



Thank you for giving UL the opportunity to partner with you.

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:

Oracle Project Number 4790780129

E158873-volX13-Index
E158873-20230420-CertificateofCompliance
E158873-A6158-DescriptionUL
Figure-39-Total
E158873-A6158-TestRecordUL

This material is provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Times change, Trust Remains™

File		Volume	Page	Date:
E158873	Index	X13	1	20-Apr-23

Index

Product Type	Model/Type Reference	Report Reference #	Status
NETWORK VIDEO RECORDER	XRN-6410B4, XRN-3210B4	E158873-A6027-UL	
NETWORK VIDEO RECORDER	PRN-6410B4, PRN-3210B4, XRP-4210B4, PRN-6400B4, PRN-3200B4	E158873-A6028-UL	
NETWORK VIDEO RECORDER	XRN-6410DB4	E158873-A6029-UL	
NETWORK VIDEO RECORDER	PRN-6410DB4, XRP-4310DB4, PRN-6400DB4	E158873-A6030-UL	
NETWORK CAMERA	PNM-9002VQ	E158873-A6031-UL	
NETWORK CAMERA	XNF-9010RV, XNF-9010RVM, XNF-9010RS	E158873-A6032-UL	
NETWORK CAMERA	PNM-9000QB	E158873-A6033-UL	
NETWORK CAMERA	XNP-9300RW, XNP-8300RW, XNP-6400RW	E158873-A6034-UL	
NETWORK CAMERA	TNV-8010C, TNV-8011C	E158873-A6035-UL	
OUTDOOR NETWORK CAMERA	PNM-8082VT	E158873-A6036-UL	
THERMAL CAMERA	TNM-3620TDY	E158873-A6037-UL	
DIGITAL VIDEO RECORDER	HRX-1621* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6038-UL	
NETWORK CAMERA	PNM-9022V	E158873-A6039-UL	
NETWORK CAMERA	PNM-9322VQP	E158873-A6040-UL	
DIGITAL VIDEO RECORDER	HRX-821* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6041-UL	
NETWORK I/O BOX	SPM-4210	E158873-A6042-UL	
NETWORK VIDEO RECORDER	XRN-2011*, XRN-2010*, XRN-3010*, XRN-1610*, XRN-2010P/DM, XRN-3010P/DM, XRN-3010A, XRN-2011A, XRN-2010A, XRN-1610A (* is blank or N or P: N=NTSC, P=PAL)	E158873-A6043-UL	
PUBLIC VIEW MONITOR	SMT-2730PV	E158873-A6044-UL	
PUBLIC VIEW MONITOR	SMT-3230PV	E158873-A6045-UL	
CAMERA HOUSING	SHB-9000H	E158873-A6046-UL	
PUBLIC VIEW MONITOR	SMT-1030PV	E158873-A6047-UL	
NETWORK CAMERA	XNP-9250R, XNP-8250R, XNP-6400R	E158873-A6049-UL	
NETWORK CAMERA	XNP-9250, XNP-8250, XNP-6400	E158873-A6050-UL	
NETWORK CAMERA	ONO-9081R	E158873-A6051-UL	
NETWORK CAMERA	ONV-9081R	E158873-A6052-UL	
NETWORK VIDEO RECORDER	XRN-1620B2	E158873-A6053-UL	

File		Volume	Page	Date:
E158873	Index	X13	2	20-Apr-23

NETWORK VIDEO RECORDER	XRN-1620SB1	E158873-A6054-UL	
NETWORK VIDEO RECORDER	XRN-820S	E158873-A6055-UL	
NETWORK CAMERA	SCO-6020	E158873-A6056-UL	
NETWORK CAMERA	TNF-9010	E158873-A6057-UL	
NETWORK VIDEO RECORDER	PRN-3210B2, PRN-1610B2, XRN-6410RB2, XRN-3210RB2, XRN-6410B2, XRN-3210B2, PRN-3200B2, PRN-3205B2, PRN-1600B2, PRN-1605B2	E158873-A6058-UL	
NETWORK CAMERA	PNB-A6001	E158873-A6059-UL	
NETWORK CAMERA	PND-A6081RV, PND-A6081RF	E158873-A6060-UL	
NETWORK CAMERA	PNO-A6081R	E158873-A6061-UL	
LENS MODULE	SLA-T2480*, SLA-T2480V*, SLA-T4680*, SLA-T4680V*, SLA-T4680D, SLA-T4680DW, SLA-T4680DS, SLA-T2415, SLA-T2815B, SLA-T2480A, SLA-T2480VA, SLA-T4680A, SLA-T4680VA (* is blank or N or P: N = NTSC, P=PAL)	E158873-A6062-UL	
NETWORK CAMERA	PNV-A6081R	E158873-A6063-UL	
NETWORK CAMERA	XNB-6001*, XNB-H6240A, XNB-H6242A	E158873-A6064-UL	
NETWORK THERMAL CAMERA	TNO-3030T, TNO-3020T, TNO-3010T, TNO-3040T, TNO-3050T	E158873-A6067-UL	
NETWORK CAMERA	QNP-6320, QNP-6250, QNP-6251	E158873-A6068-UL	
NETWORK CAMERA	QNP-6320H, QNP-6250H, QNP-6251H	E158873-A6069-UL	
NETWORK CAMERA	XNV-C9083R, XNV-C8083R, XNV-C7083R, XNV-C6083R, XNV-C6083	E158873-A6070-UL	
NETWORK CAMERA	TID-600R	E158873-A6071-UL	
DIGITAL VIDEO RECORDER	HRX-1632, HRX-835	E158873-A6072-UL	
LED MONITOR	SMT-4343	E158873-A6073-UL	
NETWORK CAMERA	TNO-7180R, TNO-7180RLP	E158873-A6075-UL	
NETWORK CAMERA	XND-C9083RV, XND-C8083RV, XND-C7083RV, XND-C6083RV	E158873-A6076-UL	
NETWORK CAMERA	PNM-9031RV	E158873-A6077-UL	
NETWORK CAMERA	QNO-7082R	E158873-A6078-UL	
NETWORK CAMERA	QND-7082R	E158873-A6080-UL	
NETWORK CAMERA	QNV-7082R	E158873-A6081-UL	
NETWORK CAMERA	XNO-C9083R, XNO-C8083R, XNO-C7083R, XNO-C6083R	E158873-A6082-UL	
NETWORK CAMERA	XNV-9083R, XNV-8083R, XNV-8093R, XNV-6083R	E158873-A6083-UL	
NETWORK CAMERA	XND-9083RV, XND-8083RV, XND-8093RV, XND-6083RV	E158873-A6084-UL	
NETWORK CAMERA	QNO-7032R, QNO-7022R, QNO-7012R	E158873-A6088-UL	

File		Volume	Page	Date:
E158873	Index	X13	3	20-Apr-23

NETWORK CAMERA	XNB-9003, XNB-8003, XNB-6003	E158873-A6089-UL	
NETWORK CAMERA	XNO-9083R, XNO-8083R, XNO-6083R	E158873-A6091-UL	
NETWORK CAMERA	QNV-7012R, QNV-7022R, QNV-7032R	E158873-A6092-UL	
NETWORK CAMERA	QND-7012R, QND-7022R, QND-7032R	E158873-A6093-UL	
NETWORK CAMERA	QNP-6320R, QNP-6250R	E158873-A6094-UL	
NETWORK CAMERA	XNV-6123R	E158873-A6100-UL	
NETWORK CAMERA	XNO-6123R	E158873-A6101-UL	
NETWORK CAMERA	LNO-6072R	E158873-A6102-UL	
NETWORK CAMERA	LVN-6012R, LVN-6022R, LVN-6032R, ANV-L6012R	E158873-A6103-UL	
NETWORK CAMERA	LVN-6072R	E158873-A6104-UL	
NETWORK CAMERA	LND-6012R, LND-6022R, LND-6032R	E158873-A6105-UL	
NETWORK CAMERA	LND-6072R	E158873-A6106-UL	
NETWORK CAMERA	LNO-6012R, LNO-6022R, LNO-6032R, ANO-L6012R, ANO-L6022R	E158873-A6107-UL	
NETWORK CAMERA	ANO-L7022R, ANO-L7012R	E158873-A6108-UL	
NETWORK CAMERA	TNV-7010RC, TNV-7011RC	E158873-A6109-UL	
NETWORK CAMERA	ANV-L7012R	E158873-A6110-UL	
NETWORK CAMERA	XNZ-6320A	E158873-A6111-UL	
NETWORK CAMERA	QNP-6320HS	E158873-A6112-UL	
NETWORK CAMERA	PNM-A9083RVD, PNM-A7083RVD, PNM-C12083RVD, PNM-C7083RVD	E158873-A6113-UL	
NETWORK VIDEO RECORDER	ARN-1610S	E158873-A6114-UL	
NETWORK CAMERA	XNZ-L6320A	E158873-A6115-UL	
NETWORK VIDEO RECORDER	QRN-1630S, XRN-815S	E158873-A6116-UL	
NETWORK CAMERA	ANO-L7082R, ANO-L6082R	E158873-A6117-UL	
THERMAL NETWORK CAMERA	TNM-C4940TD, TNM-C4950TD, TNM-C4960TD	E158873-A6118-UL	
NETWORK CAMERA	ANE-L7012R, ANE-L6012R	E158873-A6119-UL	
NETWORK CAMERA	PNM-12082RVD, PNM-7082RVD	E158873-A6120-UL	
NETWORK CAMERA	ANV-L7082R, ANV-L6082R	E158873-A6121-UL	
DIGITAL VIDEO RECORDER	HRX-1635	E158873-A6122-UL	
DIGITAL VIDEO RECORDER	HRX-835A	E158873-A6123-UL	
NETWORK CAMERA	XNF-9013RV	E158873-A6124-UL	
NETWORK VIDEO ENCODER	SPE-1630	E158873-A6125-UL	
NETWORK VIDEO RECORDER	QRN-430S, ARN-410S	E158873-A6126-UL	
NETWORK VIDEO RECORDER	XRN-420S	E158873-A6127-UL	

File		Volume	Page	Date:
E158873	Index	X13	4	20-Apr-23

NETWORK VIDEO RECORDER	QRN-830S	E158873-A6128-UL	
NETWORK VIDEO RECORDER	ARN-810S	E158873-A6129-UL	
NETWORK CAMERA	XNV-9083RZ, XNV-8083RZ, XNV-6083RZ	E158873-A6130-UL	
DIGITAL VIDEO RECORDER	HRX-434	E158873-A6131-UL	
NETWORK CAMERA	XNV-8083Z, XNV-6083Z	E158873-A6132-UL	
NETWORK VIDEO ENCODER	SPE-420	E158873-A6133-UL	
NETWORK CAMERA	XNB-6002	E158873-A6134-UL	
DIGITAL VIDEO RECORDER	HRX-435	E158873-A6135-UL	
DIGITAL VIDEO RECORDER	HRX-1634	E158873-A6136-UL	
VIDEO DECODER	SPD-152	E158873-A6137-UL	
NETWORK CAMERA	PNM-C9022RV	E158873-A6138-UL	
PENDANT SPEAKER	SPA-P100W, SPA-P100B	E158873-A6139-UL	
SECURITY LED MONITOR	SMT-2212	E158873-A6140-UL	
DIGITAL VIDEO RECORDER	ARD-1610	E158873-A6142-UL	
DIGITAL VIDEO RECORDER	ARD-810, ARD-410	E158873-A6144-UL	
NETWORK CAMERA	PNV-A6081R-E2T, PNV-A6081R-E1T	E158873-A6150-UL	
USB JOYSTICK CONTROLLER	SPC-2001	E158873-A6151-UL	
NETWORK CAMERA	MGC-D8080LI, MGC-D8080	E158873-A6153-UL	
NETWORK CAMERA	QNO-C9083R, QNO-C8083R	E158873-A6154-UL	
NETWORK CAMERA	QNV-C9083R, QNV-C8083R	E158873-A6155-UL	
NETWORK CAMERA	XNP-C9303RW, XNP-C8303RW, XNP-C6403RW	E158873-A6158-UL	
NETWORK CAMERA	XNP-C9253R, XNP-C8253R, XNP-C6403R	E158873-A6159-UL	
NETWORK CAMERA	XNP-C9253, XNP-C8253, XNP-C6403	E158873-A6160-UL	
NETWORK CAMERA	TNV-C7013RC	E158873-A6161-UL	
NETWORK CAMERA	MGC-F9010LI	E158873-A6162-UL	

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2315156-0
Report Reference E158873-20230420
Date 20-Apr-2023

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

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

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

Standard(s) for Safety: CSA C22.2 No. 62368-1:19, 3rd Ed., Issue Date: 2019-12-13, Revision Date: 2021-10-22

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

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance 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.


Deborah Jennings-Conner, VP Regulatory Services
UL LLC



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2315156-0
Report Reference E158873-20230420
Date 20-Apr-2023

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-C6403RW	NETWORK CAMERA
XNP-C8303RW	NETWORK CAMERA
XNP-C9303RW	NETWORK CAMERA


Deborah Jennings-Conner, VP Regulatory Services
UL LLC



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2317321-0
Report Reference E158873-20230420
Date 20-Apr-2023

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

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

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

Standard(s) for Safety: UL 62368-1, 3rd Ed., Issue Date: 2019-12-13, Revision
Date: 2021-10-22

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

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance 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.


Deborah Jennings-Conner, VP Regulatory Services

UL LLC



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2317321-0
Report Reference E158873-20230420
Date 20-Apr-2023

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-C6403RW	NETWORK CAMERA
XNP-C8303RW	NETWORK CAMERA
XNP-C9303RW	NETWORK CAMERA


Deborah Jennings-Conner, VP Regulatory Services
UL LLC



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>

UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22 (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-C9303RW, XNP-C8303RW, XNP-C6403RW
Rating:	PoE (55 Vdc), 0.84 A
Applicant Name and Address:	HANWHA VISION 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.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared By: SeoHwan Kim / Project Handler Reviewed By: SeungTae Kim / 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 outdoor use and integrated a hole for mount.

It is a commercial equipment supplied from UL Listed PoE (Power over Ethernet) and installed by service personnel.

Model Differences

XNP-C9303RW is basic model.

XNP-C8303RW, XNP-C6403RW are identical to basic model except model designation, resolution Specification, temperature spec.

XNP-C9303RW

Resolution Specification: 4K

XNP-C8303RW

Resolution Specification: 6M

XNP-C6403RW

Resolution Specification: 2M

Test Item Particulars

Product group	end product
Classification of use by	Instructed person
Supply Connection	not mains connected: ES1
Supply tolerance	None
Supply connection – type	PoE (Power over Ethernet-55Vdc)
Considered current rating of protective device	N/A
Equipment mobility	wall/ceiling-mounted
Over voltage category (OVC)	OVC I
Class of equipment	Class III
Special installation location	Outdoor location
Pollution degree (PD)	PD 2

Manufacturer's specified Tma (°C)	55 Outdoor: minimum -40
IP protection class	IP 66
Power systems	not AC mains
Altitude during operation (m)	2000 m or less
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	5.53

Technical Considerations

- ☐ The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 55°C
- ☐ The product is intended for use on the following power systems : No direct connection
- ☐ Considered current rating of protective device as part of the building installation (A) : N/A
- ☐ Mains supply tolerance (%) or absolute mains supply : No direct connection
- ☐ The Risk Group of a lamp or lamp system (including LEDs) is : RG 1
- ☐ The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual
- ☐ The outdoor equipment/enclosure was evaluated for use in an ambient temperature range of: -40 °C to +55 °C

Additional Information

4790780129

- Continuous operation (IR LED on, fan operating), (Optional features: Heater on)

Additional Standards

The product fulfills the requirements of: N/A

Markings and Instructions

Clause Title	Marking or Instruction Details
Optical radiation from lamps - Hazard-related risk group marking of equipment: Retinal thermal hazard, weak visual stimulus 780-1400 nm	"NOTICE - IR emitted from this product Use appropriate shielding or eye protection" for Risk Group 1. "NOTICE - IR émis par ce produit. Utiliser un écran approprié ou une protection oculaire" for Risk Group 1. Text on equipment is black on a yellow background. Reproduction in user manual is not required to be in color.
Optical radiation from lamps - Explanation of marking information and guidance on control measures: Retinal thermal hazard, weak visual stimulus 780-1400 nm	"Do not stare at operating lamp." for Risk Group 1. "Ne pas regarder fixement la lampe." for Risk Group 1.
Equipment identification marking – Manufacturer identification	Listee's or Recognized Company's 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)
Outdoor enclosure type	"Rainproof", IP66
Installation Manual	These servicing instructions are for use by qualified service personnel only.
Hard Copy	A. IMPORTANT or ATTENTION or similar wording.B. Please check 'Manuals' from our website, before connecting to the supply.C. Company website URL (https://www.~~) or QR code.
(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(55 Vdc), 0.84 A
(Website) Manual - 2	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.
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
-	-	-	-	-	-

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 Technology Co Ltd	PT-PSE109GBRO- AH-S	Rated output 55 Vdc, 1.5 A, marked "LPS" or "Class 2"	AZOT	UL (E487558)	
Internal Metal top Cover (Black)	Interchangeable	Interchangeable	Aluminium, Min. 1.5 mm thickness.	-	-	
Internal Metal bottom Cover (Ivory)	Interchangeable	Interchangeable	Aluminium, Min. 1.5 mm thickness.	-	-	
Front Dome cover (Glass)	Interchangeable	Interchangeable	Glass, Min. 2.0 mm thickness	-	-	
External Side Deco Cover (Plastic) (Black)	LOTTE CHEMICAL CORPORATION	HN-1068(+)(f1)	Min. 1.5 mm thickness, rated Min. V-0, 130 deg. C	QMFZ2	UL (E115797)	
Camera bottom Deco Cover (Plastic) (Ivory)	LG CHEM LTD	LI996(&)	Min. 2.0 mm thickness, rated Min. V-0, 50 deg. C	QMFZ2	UL (E67171)	
Transformer(T1)	CLOVER HI-Tech CO., LTD.	1400651	130 deg. C, See enclosure for more detail.	-	-	
Transformer(T1) - Alternate	COREPLUS CO LTD	1400651	130 deg. C, See enclosure for more detail.	-	-	
Line Filter (LF1)	TNC CO.,LTD	QV181610A	7.0 mH, 120 deg. C, See enclosure for more detail.	-	-	
Line Filter (LF2)	TNC CO.,LTD	CVA6011RNF2	11.0 uH, 105 deg. C, See enclosure for more detail.	-	-	
Line Filter (LF2) - Alternate	HEFEI PHOENIX ELECTRONICS TECHNOLOGY CO LTD	CVA6011RNF2	11.0 uH, 100 deg. C, See enclosure for more detail.	-	-	

