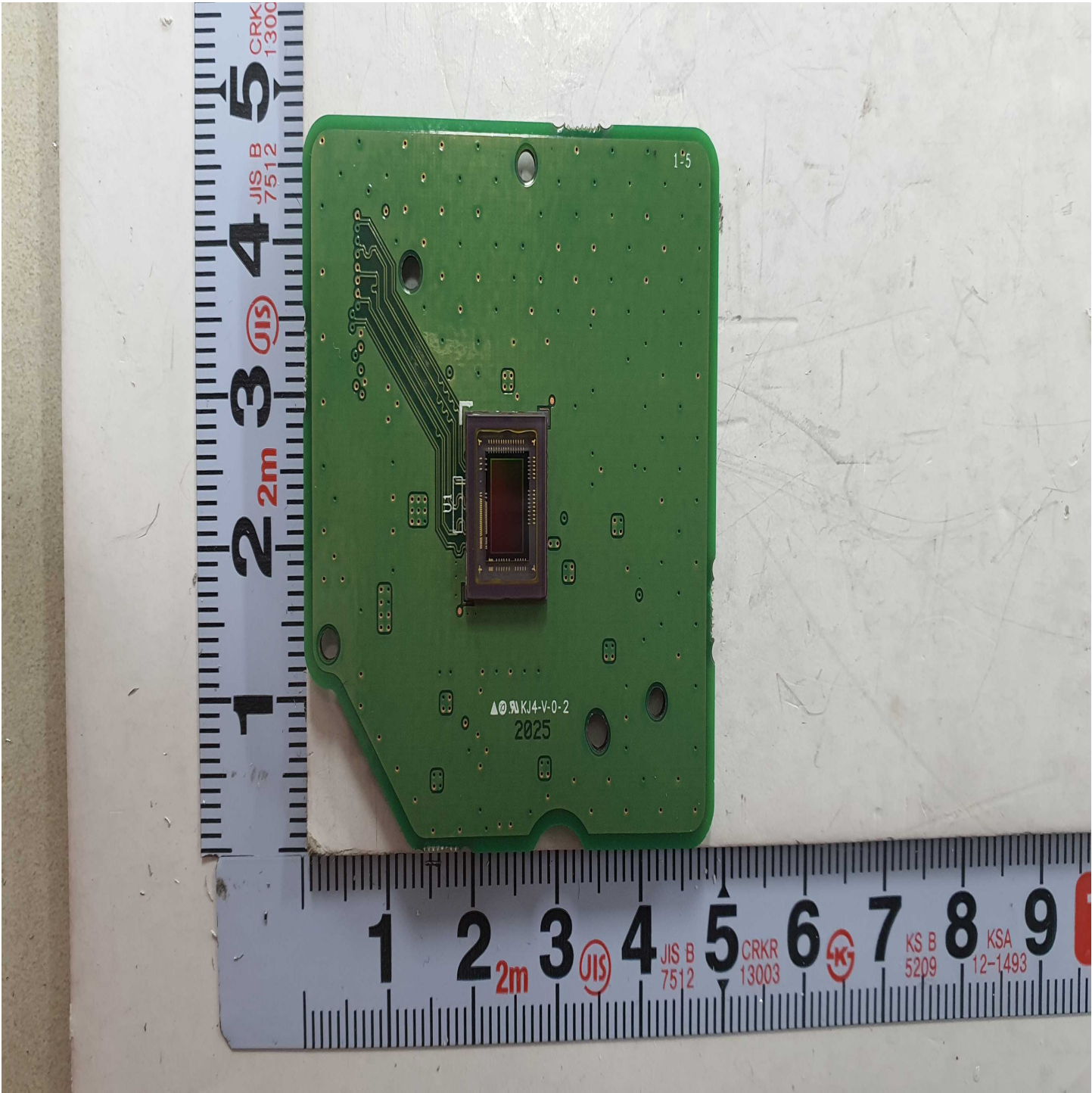


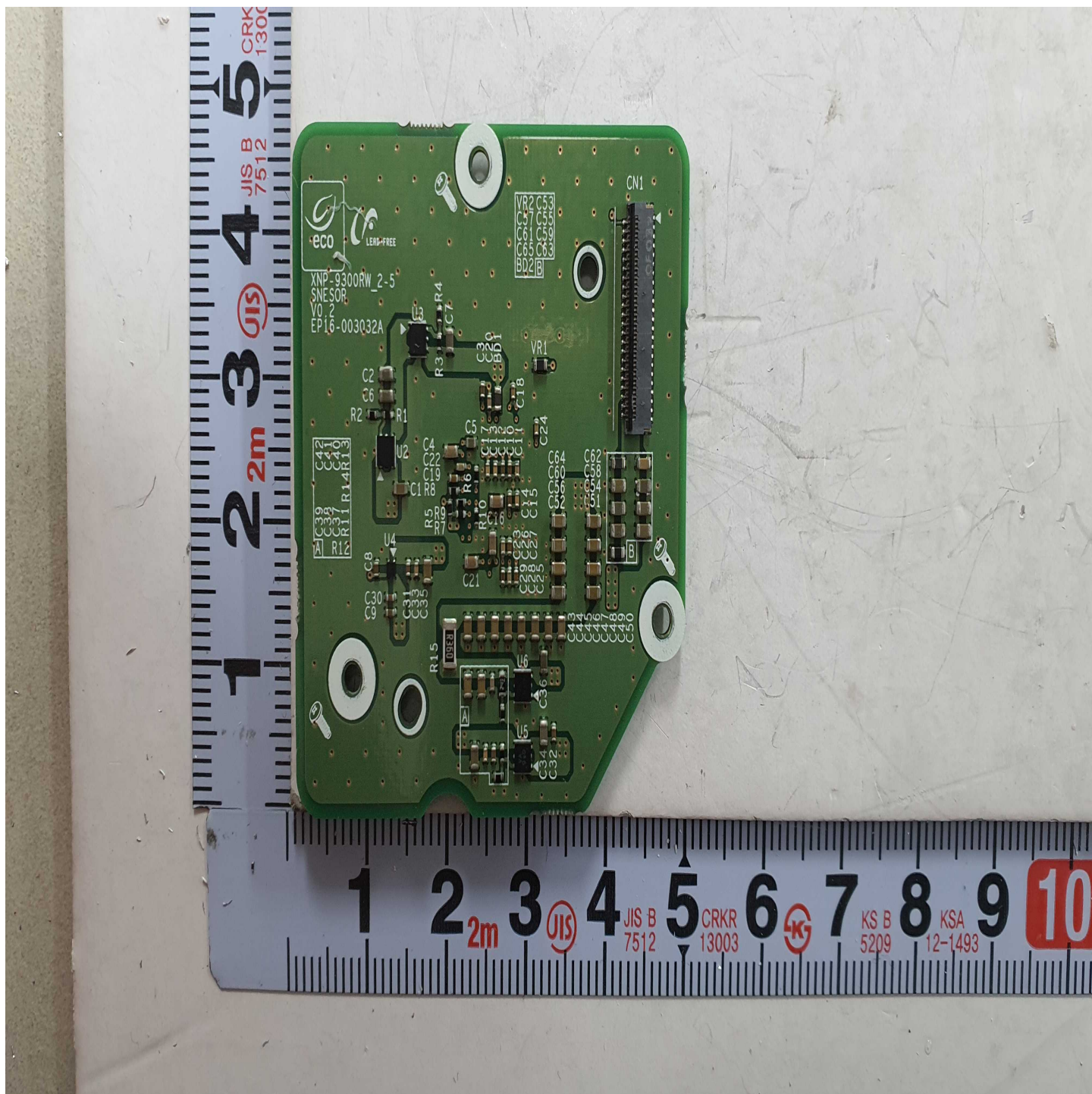


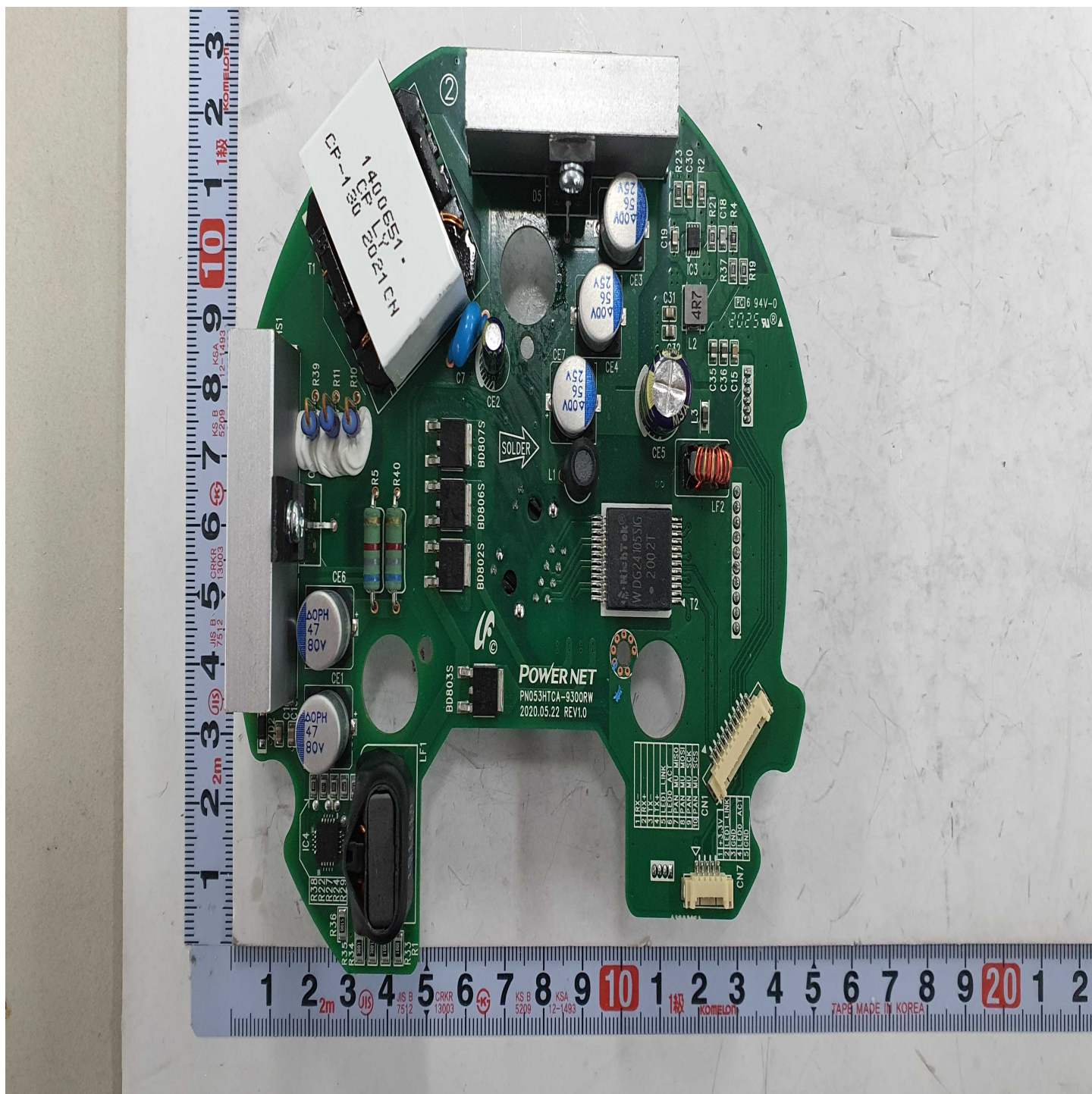


















Test Record No. 1

1. Test result relate only to the items tested.
2. The manufacturer submitted representative production samples of NETWORK CAMERA, XNP-9250R.
3. Only the test listed were considered necessary.

The following tests were conducted:

Tests performed (name of test and test clause):	Testing location: CTK Co., Ltd., 386-1 Ho-dong Yongin-shi, Kyungki-do, 449-100, Korea
MAXIMUM OPERATING TEMPERATURE FOR MATERIALS, COMPONENTS AND SYSTEMS (5.4.1.4, 6.2, 9.2.5 ANNEX B.2)	
DETERMINATION OF WORKING VOLTAGE (5.4.1.8)	
WALL OR CEILING MOUNTING TESTS (8.7)	
INPUT TEST: SINGLE PHASE (B.2.5)	
SIMULATED ABNORMAL OPERATING CONDITIONS (B.3)	
SIMULATED SINGLE FAULT CONDITIONS (B.4)	
PROTECTION CIRCUITS FOR BATTERIES (ANNEX M.3.2)	
The following tests were waived:	Rationale for Waiving

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following supplements are provided as part of this Test Record. NOTE: These supplements are only available to the Applicant via the myUL™ Client Portal.

Type	Supplement Id	Description
Datasheet	02-01	Datasheet