Opto-coupler (PC1)	LITE-ON TECHNOLOGY CORP	LTV-1DXX(&)	Isolation Voltage: 5 000. Max. Operation Temperature: 110 deg. C	FPQU2	UL (E113898)	
Opto-coupler (PC1) -Alternate	CT Microelectronics Far East Ltd	CT101(X1)(X2)	Isolation Voltage: 5 000. Max. Operation Temperature: 110 deg. C	FPQU2	UL (E364000)	
Heatsink(HS1, HS2)	Interchangeable	Interchangeable	Approx. 45.0mm by 20.0 mm by 10.0 mm, Min. 0.05 mm thickness, secured on PCB by soldering	-	-	
DC Fan (2ea)	HUI TONG ELECTRONIC CO LTD	HTD-025(X)12L	12 Vdc, 0.06 A, 9 500 RPM (N/15000+K/2400 = 0.6442 < 1, N=9 500, K= 26.2086)	GPWV2	UL (E311396)	
Focus motor(Stepping motor) (3ea)	TOKYO MICRO INC.	8S-486L99	Rated 5.0 Vdc, Max pulse rate 1500 pps	-	-	
Zoom/lens motor 1(Stepping motor)	NIDEC SANKYO CORPORATION	MSEV020G65	Rated 5.0Vdc, pulse rate 80 pps	-	-	
Zoom/lens motor 2(Stepping motor)	TAMRON CO., LTD.	DF033N0000	Rated 5.5 Vdc, Max pulse rate 1320 pps	-	-	
Day/Night motor (Stepping motor)	NEW ASIA OPTICAL INDUSTRY CO.,LTD	CL7-VCL-C	Rated 3.0+0.5 Vdc, Max pulse rate 300 pps	-	-	
Iris motor (Stepping motor)	NEW ASIA OPTICAL INDUSTRY CO.,LTD	CL7-IRIS	Rated 4.0+2Vdc	-	-	
Pan / Tilt Motor (Stepping motor) (2eA)	DONGGUAN SHINANO MOTOR CO., LTD.	STH-42C2010	Rated 12 Vdc, 1.0 A Hybrid stepping type.	-	-	

Wiper motor (Stepping motor)	VIDE TECHNOLOGY CO.,LTD	VGSM1588	Rated 12 Vdc, 0.16 A stepping type.	-	-	
Heater (R4 to R33, R35) (28ea)	Interchangeable	Interchangeable	5.6 ohm, 0.14W each	-	-	
Lithium Battery (BAT1)	FDK CORPORATION	ML614R	Lithium (Coin), Rechargeable, Max 5.0 Vdc, Maximum charging current 300mA	BBCV2	UL (MH13421)	
Lithium Battery Protection circuit	Interchangeable	Interchangeable	Diode (D4, 80 V, 100 mA) and Resistor (R13, 3.3 kohm) in series	-	-	
LED (LED Right board, LED (LD1, LD2, LD3), Left board (LD1, LD2, LD3) (Total 6ea)	OSRAM	SFH4715AS	VF =Max. 4.7 V, IF=Max.3 A	-	-	
Internal Plastic Part Materials	Interchangeable	Interchangeable	Min. 1.5 mm thick, rated Min. HB	QMFZ2	UL	
Thermal Pad	KOMOTECH CO LTD	KGP-1(a)	Min. 0.2 mm thickness, rated V-0, 150 deg. C	QMFZ2	UL (E245303)	
Thermal Pad - Alternate	Interchangeable	Interchangeable	Min. 0.2 mm thickness, rated V-0, 150 deg. C	QMFZ2	UL	
Gasket (Between Top Cover and Enclosure bottom)	Namyang Vina	O-VMQ-30-GR	Gasket Test was conducted under E158873-A6033.	-	-	
Gasket (Between Internal Metal bottom Cover and Inner Frame)	Namyang Vina	O-VMQ-60-BL	Gasket Test was conducted under E158873-A6033.	-	-	
Gasket (Between Internal Metal bottom Cover	Namyang Vina	O-VMQ-70-OR	Gasket Test was conducted under E158873-A6033.	-	-	

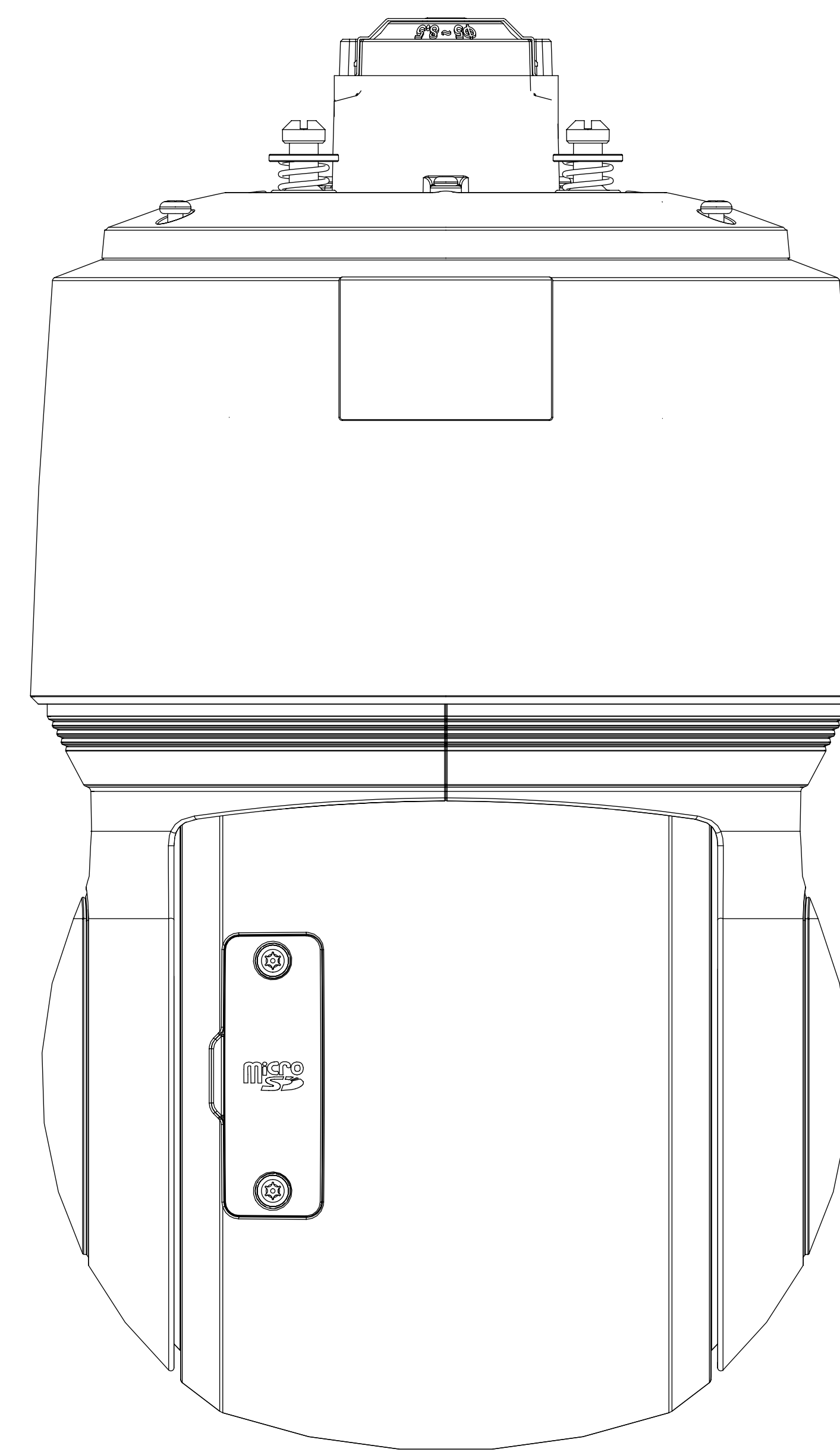
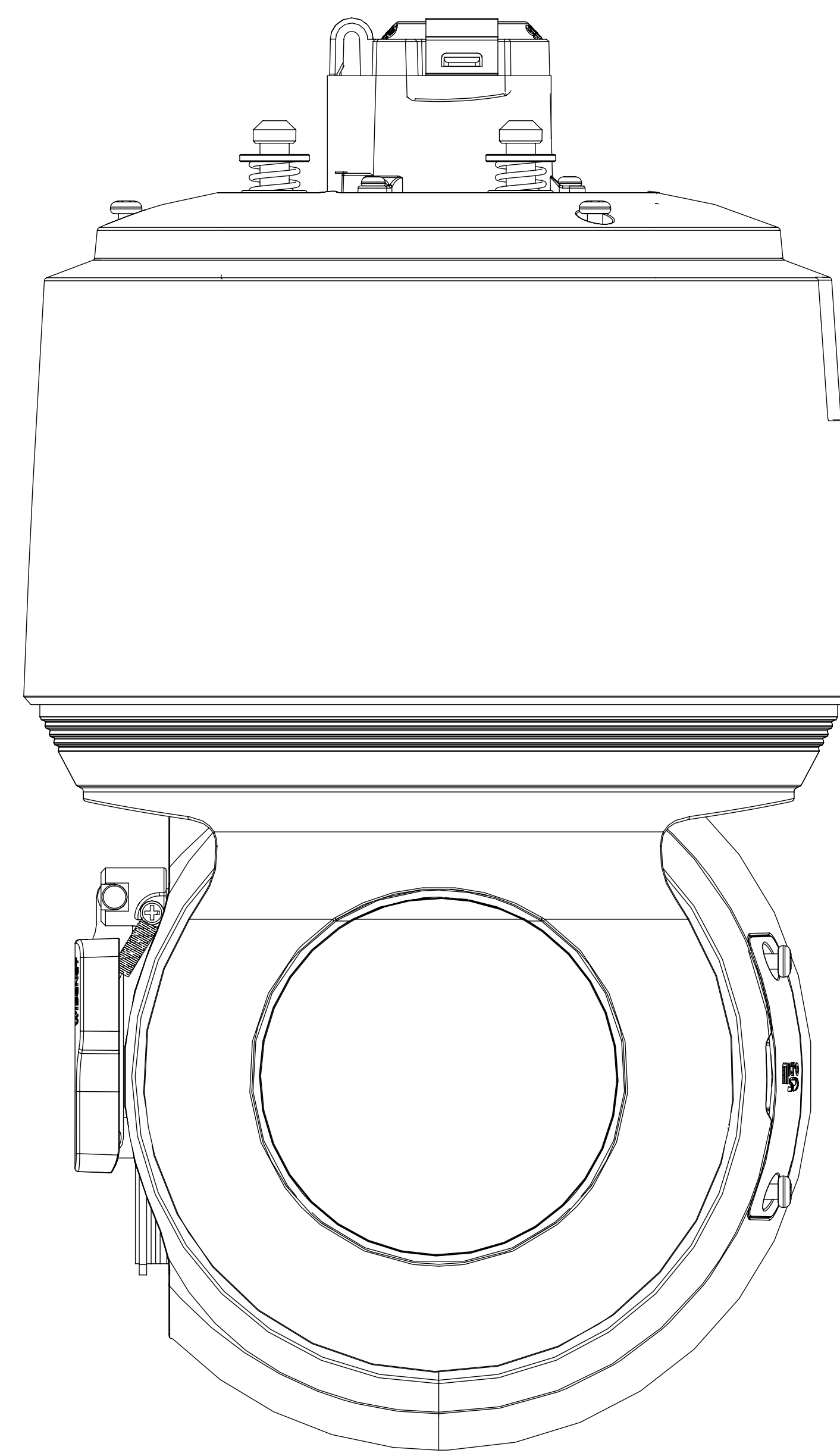
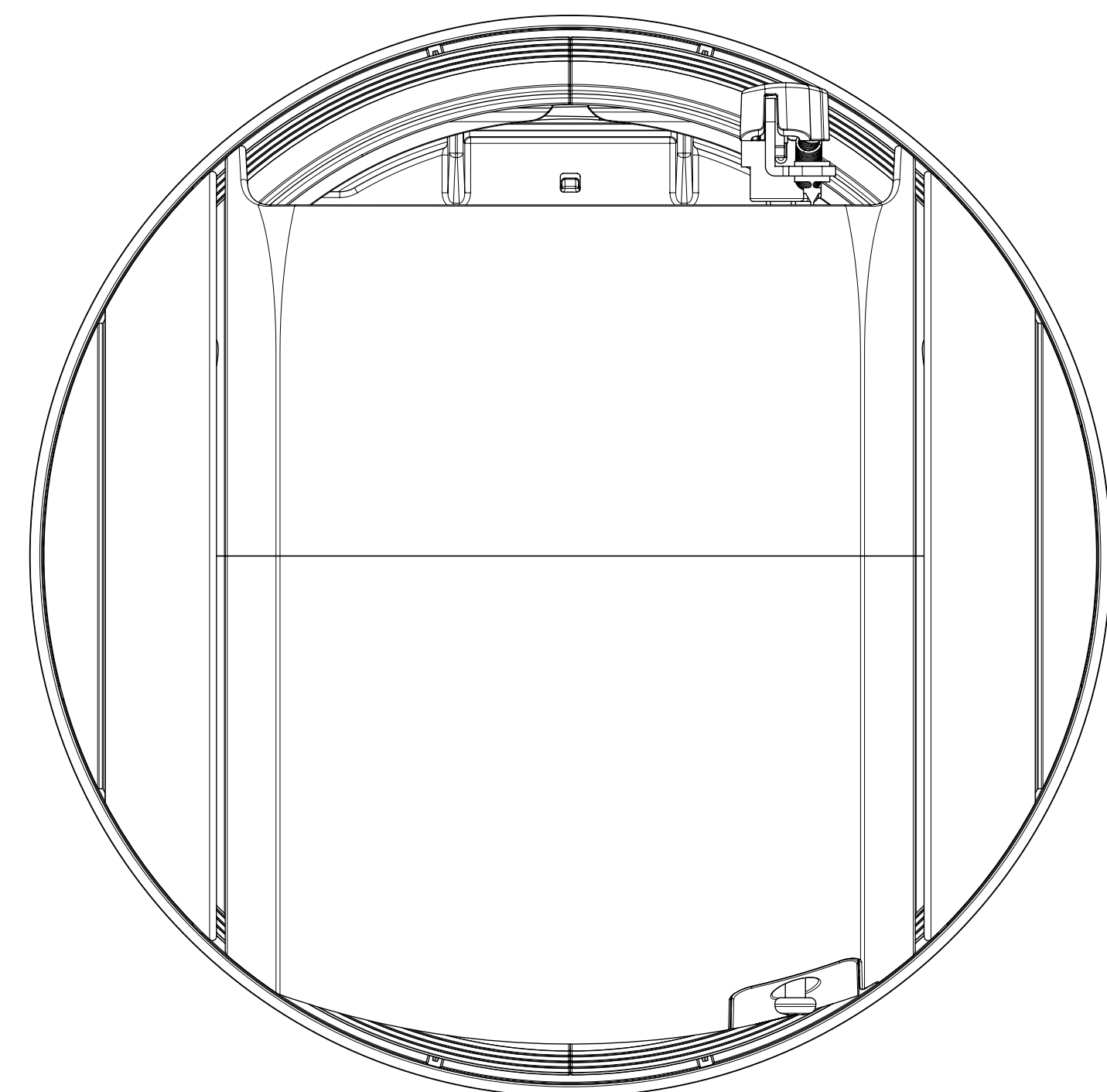
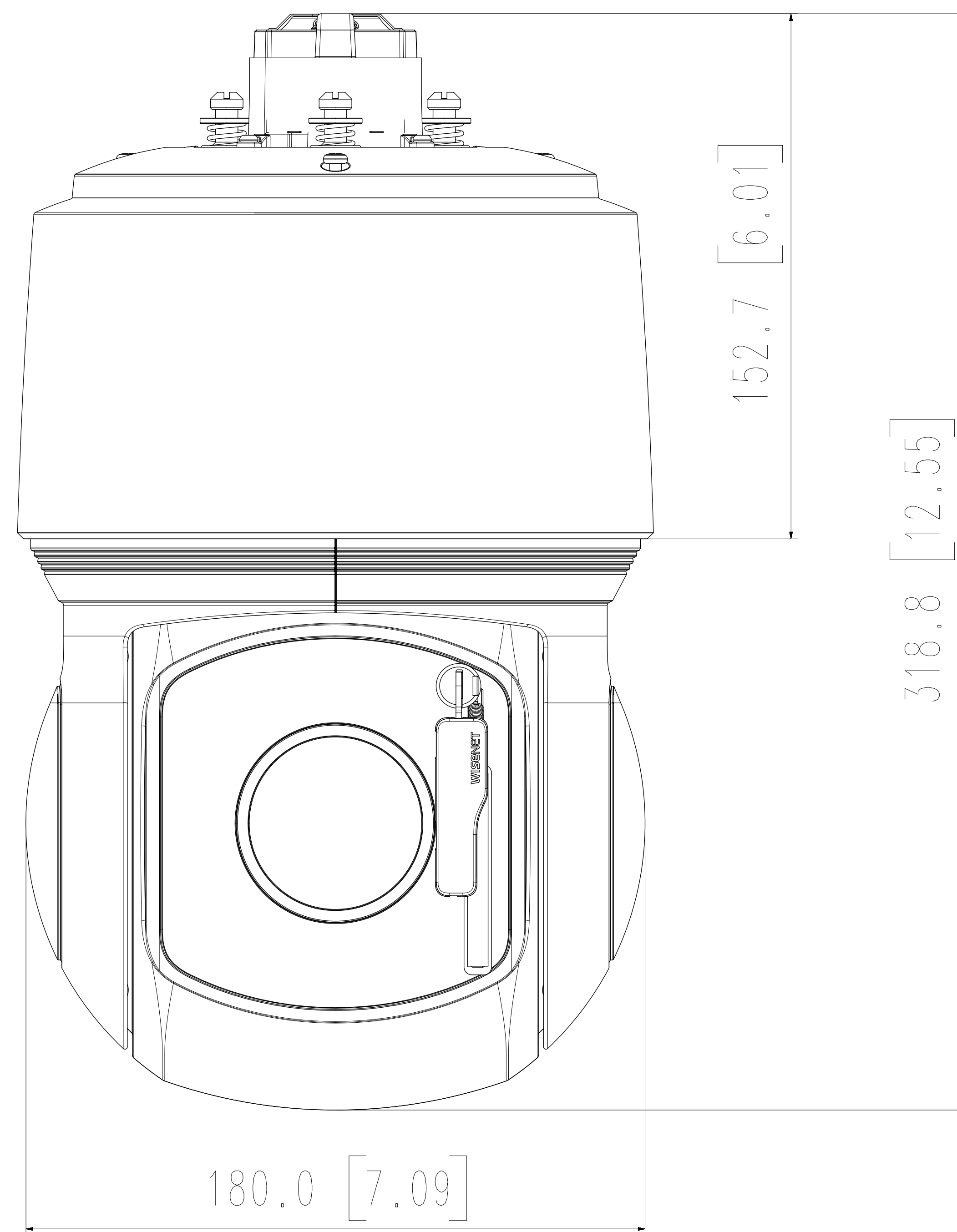
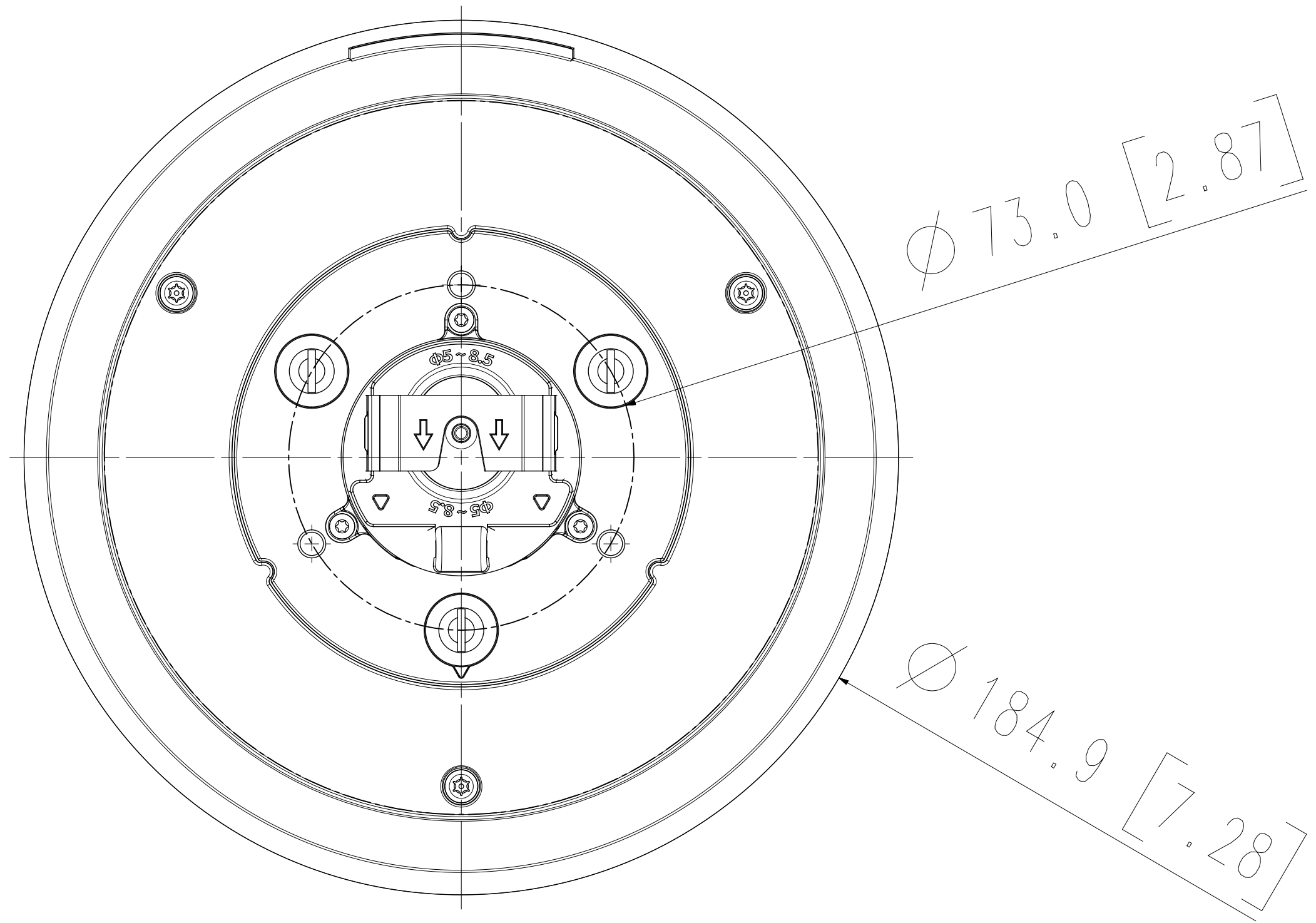
and Bracket bush)						
Gasket (Between Tilt Bracket and Bracket cover)	Namyang Vina	O-VMQ-30-GR	Gasket Test was conducted under E158873-A6033.	-	-	
Gasket (Between Cover Rear and Bracket Seal, Between Pan Bracket and Tilt Bracket)	Namyang Vina	O-VMQ-70-YE	Gasket Test was conducted under E158873-A6033.	-	-	
Gasket (Between Pan Bracket and Inner Frame)	Namyang Vina	O-VMQ-60-RE	Gasket Test was conducted under E158873-A6033.	-	-	
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	
FPWB	KHELTEC CO LTD	18 (ASP 1)	Min V-0, 105 deg. C.	ZPXK2 or ZPMV2	UL (E359685)	
FPWB - Alternate	Interchangeable	Interchangeable	Min V-0, 105 deg. C.	ZPXK2 or	UL	
PWB	EXPRESS ELECTRONICS LTD	14MV0	Min. V-1, 130 deg. C	ZPMV2	UL (E157925)	
PWB - Alternate	Interchangeable	Interchangeable	Min. V-1, 130 deg. C	ZPMV2	UL	
Outdoor Label	Interchangeable	Interchangeable	Max Temp 100 deg. C, Min Temp -40 deg. C	PGDQ2 or PGJL2	UL	

Enclosures

Type	Supplement Id	Description
Photographs	03-01	Over view-1
Photographs	03-02	Over view-2
Photographs	03-03	Camera Module open
Photographs	03-04	Camera Module over view
Photographs	03-05	Front cover inner view
Photographs	03-06	Front cover innerview (without inner metal cover)
Photographs	03-07	Network board-top
Photographs	03-08	Network board-bot
Photographs	03-09	Sensor board
Photographs	03-10	LED board rigt-top
Photographs	03-11	LED board rigt-bot
Photographs	03-12	LED board left-top
Photographs	03-13	LED board left-bot
Photographs	03-14	Driver board-top
Photographs	03-15	Driver board-bot
Photographs	03-16	Motion board-top
Photographs	03-17	Motion board-bot
Photographs	03-18	DC fan
Photographs	03-19	Internal view(Main cover with network board)
Photographs	03-20	Internal view(power board with motor)
Photographs	03-21	Internal view(DC fan with internal metal top)
Photographs	03-22	Internal view(DC fan with internal metal bot)
Photographs	03-23	Hall board-top
Photographs	03-24	Hall board-bot
Photographs	03-25	Power board-top
Photographs	03-26	Power board-bot
Photographs	03-27	Wiper board-top
Photographs	03-28	Wiper board-bot
Photographs	03-29	Wiper motor
Photographs	03-30	Adapter
Diagrams	04-01	Appearance_XNP-9303RW
Manuals	06-01	Manuals
Miscellaneous	07-05	Label-Risk Group1
Miscellaneous	07-06	Label-C6403RW
Miscellaneous	07-07	Label-C8303RW
Miscellaneous	07-08	Label-C9303RW
Miscellaneous	07-09	Transformar Specification

Miscellaneous	07-10	Linefilter Specification 1
Miscellaneous	07-11	Linefilter Specification 2

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



6	XNP-C6403RW	'23.03.29
5	XNP-C8303RW	
4	XNP-C9303RW	
3	XNP-6400RW	'20.05.20
2	XNP-8300RW	
1	XNP-9300RW	
No.	MODEL NAME	DATE
Unit:mm[inch]		SCALE:1/1
Hanwaha Vision		

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

NETWORK CAMERA

User Manual

XNP-C9303RW
XNP-C8303RW
XNP-C6403RW



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 UL Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE(55V), 0.84A.
16. This product is intended to be supplied by isolation power.
17. 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.
18. 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.
19. 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.
20. 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.
21. Installing or using the product in water can cause serious damage to the product.



22. 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.
23. The operating temperature of the product is -40°C to +55°C (-40°F ~ +131°F).
24. The heater turns on when the ambient temperature is below 12°C(53.6°F) and off when it is above 15°C(59°F).

WARNING

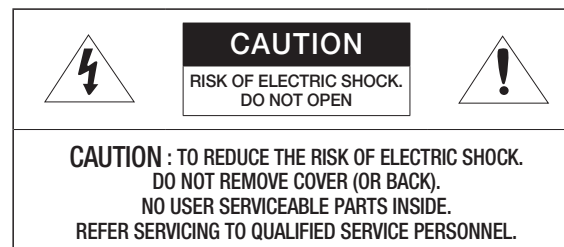
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

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.

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.

In particular installation environments, there might be interference in radio communications. When interference of electromagnetic waves occurs between the product and radio communication device, it is recommended to keep a certain distance between the two or change the direction of the receiving antenna.

WARNING

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

XNP-C9303RW/XNP-C8303RW/XNP-C6403RW

Risk Group 1 (Groupe de Risque 1)	
NOTICE	IR emitted from this product Use appropriate shielding or eye protection
IR émis par ce produit Utiliser un écran approprié ou une protection oculaire	
WARNING	IR emitted from this product Do not stare at operating lamp
MISE EN GARDE	IR émis par ce produit Ne pas regarder fixement la lampe
Product tested against IEC 62471	

RECOMMENDED PC SPECIFICATIONS

- CPU : Intel(R) Core(TM) i7 3.4 GHz or higher
 - RAM : 8G or higher
 - Recommended browser: Chrome
 - Supported browsers: Chrome, Safari, Firefox, MS Edge(chromium based)
 - Supported OS : Windows, Mac, Linux, Android, iOS, Chrome
 - Verification environment
 - Windows 10: Google Chrome version 80 or later, Firefox version 72 or later, MS Edge version 83 or later
 - Mac 10.13/14: Safari version 11.0.1 or later
- ※ The video play performance of the web viewer depends on the performance of the user's CPU and GPU.

RECOMMENDED MICRO SD/SDHC/SDXC MEMORY CARD SPECIFICATIONS

- Recommended capacity : 16GB to 1TB (MLC type required)
 - Recommended Manufacturers : SanDisk, Transcend
 - Product Type : High endurance
 - The compatibility varies depending on the card manufacturers and types.
-  ■ Micro SD card can support up to 1 TB if two slots are used. Each slot supports up to 512 GB, and one slot cannot support 1 TB by itself.

NAS RECOMMENDED SPECS

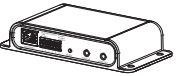
- Recommended capacity : 200GB or higher is recommended.
- For this camera, you are recommended to use a NAS with the following manufacturer's specs.
Recommended products : QNAP NAS, Synology NAS

WHAT'S INCLUDED

Please check if your camera and accessories are all included in the product package.
(As for each sales country, accessories are not the same.)

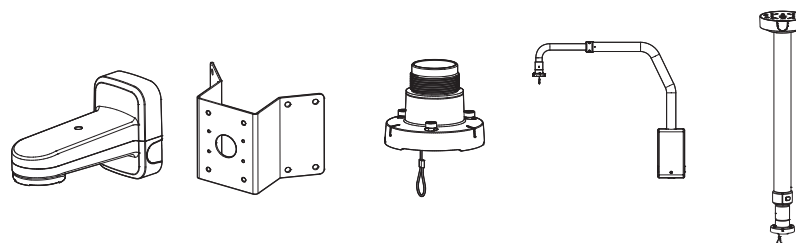
Appearance	Item Name	Quantity	Description
	Main Body	1	
	Quick Guide (Optional)	1	
 (SP0-8315)	HPoE injector	1	Connects power supply and network
	Power cord	1	Connects to HPoE injector
	Cap Installer	1	Used to connect the network cable
	Bushing clip	1	Used as a means of preventing cable bushing from being separated or falling apart from the hole.
	Cable Bushing	1	Extra cable bushing for network cable installation.

NETWORK I/O BOX - SEPARATELY SOLD PRODUCT

Appearance	Item Name	Description	Model Name
	Network I/O box	External connection device for camera's alarm and audio I/O	SPM-4210

OPTIONAL ACCESSORIES FOR INSTALLATION

You can purchase appropriate optional accessories available.



Wall & Pole Mount	Corner Mount	Hanging Mount	Parapet Mount	Ceiling Mount
SBP-156WMW	SBP-156KMW	SBP-156HMMW	SBP-156LMW	SBP-156CMW

*** This mount can be used after being attached to hanging mount**

SBP-300LMW (Parapet Mount)

SBP-300CMW (Ceiling Mount)

SBP-300WMW (Wall Mount)

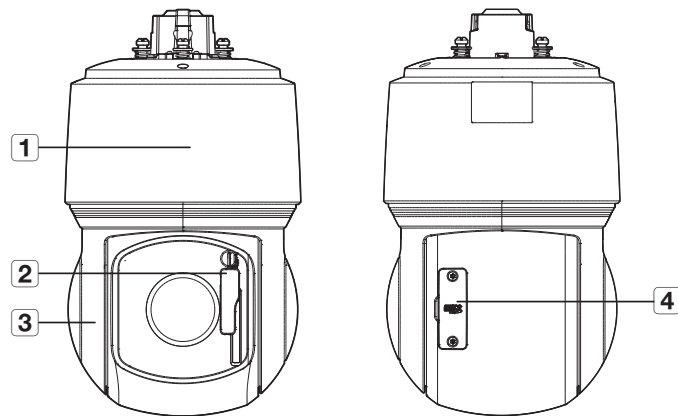
SBP-300WMW1 (Wall Mount)

SBP-300PMW (Pole Mount)

SBP-300KMW (Corner Mount)

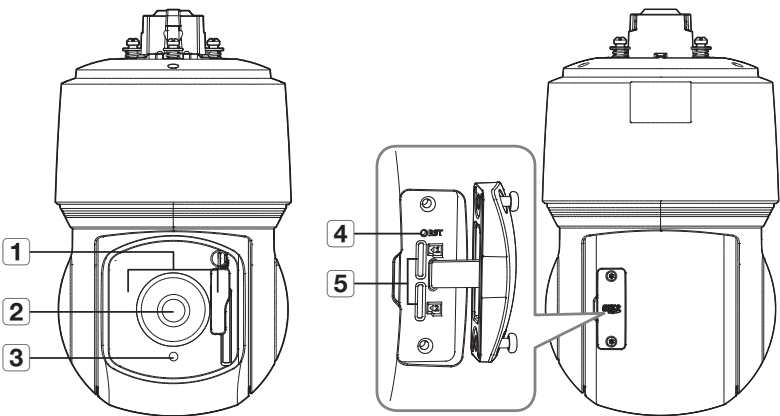
AT A GLANCE

Appearance



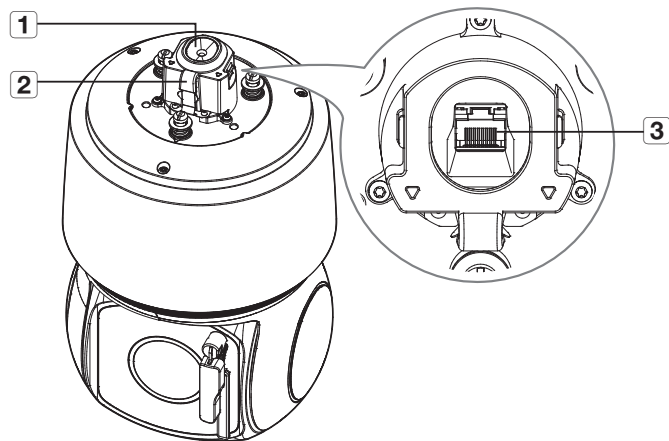
Item	Description
1 Main cover	Protects the internal PTZ mechanism from the direct sunlight, rain or external impact.
2 Windshield wiper	Used for wiping off raindrops or snow dripping on the window. ! Do not adjust the wiper manually by hand. After power is turned on, booting will be completed and the wiper will move to its default position.
3 Shield cover	Shield cover for the lens and unit protection.
4 Micro SD Card cover	The Micro SD card slot and reset button are located inside and can be opened using Torx drivers, etc.

Inside



Item	Description
1 IR LED	These infrared LED's are controlled by the illumination sensor.
2 Lens	Lens for the camera.
3 Illumination Sensor	Detects incoming light to control the IR LED.
4 Reset button	The button restores all camera settings to the factory default. Press and hold for about 5 seconds to reboot the system. ! If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the Device Manager program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.
5 Micro SD Card slot	Compartment for the Micro SD card.

Mounting surface



Item	Description
1 Cable bushing	A waterproof rubber cap, which allows a network cable to go through it.
2 Safety wire hook	Hang this hook on the safety wire of the mount when installing this product to prevent it from falling.
3 HPoE port	A port that connects to the HPoE injector and network cable for power and network connection.

INSTALLATION

- ! ■ This camera is waterproof and in compliance with the IP66 spec, but the jack connected to the external cable is not. You are recommended to install this product below the edge of eaves to prevent the cable from being externally exposed.

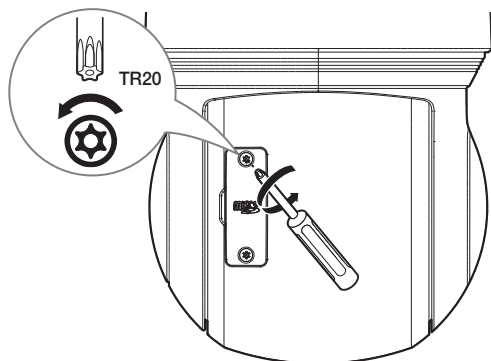
Precautions before installation

Ensure you read out the following instructions before installing the camera:

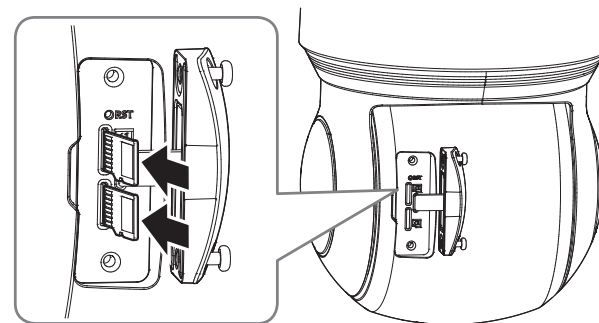
- Select an installation site that can hold at least 5 times the camera's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone else away from the installation site.
- And put aside personal belongings from the site, just in case.
- If the product is installed with excessive force, it may cause damage to the camera due to malfunction. Forcing assembly using non-compliant tools may damage the product.

Inserting a Micro SD card

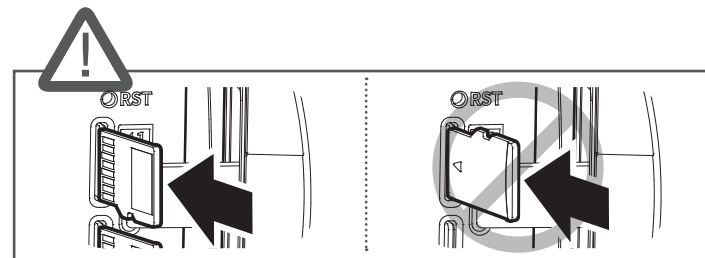
1. Unfasten two screws on the Micro SD card cover by turning them counterclockwise using the Torx screwdriver.



2. Pull up the Micro SD card cover and push the Micro SD card to the arrow direction as shown in the figure.



- ! ■ Do not forcefully insert it in the reverse direction. It might damage your Micro SD card and your product.



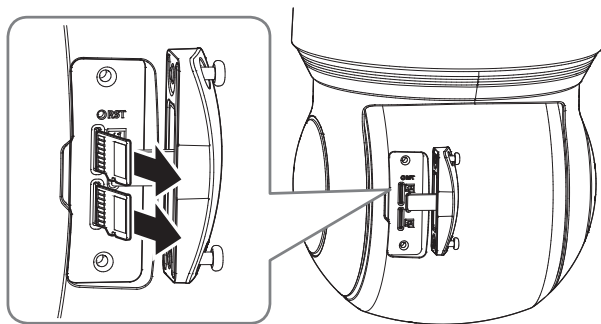
3. Assemble the camera in the reverse order of disassembly after the Micro SD card is inserted.

- ! ■ Tighten the screws when assembling the Micro SD card cover to prevent moisture penetration.

- ! ■ Disconnect the power cable from the camera before inserting the Micro SD card.
- When it rains or the humidity is high, insertion or ejection of a Micro SD card is not recommended.
- When installing/removing the Micro SD card, make sure you put the product body on a flat ground before working on it in order to prevent accidents due to loss or drop of any parts.
- Do not remove the screws.

Removing a Micro SD card

Gently press down on the exposed end of the Micro SD card as shown in the diagram to eject the Micro SD card from the slot.



- Before removing the Micro SD card, in <Setup (⚙️)>><Event>><Storage>, set the device to <Off> and press the [Apply] button and turn the camera off.
- If you turn off the camera or remove the Micro SD card that contains data from the product, the data may be lost or damaged.

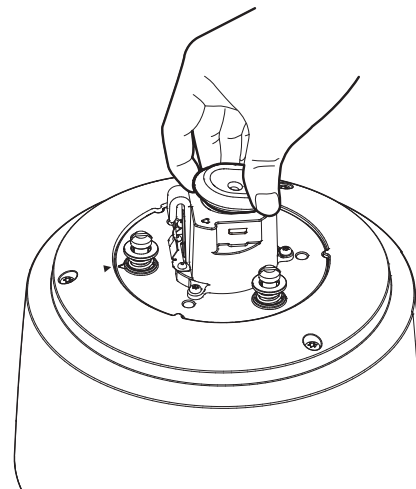
Preparing & Installing Camera Mount

For installation guidelines for mounts, refer to the installation manual that is enclosed with the mount.

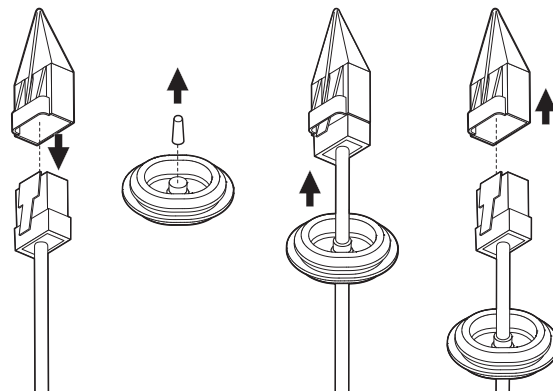
- See "Optional Accessories for Installation" for the appearance of each mount (unbundled). (page 7)

Getting ready for network cable installation

1. Remove the cable bushing.

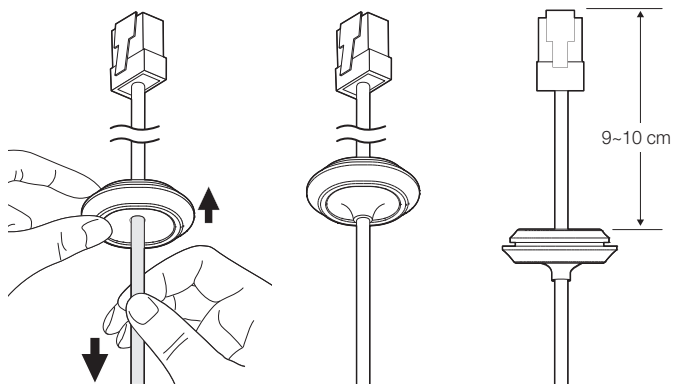


2. Pull off the extruded part of the removed cable bushing.
3. Use the cap installer to route the network cable through the cable bushing.

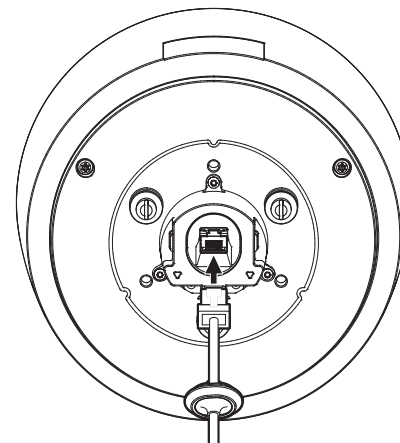


- If the cable bushing is torn, use the extra cable bushing provided.

4. For waterproof protection, pull down the cable below the cable bushing as shown in the figure below.



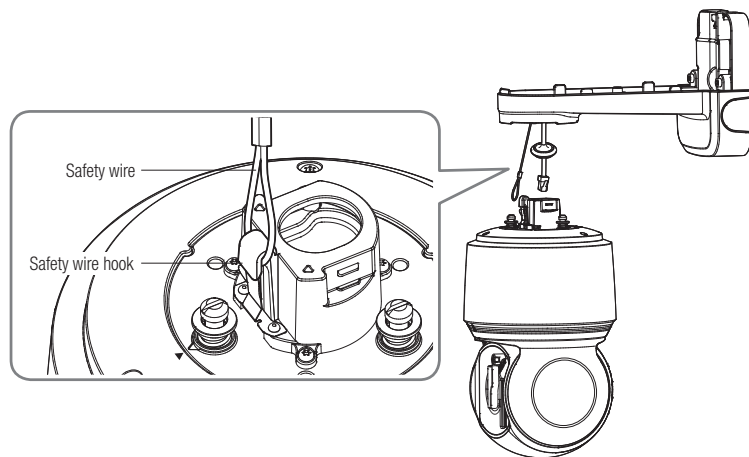
2. Connect the network cable to the HPoE port.



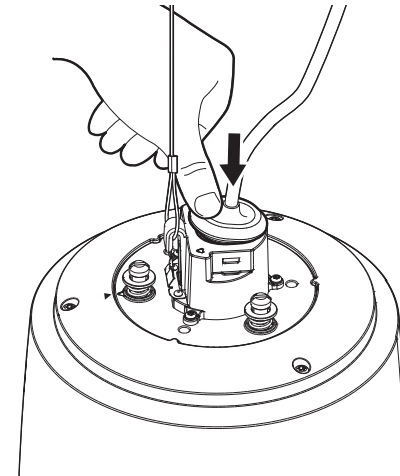
Installing using wall & pole mount

- ! ■ Power on the HPoE injector only after installation is complete. Supplying power while the installation is in progress may cause fire or damage the product.

1. Hang the safety wire of the wall & pole mount on the safety wire hook of the product.



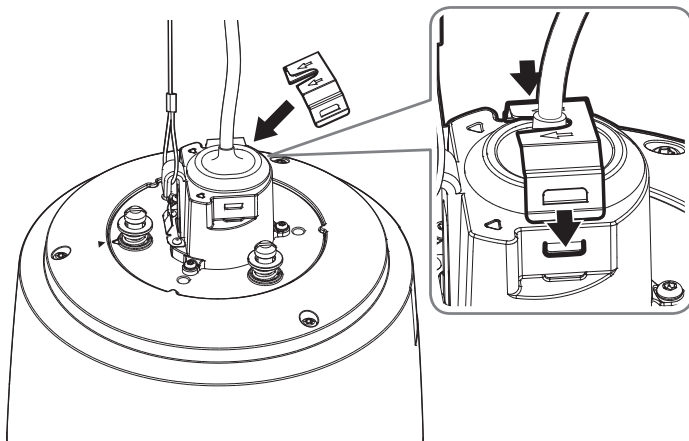
3. Plug the cable bushing of the network cable in the hole.
When plugging it in, press the whole bushing area evenly so that it is properly plugged in.



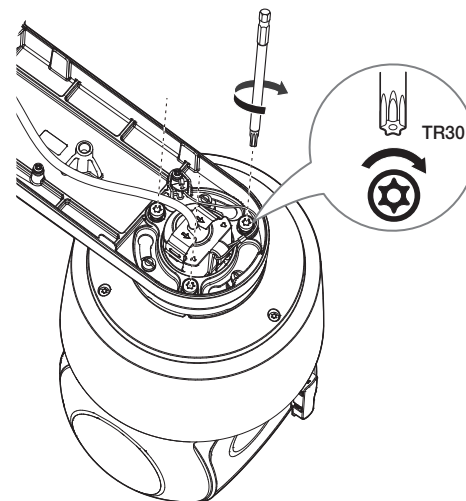
- ! ■ The length and width of the cable bushing are different. Check the shape and plug it in the right direction.

4. Install the bushing clip.

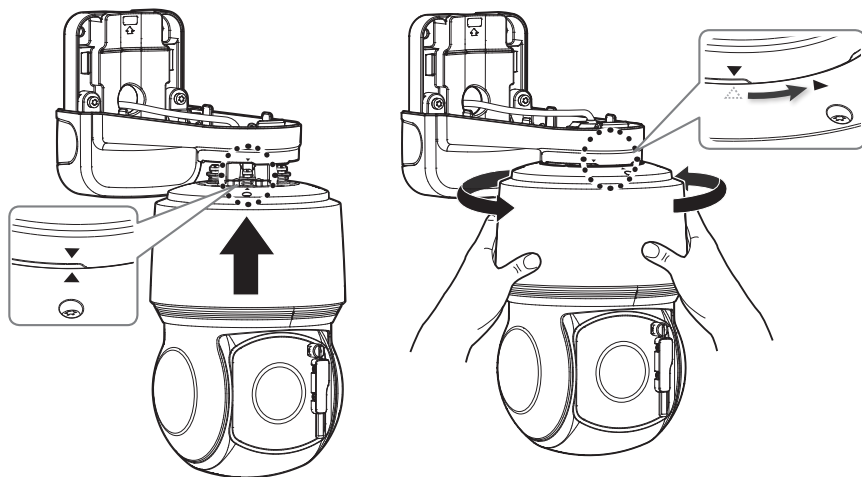
Let the arrow mark on the clip point in the direction of the safety wire hook, and click each side into place one at a time.



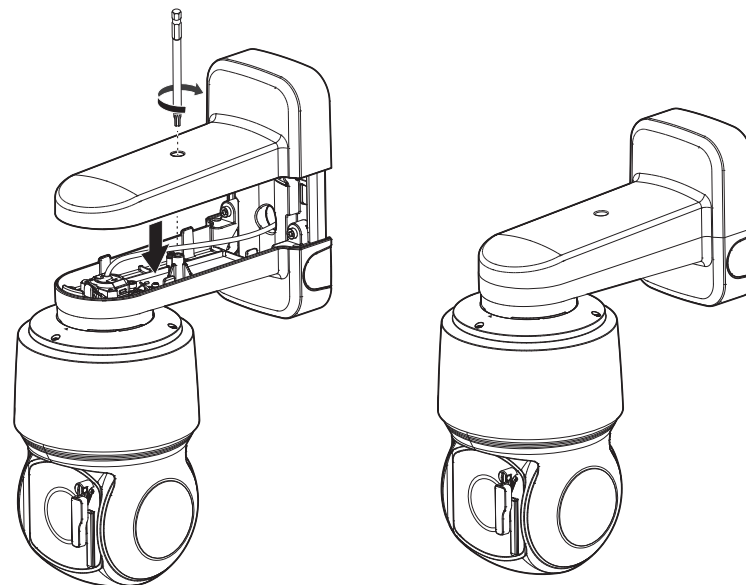
6. Tightly fasten the 3 mounting screws on the inside of the Wall & Pole Mount.



5. After aligning the installation direction guides of the camera and wall & pole mount, push the main cover upward and turn it counterclockwise until it is secured.

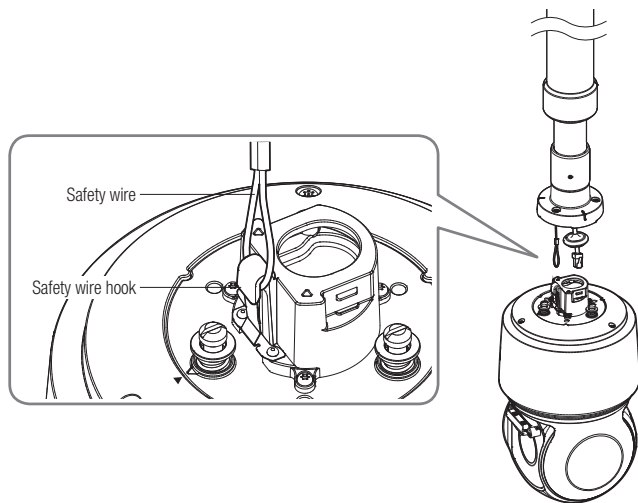


7. Join the top cover of the wall & pole mount.

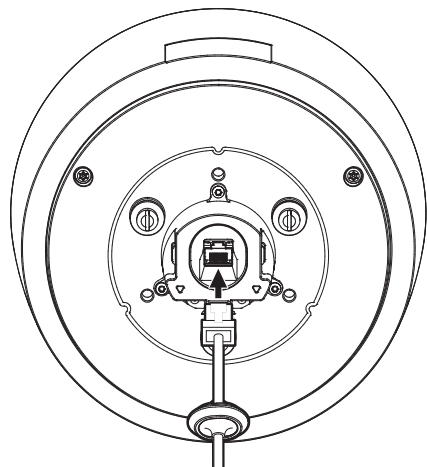


Installing using ceiling or parapet mount

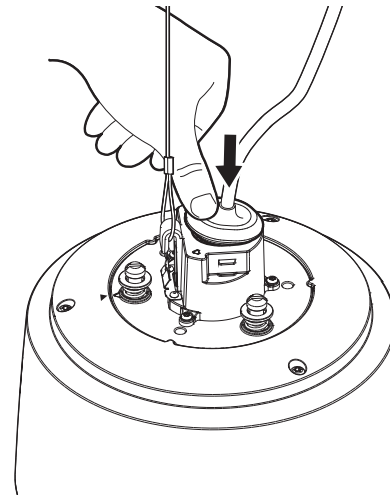
1. Hang the safety wire of the mount on the safety wire hook of the product.



2. Connect the network cable to the network port.

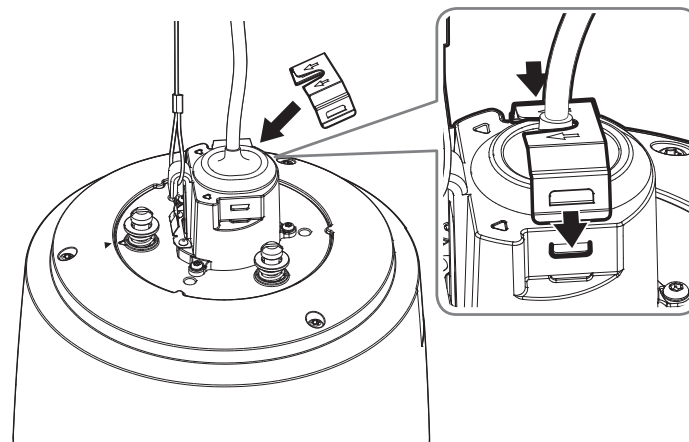


3. Plug the cable bushing of the network cable in the hole.
When plugging it in, press the whole bushing area evenly so that it is properly plugged in.

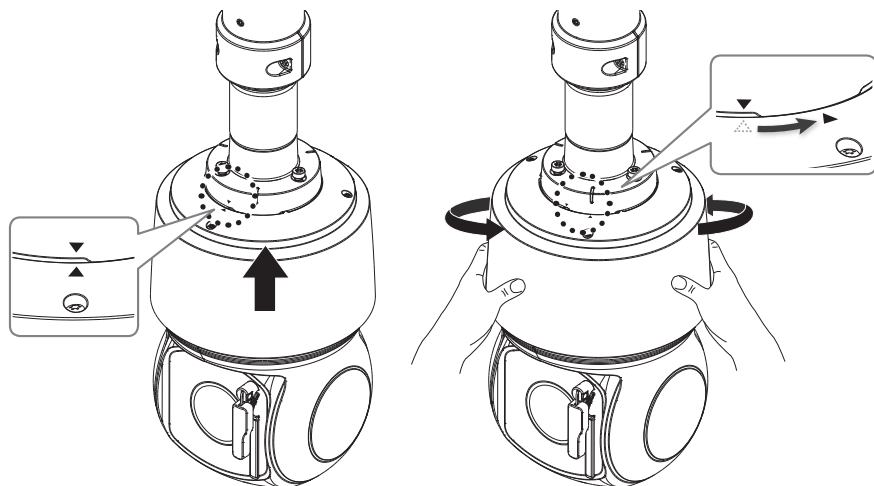


- ! The length and width of the cable bushing are different. Check the shape and plug it in the right direction.

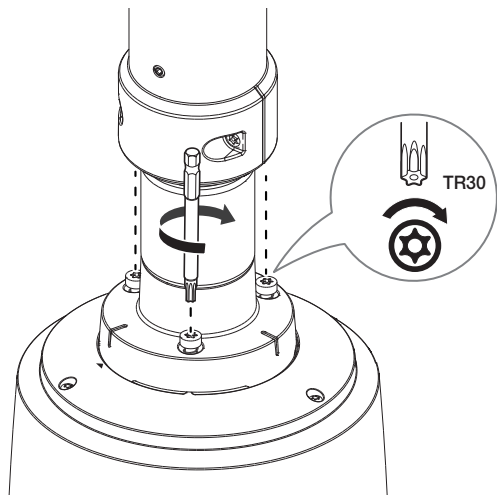
4. Install the bushing clip.
Let the arrow mark on the clip point in the direction of the safety wire hook, and click each side into place one at a time.



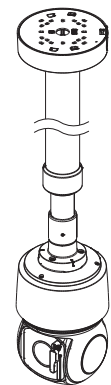
5. After aligning the installation direction guides of the hanging mount, push the main cover upward and turn it counterclockwise until it is secured.



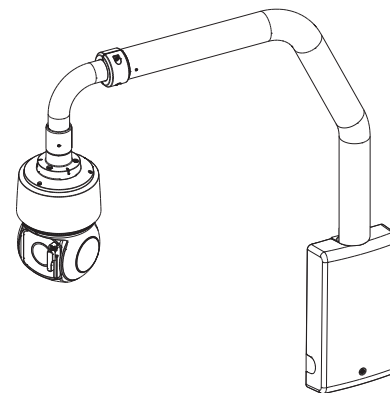
6. Tightly fasten the 3 mounting screws on the top side of the mount.



▪ Joined with official product mounts (ceiling/parapet)



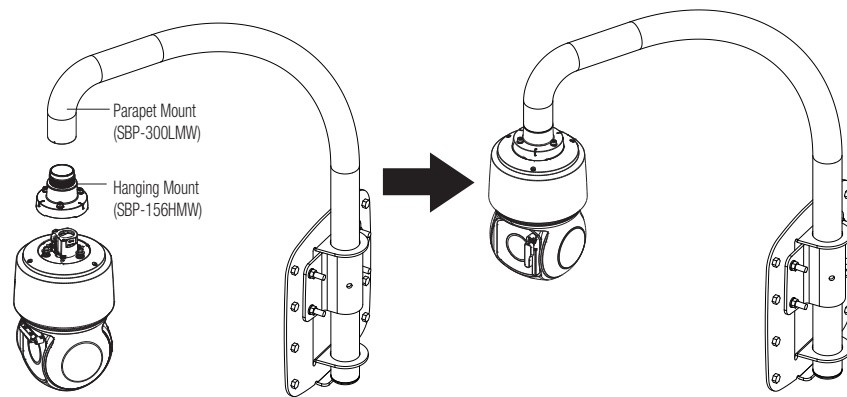
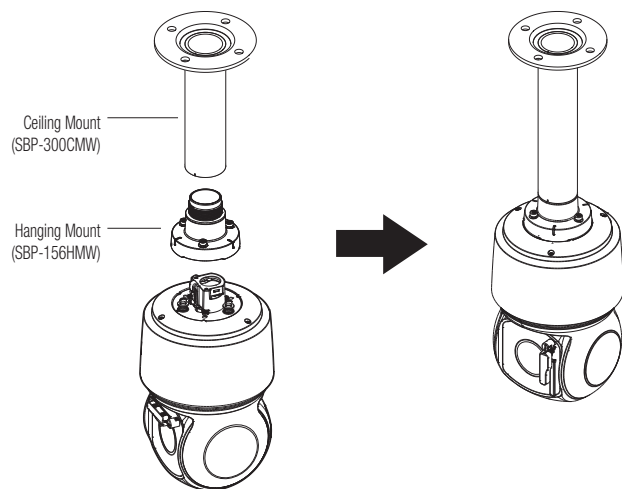
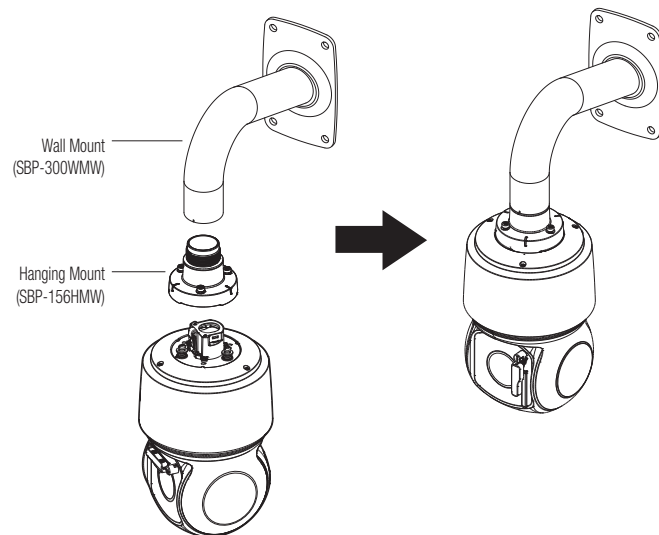
Ceiling Mount
(SBP-156CMW)



Parapet Mount
(SBP-156LMW)

- **Joined with mounts other than official product mounts**

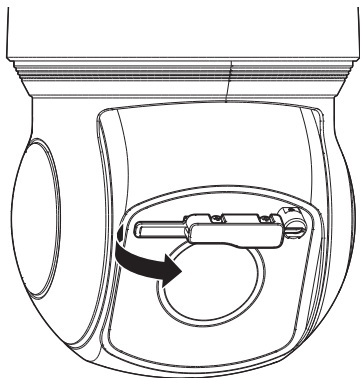
If you use hanging mount, you can install the camera onto any mount other than the official product mount.



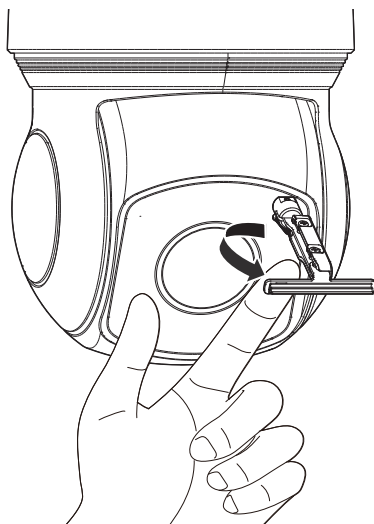
Replacing the rubber of wiper blade

If the rubber part of your wiper blade is worn and not cleaning the window properly, you can replace the rubber part.

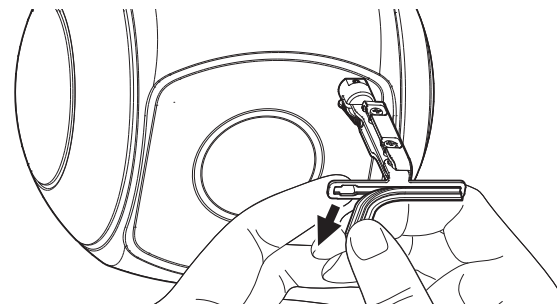
1. Lift up the wiper.



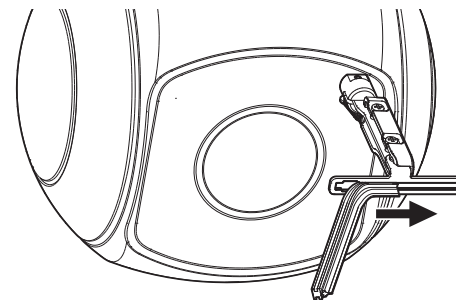
2. Pull the wiper blade back.



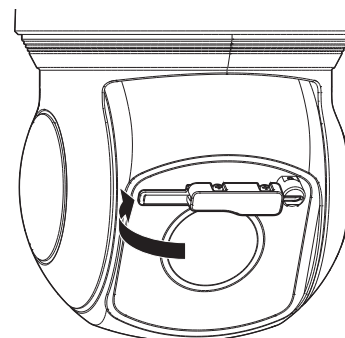
3. Remove the rubber part by pulling it back.



4. Insert the rubber replacement in the joint groove by sliding it in the direction of the arrow.



5. Turn the wiper blade back to its original position and put it down slowly.





Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Hanwha Vision cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products. The Eco mark represents Hanwha Vision's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.



Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.



Risk Group 1 (Groupe de Risque 1)

NOTICE

IR emitted from this product
Use appropriate shielding or eye protection

IR émis par ce produit

Utiliser un écran approprié ou une protection oculaire

WARNING

IR emitted from this product
Do not stare at operating lamp

MISE EN GARDE

IR émis par ce produit
Ne pas regarder fixement la lampe

Product tested against IEC 62471



NETWORK CAMERA,XNP-C6403RW

PoE(55V ) 0.84A

M/C: XNP-C6403RW/KEX Fac.ID:D



DATE S/N: Serial No.

MAC ADDRESS: XX-XX-XX-XX-XX-XX

CAN ICES-3(A)/NMB-3(A)

HANWHA VISION CO.,LTD.

MADE IN KOREA

Rainproof/ Étanche
IP66



NETWORK CAMERA,XNP-C8303RW

PoE(55V ) 0.84A

M/C: XNP-C8303RW/KEX Fac.ID:D



DATE S/N: Serial No.

MAC ADDRESS: XX-XX-XX-XX-XX-XX

CAN ICES-3(A)/NMB-3(A)

HANWHA VISION CO.,LTD.

MADE IN KOREA

Rainproof/ Étanche
IP66



NETWORK CAMERA,XNP-C9303RW
PoE(55V ) 0.84A

M/C: XNP-C9303RW/KEX Fac.ID:D



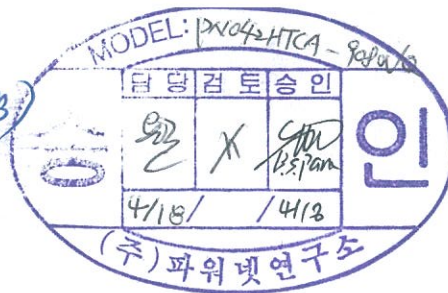
DATE S/N: Serial No.
MAC ADDRESS: XX-XX-XX-XX-XX-XX
CAN ICES-3(A)/NMB-3(A)
HANWHA VISION CO.,LTD.
MADE IN KOREA

Rainproof/ Étanche
IP66

The following Page(s) are related to Miscellaneous-09. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

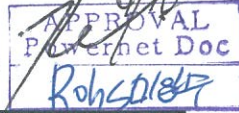
PN개발-승-

17110 (최권민승)



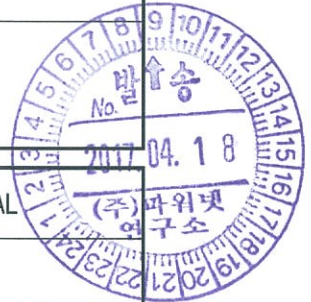
NO. _____

SPECIFICATIONS



DESCRIPTION	TRANS-POWER S/W
SPECIFICATION	EER3019(HE4,PC40,PL-7) / 100uH±7%
MAKER SPECIFICATION	EER3019 10PIN(5+5)
PART NO.	1400651
MODEL NO.	PN042HTCA-9080VQ
SPECIAL ARTICLES	UL INSULATION SYSTEM(CLASS-B) CIS.04 SYSTEM(SC-05B)

DESIGN	CHECK	APPROVAL
Y.H CHA	G.T KIM	D.K PARK
2017. 03. 13.	2017. 03. 13.	2017. 03. 13.
A TERM OF VALIDITY	YEAR	



Indemnification

Clover Hi-Tech will indemnify, hold harmless, and at POWERNET's request, defend POWERNET and POWERNET's directors, officers, employees, agents and independent contractors from and against any loss, cost, liability or expense (including court costs and reasonable fees of attorneys and other professionals) arising out of or resulting from any third party claim that any Products and/or Components provided by Clover Hi-Tech infringes patent, copyright, trade secret right or other intellectual property right. If Clover Hi-Tech receives notice of an alleged patent, copyright, trade secret or other intellectual property right infringement or if POWERNET's use of the Products and/or the Components provided by Clover Hi-Tech shall be prevented by permanent injunction for reasons of patent, copyright or trade secret infringement, Clover Hi-Tech may, at its sole option and expense, procure for POWERNET the right to continued use of the Products and/or the Components as provided hereunder, or modify the allegedly infringing item such that it is no longer infringing, or replace the allegedly infringing item.

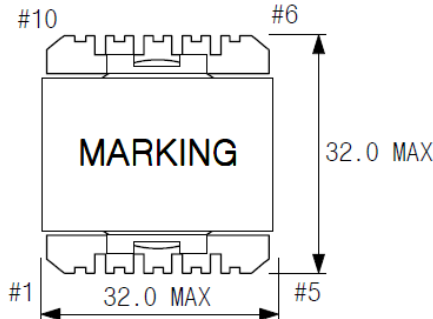
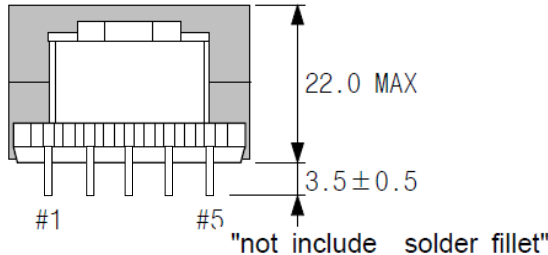
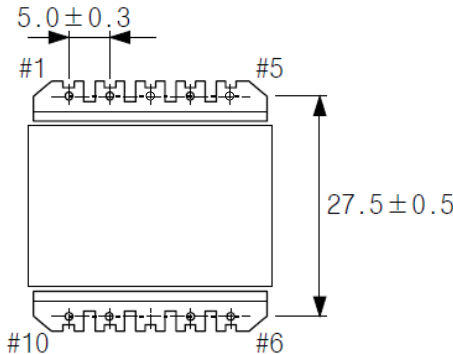
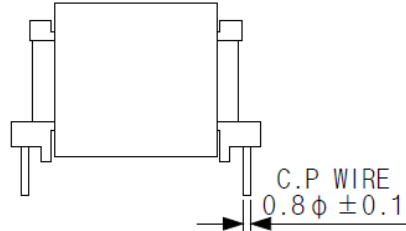
REQUEST CUSTOMER	CLOVER Hi-Tech CO., LTD.	TEL	02)453-0488
ADDRESS	HEAD QUARTER : CLOVER BLDG., 131, Samjeon-Dong, Songpa-Gu, Seoul, Korea. FACTORY 1: 268, Munhwa-Dong, Chungju-City, Chungbuk-Do, Korea FACTORY 2: 62, Shenzhen Road, Mansanzhen, Wendeng-City, Shan Dong, China. FACTORY 3: Chang Fa Management Area, Fu Shan Liad Bu Town, Dong Guan-City, Guang Dong P.R.China.		

Handwritten signature and date: 2017. 04. 18

CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS		DATE	2017.03.13		
PART NAME	TRANS-POWER S/W	PART NO	1400651		
1. APPLICATION This Specification is applied to Inspection and Approval of the TRANSFORMER for POWERNET TECHNOLOGIES. 2. GENERAL PREFERENCE The reinspection & re approval is required to change the structure, quality, progress of this Specification. 3. ABSOLUTE REGULARITY 1) Keep Temperature : -40℃ ~ 100℃ 2) Keep Humidity : 20% ~ 95% 3) Use Temperature : -10℃ ~ 70℃ 4) Use Humidity : 20% ~ 85% 4. MECHANICAL CHARACTERISTIC 1) TERMINAL TENSION INTENSITY After fix the Body The Terminal Shall withstand for 5 seconds without losing when a static load of 2.0kg is applied to drawing direction of the Terminal. 2) TERMINAL BEND INTENSITY The Terminal shall withstand without losing and shortage when return after bend 1 time to the left side and 1 time right side with a static load. 3) VIBRATION TEST After fix a Body of the Vibration Board The Terminal shall withstand without losing and bend when operate Vibration Test of 3 directions(X,Y,Z) for 2hours. - Frequency : 10 - 55Hz - Amplitude : 0.75mm 5. ELECTRICAL CHARACTERISTIC 1) INSULATION RESISTANCE ① Primary COIL TO CORE : Shall be more than 100MΩ when measured with DC500V. ② Primary COIL to Secondary COIL : Shall be more than 100MΩ when measured with DC500V. ③ Secondary COIL TO CORE ; Shall be more than 100MΩ when measured with DC500V. 2) WITHSTAND VOLTAGE ① Primary COIL TO Secondary COIL : Shall be no damage when measured AC1.5KV, 5mA for 1 Min. ② Primary COIL TO CORE: Shall be no damage when measured AC1.5KV, 5mA for 1 Min. ③ Secondary COIL TO CORE : Shall be no damage when measured AC1.5KV, 5mA for 1 Min. 3) LAYER SHORT TEST Shall be no damage when compare a film-insulation condition with standard sample after measured Surge Voltage (AC1.5KV) on the both ends of the Winding.					
CLOVER Hi-Tech CO., LTD.		DESIGN	CHECK	APPROVAL	PAGE
		Y.H CHA	K.T KIM	D.K PARK	1/19

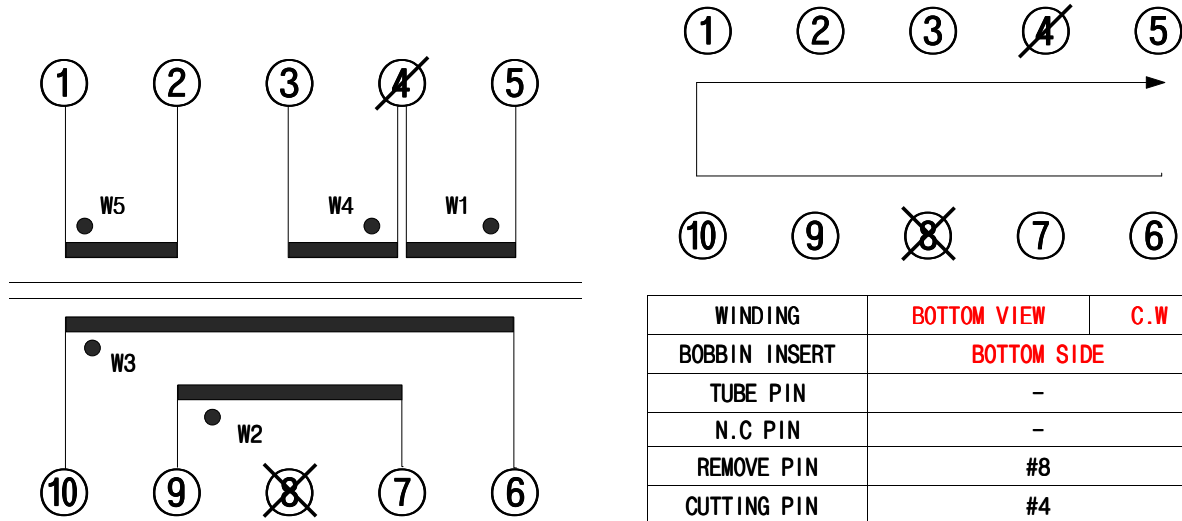
CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS		DATE	2017.03.13																							
PART NAME	TRANS-POWER S/W	PART NO	1400651																							
6. DIMENSION (UNIT:mm)  ◆TOP VIEW◆  ◆FRONT VIEW◆  ◆BOTTOM VIEW◆		*MARKING(BLACK)* 1400651 -- PART NO. SC-05B SC-AABBCCDE-- LOT NO. MAKER(TRADENAME) INSULATION SYSTEM DESIGN NO(CLASS-B) LOT NO <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>  ◆SIDE VIEW◆ * REMOVE PIN : #8 * CUTTING PIN : #4 * GAP CORE : TOP * CENTER BOND : SW-860HF			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)																									
A:KOREA PRODUCT	K:DONGYANGGUANG																									
C:CHINA(WENDENG)	N:JISHUN																									
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

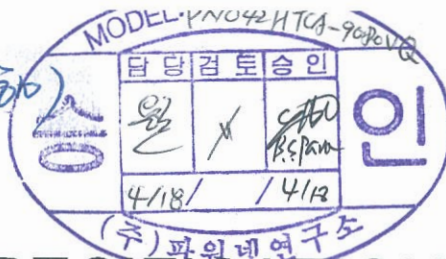
NO	NAME	TERMINAL NO.		WINDING		
		START	FINISH	WIRE	TURNS	WINDING METHOD
1	W1	5	4	1UEW 0.50 ϕ $\times$ 2	7	SOLENOID
2	W2	9	7	1UEW 0.50 ϕ $\times$ 2	7	SOLENOID
3	W3	10	6	1UEW 0.50 ϕ $\times$ 2	7	SOLENOID
4	W4	4	3	1UEW 0.50 ϕ $\times$ 2	7	SOLENOID
5	W5	1	2	1UEW 0.40 ϕ	12	SOLENOID
WIRE SPECIFICATION				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		
16. LIST OF MATERIAL						
NO	COMPONENT	NAME OF MATERIAL	MANUFACTURER OF MATERIAL	UL FILE NO		
1	CORE	HE4 EER 3019 (EC30-4R)	RUYUAN DONGYANGGUANG MAGNETICS MATERIALS CO.,LTD.			
		PC40 EER 3019	SHANGHAI JISHUN MAGNETIC MATERIAL CO.,LTD.			
		PL-7 EER 3019S	SAMWHA ELECTORNICS CO., LTD.			
2	BOBBIN	PHENOLIC 94V-0 EER3019 V"TYPE 10PIN(5+5)	SUMITOMO BAKELITE CO.,LTD.(PM-9820)	E41429		
3	WIRE	1UEW 0.40 ϕ 1UEW 0.50 ϕ	CNI ELECTRONICS CO.,LTD. (ANSI TYPE(RATED 130℃)=MW28, MW75) SHANONG PENGTAI STOCK CO.,LTD.	E210918 E166187		
4	INSULATION TAPE	POLYESTER TAPE 0.025Tx10.0mm(W)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD. (CT*(b)(g))	E165111		
5	CORE FIXING TAPE	POLYESTER TAPE 0.025Tx20.0mm(W)				
6	BARRIER	PNW(BUSIKPO) TAPE 0.45Tx2.0mm	TAE HWA INDUSTRIAL CO.,LTD.(H-5673*) JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD.(WF)	E92677 E165111		
7	ADHESIVE	EPOXY RESIN SW-860HF	SUNGWOO CHEMICAL CO.,LTD.			
8	SOLDER	BAR, WIRE	ALPHA METALS CO.,LTD.			
	FLUX	JS-7000S-2	KOKI SANEI KOREA CO.,LTD.			
9	VARNISH	DVB-2085(*)	NOROO PAINT & COATINGS CO.,LTD.	E93947		
10	MARKING	INK(Black)	HITACHI CHEMICAL CO.,LTD.			
CLOVER Hi-Tech CO., LTD.			DESIGN	CHECK	APPROVAL	PAGE
			Y.H CHA	K.T KIM	D.K PARK	13/19



SPECIFICATIONS

APPROVAL
Powernet Doc
Rohs 01017

DESCRIPTION	MAIN TRANS
SPECIFICATION	100uH / EER3019 (PL-7,TP4,ZP40)
MAKER SPECIFICATION	EER3019 P10 (5+5)
CODE NO	1400651
MODEL NO	PN042HTCA-9080VQ
SPECIAL ARTICLES	CLASS 130(B) TRANSFORMER INSULATION SYSTEMDESIGNATED CP-130 (YOUNG CHANG SILICONE)

CUSTOMER APPROVED

검토	확인	승인



작성	검토	심사	승인
2017. 03. 13.	2017. 03. 13.	2017. 03. 13.	2017. 03. 13.

REQUEST CUSTOMER	CORE Plus+	TEL	TEL : 031)224-6030 FAX : 031)224-6066
ADDRESS	* HEAD OFFICE : RM606,SAMHO TOWER 1122-10 INGYE-DONG PALDAL-GU GYEONGGI-DO KOREA. * CHINA FACTORY : 43 LANTANG ROAD,SHOUSHAN DUSTRIAL PARK, LIAOYANG COUNTY, LIAONING PROVINCE, CHINA * INDONESIA FACTORY : KP. SINDANG RESMI RT.03 RW.07 DESA KUTAJAYA KEC. CICURUG KAB. SUKABUMI 43359 INDONESIA		

mon start man ✓

SPECIFICATIONS		SHEET NO.	1 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019

1. APPLICATION

This specification applied to inspection and approval of the S/W TRANS for POWERNET TECHNOLOGIES.

2. GENERAL PREFERENCE

The reinspection & reapproval is required to change the structure, quality, progress of this specification.

3. ABSOLUTE REGULARITY

- (1) Keep temperature : -40℃ ~ 100℃
- (2) Keep humidity : 20% ~ 95%
- (3) Use temperature : -10℃ ~ 70℃
- (4) Use humidity : 20% ~ 85%

4. MECHANICAL CHARACTERISTIC**(1) TERMINAL TENSION INTENSITY**

After fix the body the terminal shall withstand for 5 seconds without losing when a static load of 2.0Kg is applied to drawing direction of the terminal.

(2) TERMINAL BEND INTENSITY

The terminal shall withstand without losing and shortage when return after bend 1 time to the left side and 1 time right side with a static load.

(3) VIBRATION TEST

After fix a body of the vibration board the terminal shall withstand without losing and bend when operate vibration test of 3 direction (X,Y,Z) for 2 hours

- Frequency : 10 ~ 55Hz
- Amplitude : 0.75mm

5. ELECTRICAL CHARACTERISTIC**(1) INSULATION RESISTANCE**

- ① Primary coil to secondary coil : Shall be more than 100MΩ when measured with DC0.5KV
- ② Primary coil to core : Shall be more than 100MΩ when measured with DC0.5KV
- ③ Secondary coil to core : Shall be more than 100MΩ when measured with DC0.5KV

(2) WITHSTAND VOLTAGE

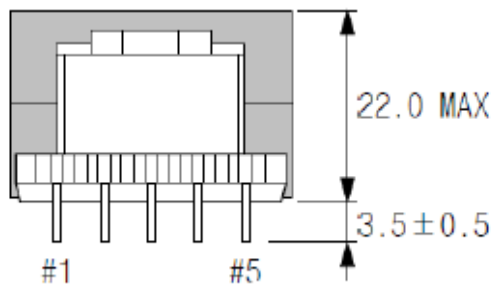
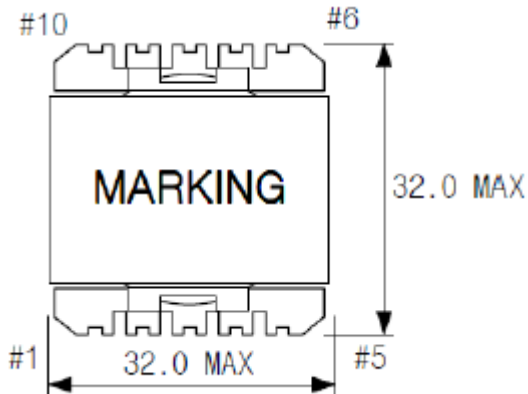
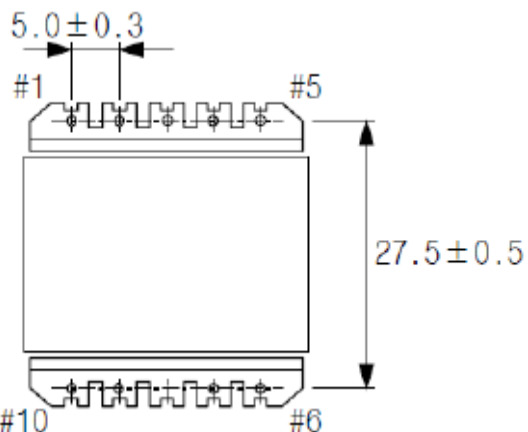
- ① Primary coil to core : Shall be no damage when measured AC1.5KV, 5mA, for 1MIN
- ② Primary coil to secondary coil : Shall be no damage when measured AC1.5KV, 5mA, for 1MIN
- ③ Secondary coil to core : Shall be no damage when measured AC1.5KV, 5mA, for 1MIN

(3) LAYER SHORT TEST

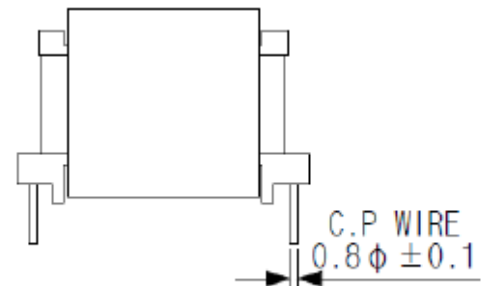
Shall be no damage when compare a film-insulation condition with standard sample after measured surge voltage (AC1.5KV) on the both ends of the winding.

CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					

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**

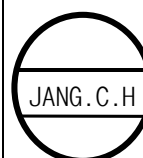
CORE Plus

DESIGN

CHECK

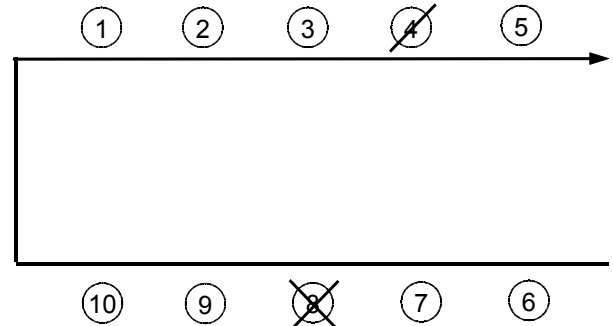
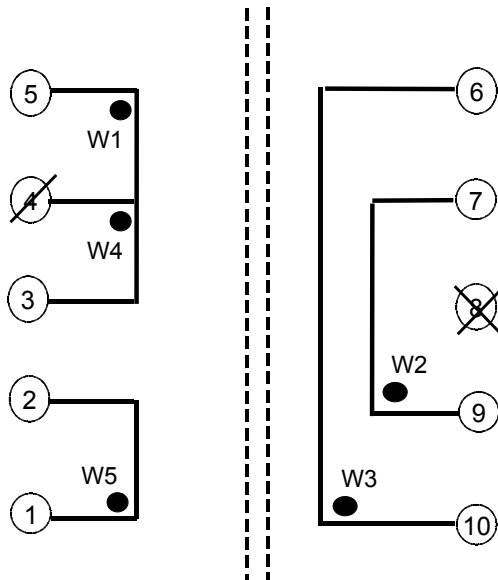
CONFIRM

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

13. REGULARITY CURRENT

WIRE	허 용 전 류	SET 전류(부하 MAX시)
1UEW 0.40Ø	0.502 A	
1UEW 0.50Ø	0.785 A	

14. RELIABILITY TEST

ITEM	TEST CONDITION	SPEC
(HUMIDITY- RESISTANCE)	TEMPERATURE:40±2℃, HUMIDITY:90~95%RH, TIME:96HR	INITIAL INDUCTANCE ±10%
	(UNDER THE CONDITION OF NORMAL TEMPERATURE MEASURING DATA AFTER LEAVING MORE THAN 60 MINUTES.)	
(HEAT SHOCK-RESISTANCE)	-25℃±5℃ 30MIN → 85℃±5℃ 30MIN : -25℃↔85℃ 10SEC PRECEDING DESCRIPTIONS CONDITION 1CYCLE APPLICATION 10 CYCLE ENFORCEMENTS	INITIAL INDUCTANCE ±10%
	(UNDER THE CONDITION OF NORMAL TEMPERATURE MEASURING DATA AFTER KEEPING MORE THAN 12HR.)	
(HEAT-RESISTANCE)	TEMPERATURE:105±2℃, TIME:96HR	INITIAL INDUCTANCE ±10%
	(UNDER THE CONDITION OF NORMAL TEMPERATURE MEASURING DATA AFTER KEEPING MORE THAN 60 MINUTES.)	
(COLD-RESISTANCE)	TEMPERATURE:-25±2℃, TIME:96HR	INITIAL INDUCTANCE ±10%
	(UNDER THE CONDITION OF NORMAL TEMPERATURE MEASURING DATA AFTER LEAVING MORE THAN 30 MINUTES.)	

15. ENDURANCE TEST

ITEM	TEST CONDITION	SPEC
SOLDERABILITY	SOLDER POT ℃ : 280 ±5℃	MORE THAN 90%
	SOLDERING HR : 2 ±0.5 SEC	
SOLDERING HEAT RESISTANCE	SOLDERING ℃ : 260 ±5℃	MORE THAN 90%
	SOLDERING HR : 10 ±1.0 SEC	

CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					

SPECIFICATIONS		SHEET NO.	12 OF 21
		DATE	2017. 03. 13.
PART NAME	S/W TRANS	MODEL NAME	PN042HTCA-9080VQ
PART NO.	1400651	TYPE	EER3019

19. MATERIAL LIST

No	COMPONENT	NAME OF MATERIAL	MANUFACTURER OF MATERIAL	UL FILE No
1	CORE	EER3019 PL-7	SAM WHA ELECTRONICS CO., LTD	
		EER3019 TP-4	TDG HOLDING CO.,LTD	
		EER3019 ZP40	NANTONG ZHONGXING MAGNETIC INDUSTRIAL CO., LTD	
2	BOBBIN	"V"TYPE , PHENOLIC (PM 9820) EER3019 "V" 5+5PIN	SUMITOMO BAKELITE CO., LTD	E41429
3	WIRE	POLYURETHANE 1UEW 0.40Ø 1UEW 0.50Ø	CNI ELECTRONICS CO LTD	E210918
			LIAONING WANXINGDA SPECIAL ENAMELLED WIRE(GROUP) CO.LTD	E220501
4	INSULATION TAPE	POLYESTER FILM TAPE 0.025t X 10.0mm (WHITE)	JINGJIANG JINGYI ADHESIVE PRODUCT CO., LTD	E246950
5	CORE FIXING TAPE	POLYESTER FILM TAPE 0.025t X 20.0mm (WHITE)	JINGJIANG YAHUA PRESSURESENSITIVE GLUE CO., LTD(CT*)	E165111
6	ADHESIVE	SK-011	SE KYE CHEMICAL CO.,LTD	
		UNI-BOND #812	GREEN STAR CO., LTD.	
7	BARRIER TAPE	P.N.W TAPE 0.45t × 2.0mm	JINGJIANG JINGYI ADHESIVE PRODUCT CO., LTD	E246950
			JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO., LTD(WF)	E165111
8	VARNISH	SR-337A,B	SE KYE CHEMICAL CO.,	E257443
9	SOLDER	LEAD FREE	TIANJIN HENKO TECHNOLOGY CO., LTD.	
10	FLUX	319-5F	JIANGYIN CITY DENG FENG ELECTRICAL MATERAIL CO.,LTD	
11	MARKING	INK	BON MARQUE.	

CUSTOMER CHECK		DESIGN	CHECK	CONFIRM	APPROVAL
					

The following Page(s) are related to Miscellaneous-10. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

SPECIFICATIONS

TO MESSRS : 파워넷

CUSTOMER'S MODEL :

CUSTOMER'S PART NO :

ITEM : LINE FILTER

TNC SPEC NO. : QV181610A

APPROVED	REFERENCE

DATE : 2016. 03. 18

TNC (株)TNC

304-29 Asan Valley, DunPo-Myeon, Asan-Si, Chung Cheong
Nam-Do, KOREA 336-871
TEL : 82-41-530-9600
FAX : 82-41-530-9697

NOTICE : After received this approval sheet and finished it's approval,
please return back one copy. In case of that you don't do any reply
until initial order date, this approval sheet is to be standard approval
and initial order date is to be approved date for concerning item.

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)

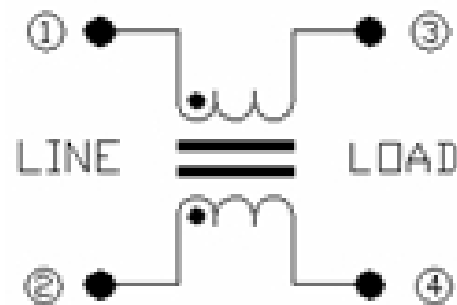
3. OPERATING TEMPERATURE RANGE

-30℃ TO +120℃ INCLUDING TEMPERATURE RISE.

4. KEEP TEMPERATURE RANGE

-30℃ ~ +60℃.

5. CIRCUIT DIAGRAM



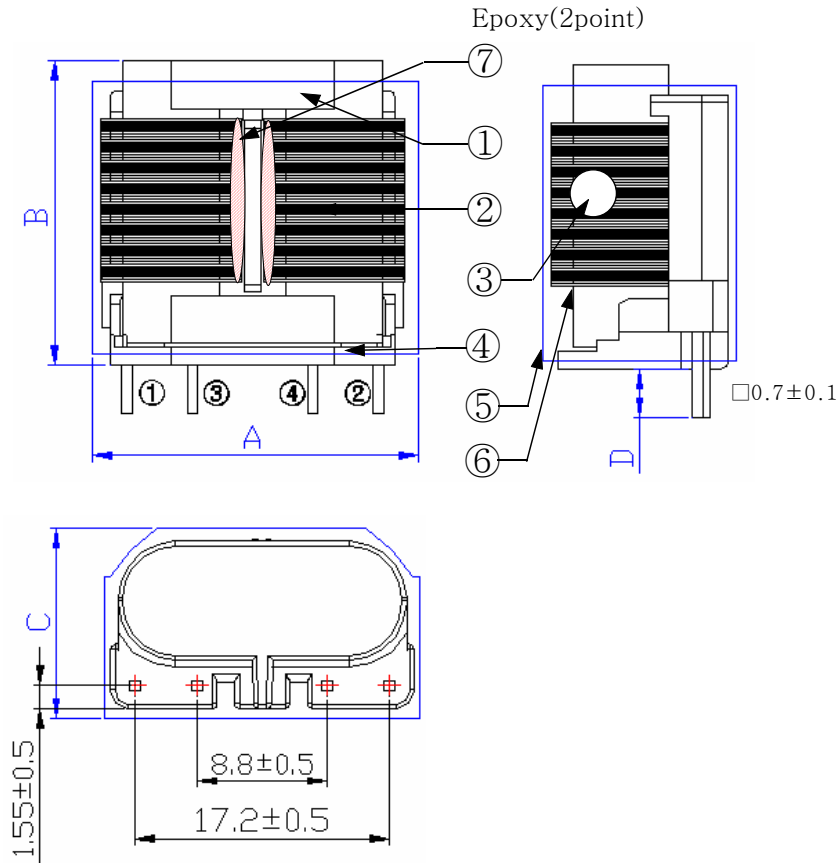
 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
				3/15

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

 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
				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

The following Page(s) are related to Miscellaneous-11. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

중간품명 (ITEM) : Linefilter → Commonfilter
오기 정정

PN개발-승-16092(재발행)



CUSTOMER : POWERNET

DATE : 2016. 04. 08

APPROVAL SHEET

ITEM : COMMON FILTER



MODEL No. : CVA6011RNF2

Customer Code No. :

1420830-A07

CUSTOMER'S APPROVED

MODEL : A591A KPNL

승인

4/11 / 4/11 / 4/11

(주)파워넷연구소

중점 관리 내용 :

- 3 Page INDUCTANCE SPEC 관리
- 7 Page IMPEDANCE SPEC 관리



Drawing	Agreement			Approval
	Circuit	Reliability & Product Eng.	Mechanical	
2016.04.08	2016.04.08	2016.04.08	2016.04.08	2016.04.08

Maker	TNC CO., LTD. (KOREA FACTORY)	TEL	82-41-530-9600	
Address	# 304-29 Asan Valley, DunPo-Myeon, Asan-Si, Chung Cheong Nam-Do, KOREA 336-871			
Factory 1	TNC CO., LTD (CHINA FACTORY)	TEL	+ 86-539-723-6759	O
Address	GUANDI VILLAGE ECONOMY DEVELOPMENT ZONE, JANAN-COUNTRY LINYI CITY, SHANDONG CHINA			
Factroy 2	TNC CO., LTD. (THAILAND FACTORY)	TEL	+ 66-38-573715	
Address	105/18 MOO3 BANGNA TRAD RD KM52. THAKHAM BANGPAKONG CHACHOENGSAO 24130, THAILAND			

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)

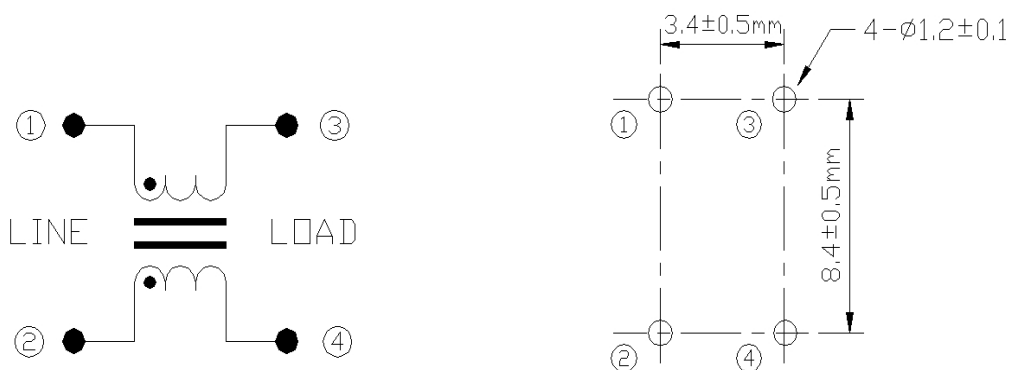
3. OPERATING TEMPERATURE RANGE

-30℃ TO +105℃ INCLUDING TEMPERATURE RISE.

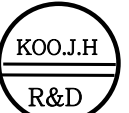
4. KEEP TEMPERATURE RANGE

-30℃ ~ +60℃.

5. CIRCUIT DIAGRAM



Minimum PCB Piercing HOLE

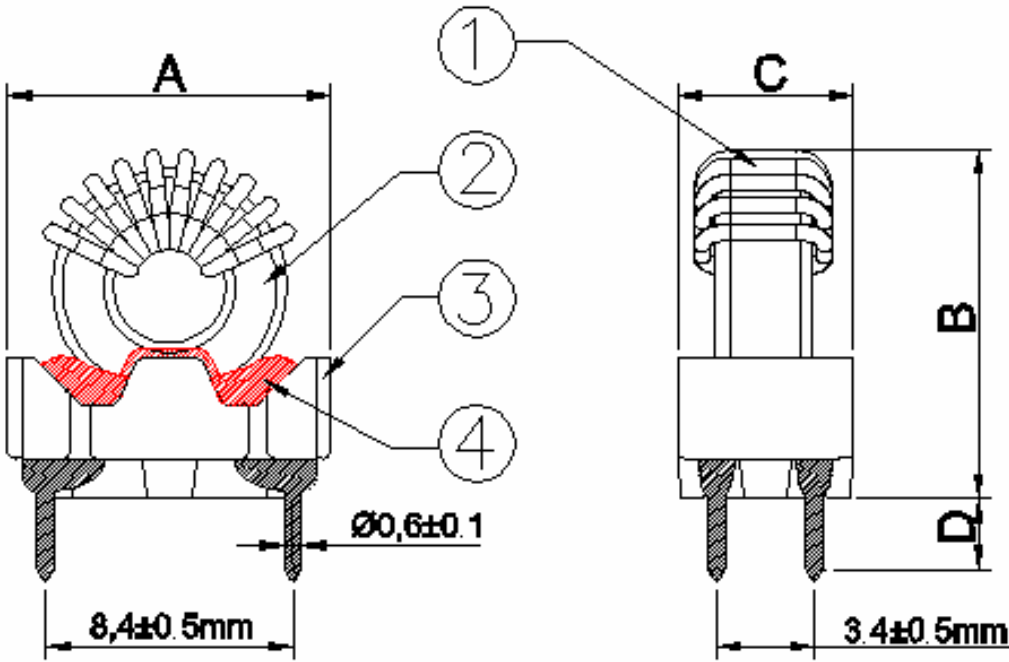
 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
	 RYU.H.E. R&D	 KANG.S.W. R&D	 KOO.J.H. R&D	3/12

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

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

DESCRIPTION	COMMON FILTER
SPECIFICATION	11.0uH / T8Φ (HP-10, L800)
MAKER SPECIFICATION	CVA6011RNF2 / PH
CODE NO	1420830
MODEL NO	A3514_RPN
SPECIAL ARTICLES	

DESIGN	CHECK	APPROVAL
QQ.GAO	SJ.KIM	HL.PARK
2018. 11. 16.	2018. 11. 16.	2018. 11. 16.
A TERM OF VALIDITY	YEAR	

REQUEST CUSTOMER	HEFEI PHOENIX ELECTRONICS TECHNOLOGY CO LTD	TEL	0551-82153520
		FAX	0551-82153585
ADDRESS	QiShan Road Juchao Economy development area ChaoHu Hefei, Anhui 230000 CHINA		
REQUEST CUSTOMER	TOP NATION(KOREA) ELECTRONIC LIMITED	TEL	82-031-205-6475
		FAX	82-031-206-6477
ADDRESS	4Floor, KT Bldg. 3, Cheongmyeongnam-ro, Yeong tong-Gu, Suwon-si, Gyunggi-do, Korea		

SPECIFICATIONS		SHEET NO.	5 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

1. APPLICATION

This specification is applied to inspection and approval of the COMMON FILTER for POWERNET TECHNOLOGIES.

2. GENERAL PREFERENCE

The reinspection & reapproval is required to change the structure, quality, progress of this specification

3. ABSOLUTE REGULARITY

- 1) Keep temperature : $-40^{\circ}\text{C} \sim 100^{\circ}\text{C}$
- 2) Keep humidity : 20% ~ 95%
- 3) Use temperature : $-10^{\circ}\text{C} \sim 70^{\circ}\text{C}$
- 4) Use humidity : 20% ~ 85%

4. MECHANICAL CHARACTERISTIC**1) TERMINAL TENSION INTENSITY**

After fix the body the terminal shall withstand for 5 seconds without losing when a static load of 2.0 Kg is applied to drawing direction of the terminal.

2) TERMINAL BEND INTENSITY

The terminal shall withstand without losing and shortage when return after bend 1 time to the left side and 1 time right side with a static load.

3) VIBRATION TEST

After fix a body of the vibration board the terminal shall withstand without losing and bend when operate vibration test of 3 direction (X,Y,Z) for 2 hours

- Frequency : 10 ~ 55Hz
- Amplitude : 0.75mm

5. ELECTRICAL CHARACTERISTIC**1) INSULATION RESISTANCE**

- ① coil to core : Shall be more than 100Mohm when measured with DC 0.5KV

2) HI-POT TEST

- ① AC0.1KV, 1 MINUTE,5mA, (COIL TO CORE)

3) LAYER SHORT TEST

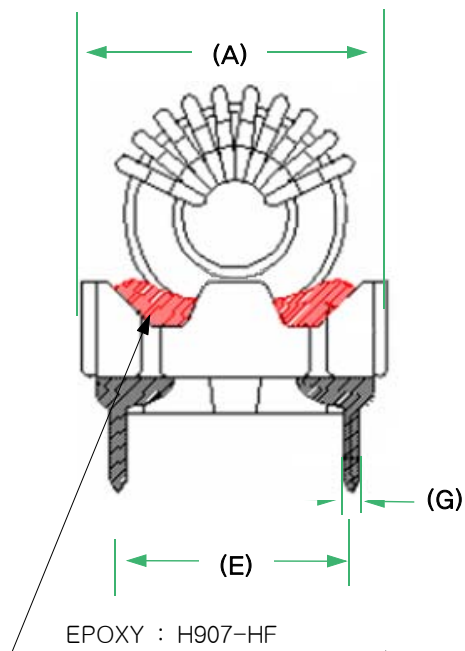
Shall be no damage when compare a film-insulation condition with standard sample after measured surge voltage (AC1.5KV) on the both ends of the winding.

 HEFEI PHOENIX ELECTRONICS TECHNOLOGY CO LTD QiShan Road Juchao Economy development area ChaoHu Hefei, Anhui 230000 CHINA	DESIGN	CHECK	APPROVAL
	QQ.GAO	SJ.KIM	HL.PARK
	FILE NO.		

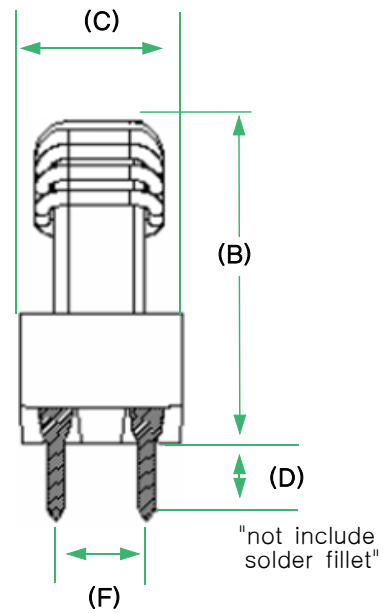
SPECIFICATIONS		SHEET NO.	6 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

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

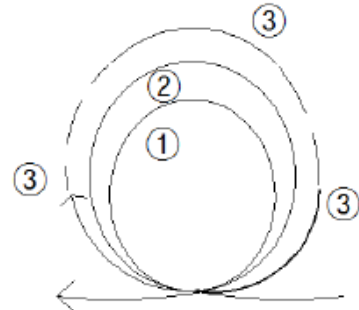
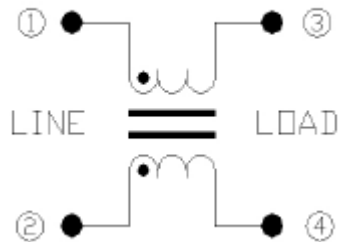
SJ.KIM

APPROVAL

HL.PARK

SPECIFICATIONS		SHEET NO.	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.



HEFEI PHOENIX ELECTRONICS
TECHNOLOGY CO LTD

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

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

SPECIFICATIONS		SHEET NO.	9 OF 26
		DATE	2018. 11. 16.
DESCRIPTION	COMMON FILTER	MODEL	A3514_RPN
CODE NO.	1420830	TYPE	T8Φ

10.ELECTRICAL CHARACTERISTIC

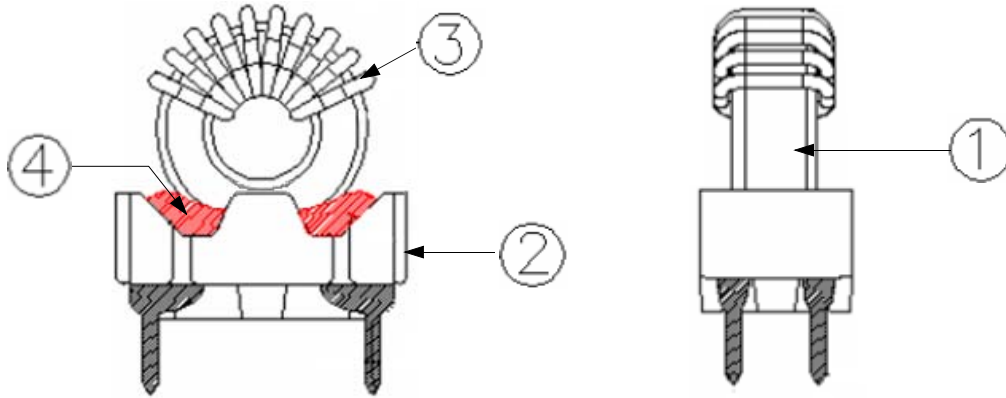
No	ITEM	TERMINAL		SPECIFICATION	REMARKS
		START	FINISH		
1	INDUCTANCE	1	3	11.0 uH +5.5uH -3.3uH	TEST-T3000A LCR-METER at 160 KHz 1.0 Vrms (25℃)
		2	4	11.0 uH +5.5uH -3.3uH	
2	DIFFERENCE INDUCTANCE	L1 - L2		1.99 uH MAX	
3	DC RESISTANCE	1	3	16.0 mΩ MAX	TH-2516 at 25℃
		2	4	16.0 mΩ MAX	
5	HI-POT TEST	COIL TO COIL		AC0.1 KVrms, 1 MINUTE.	CUT OFF CURRENT <u>5</u> mA (CH-19053)
6	INSULATION RESISTANCE	COIL - CORE COIL - COIL		DC 500V, 100MΩ MIN.	CH-19053
7	LAYER SHORT	AC 1.5 KV, 60Hz			T-7900 IMPULSE TESTER

* TEST CONDITION : TEMPERATURE 20℃±5℃, HUMIDITY 65%±20%

 HEFEI PHOENIX ELECTRONICS TECHNOLOGY CO LTD QiShan Road Juchao Economy development area ChaoHu Hefei, Anhui 230000 CHINA	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		



HEFEI PHOENIX ELECTRONICS
TECHNOLOGY CO LTD

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

DESIGN

CHECK

APPROVAL

QQ.GAO

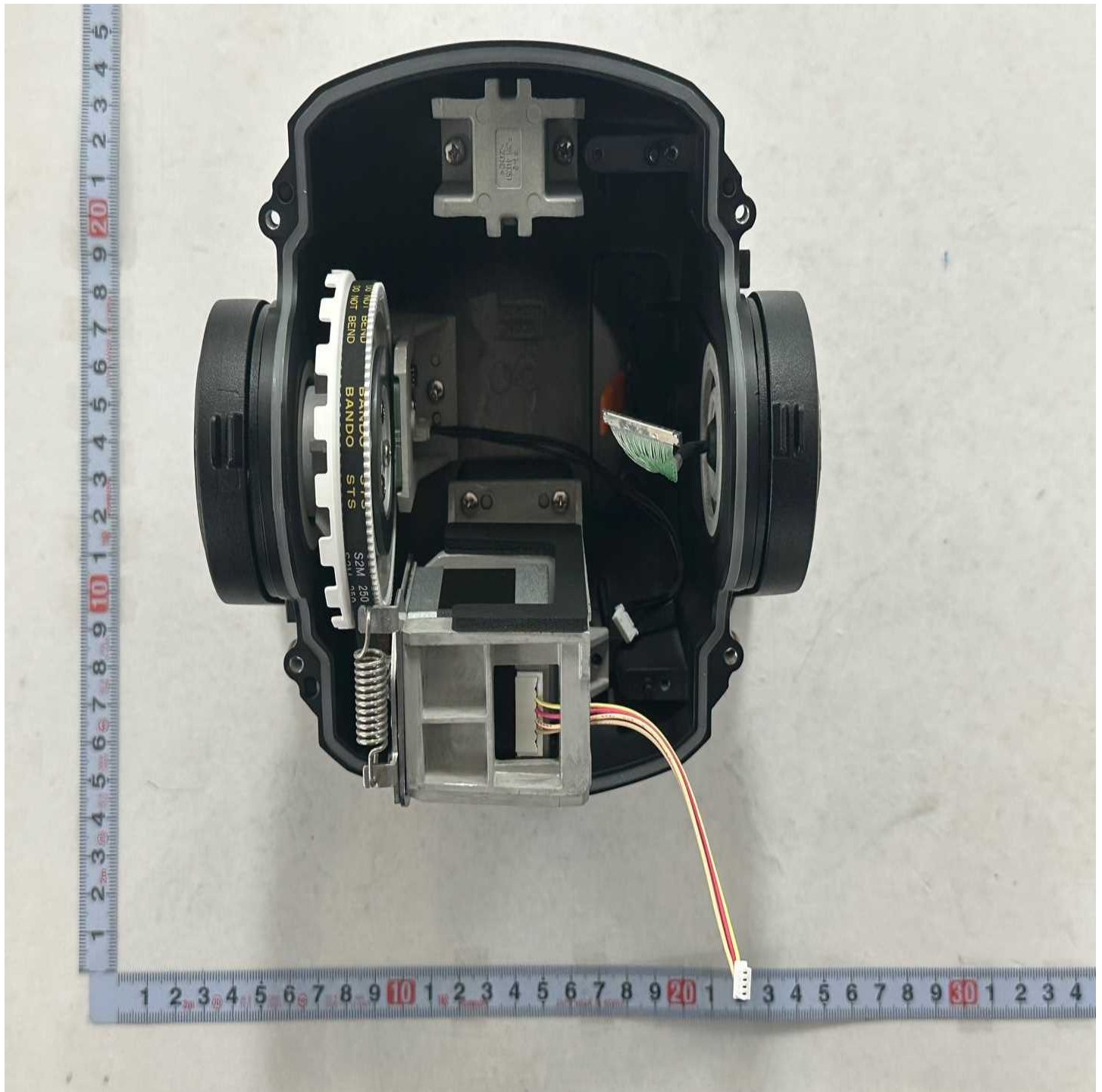
SJ.KIM

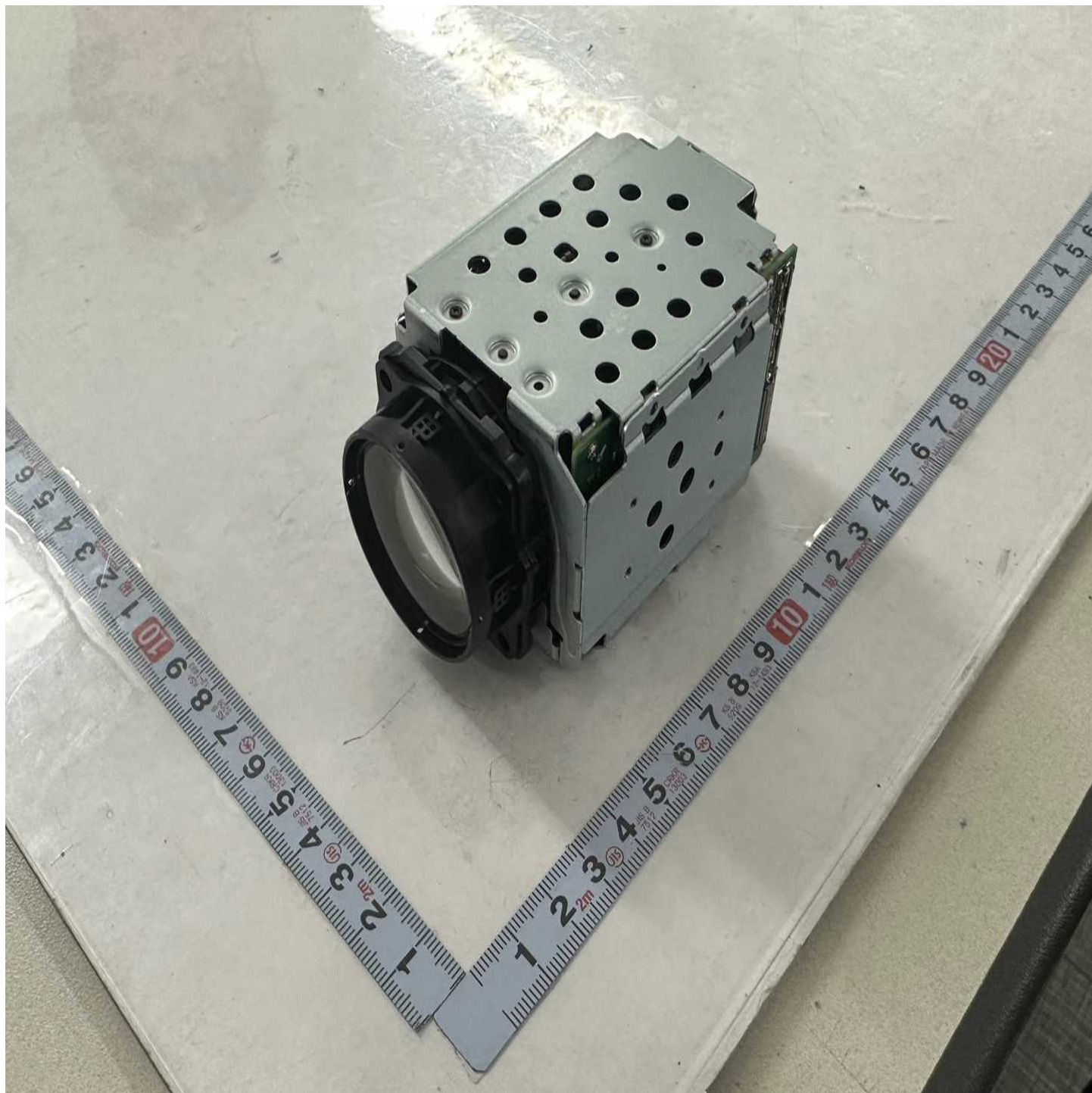
HL.PARK

FILE NO.



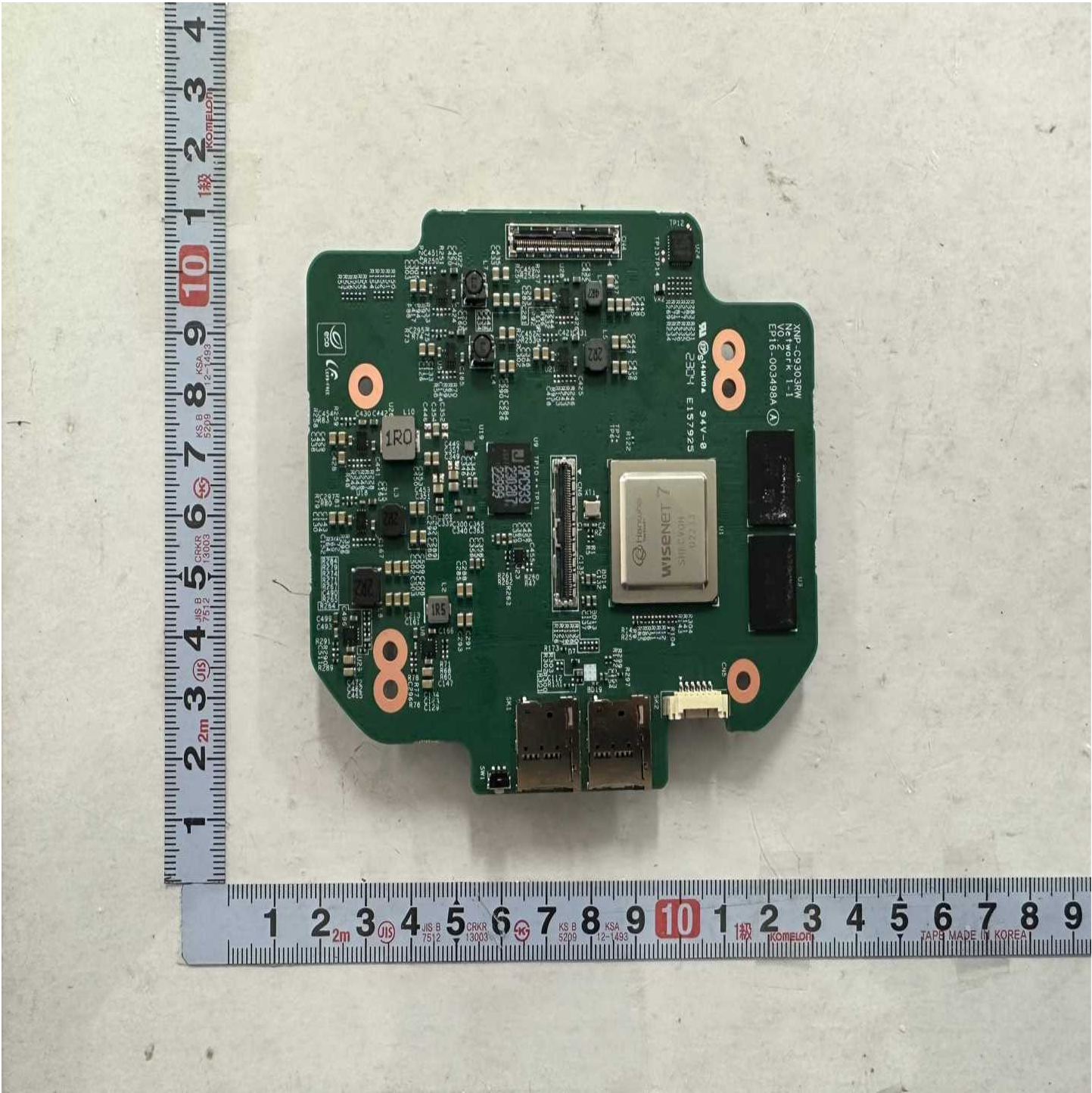


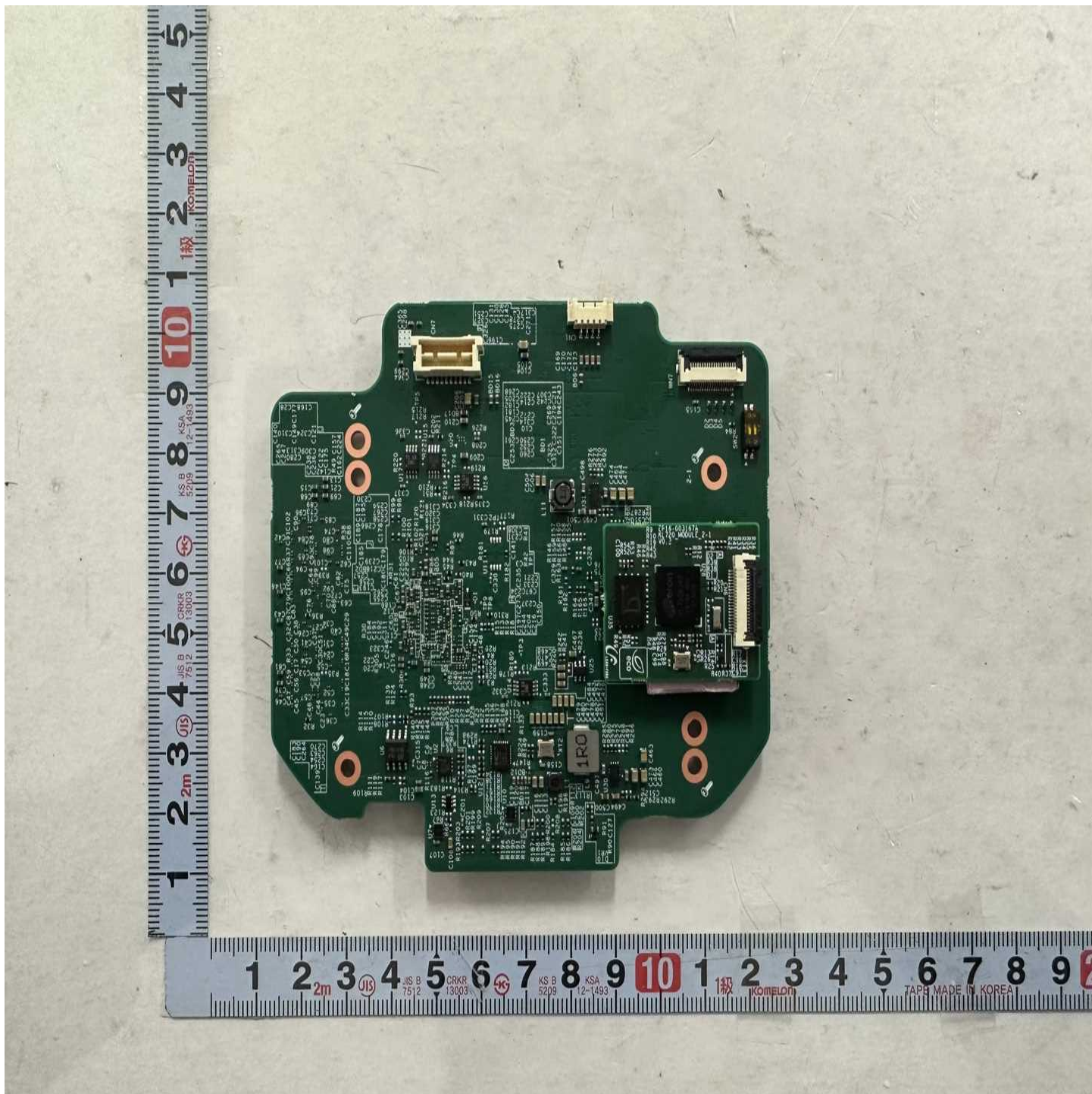


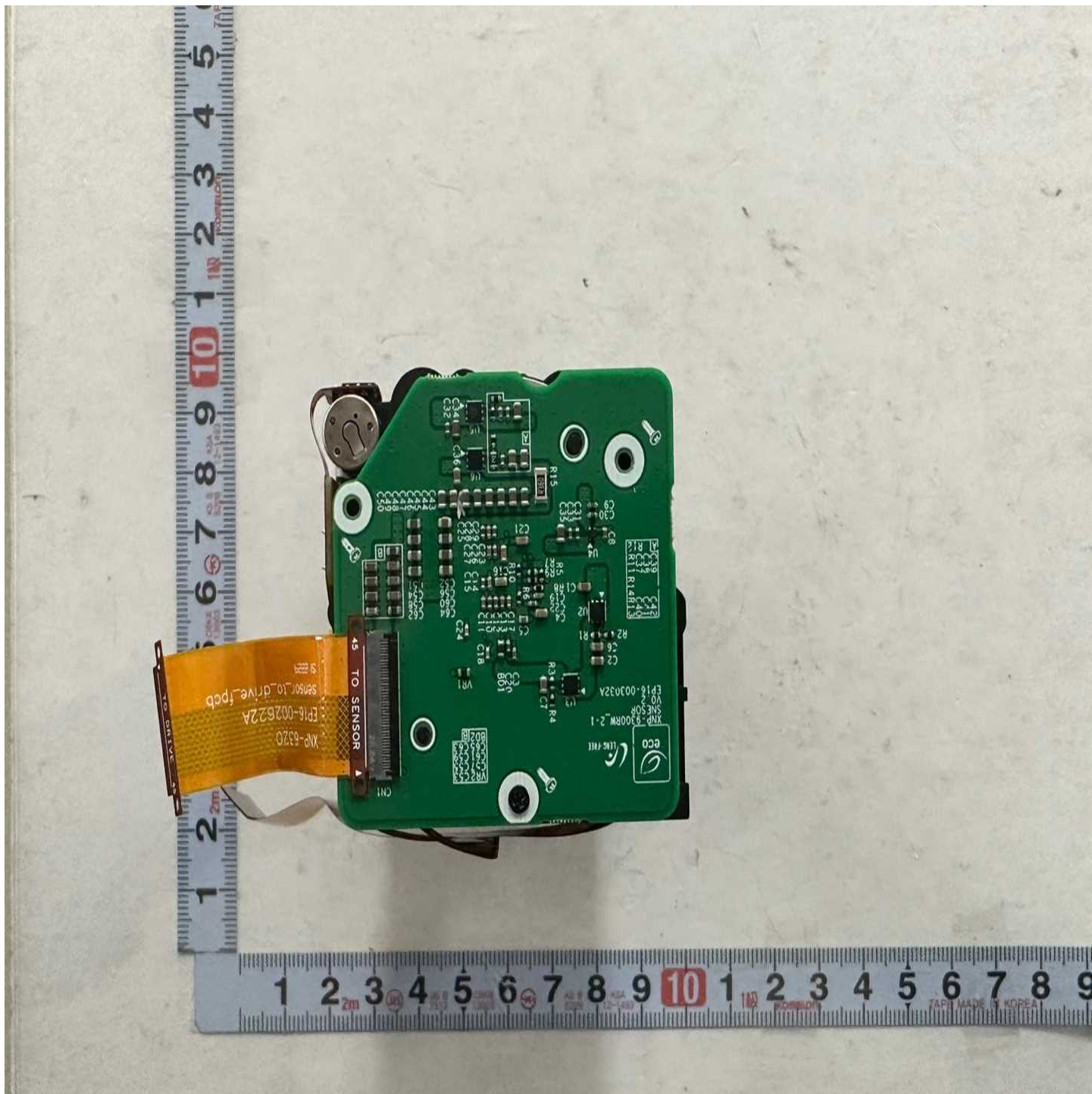










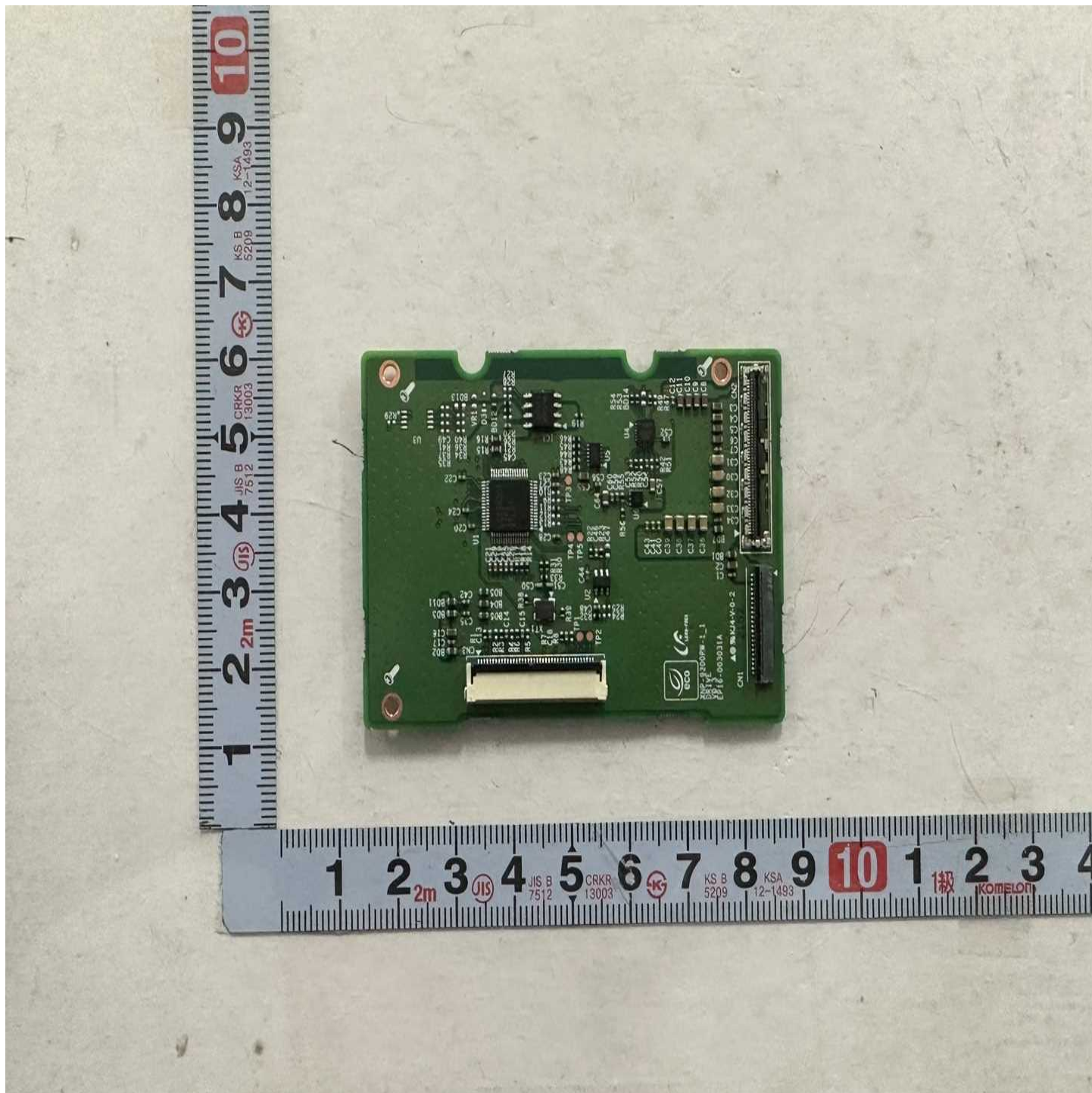


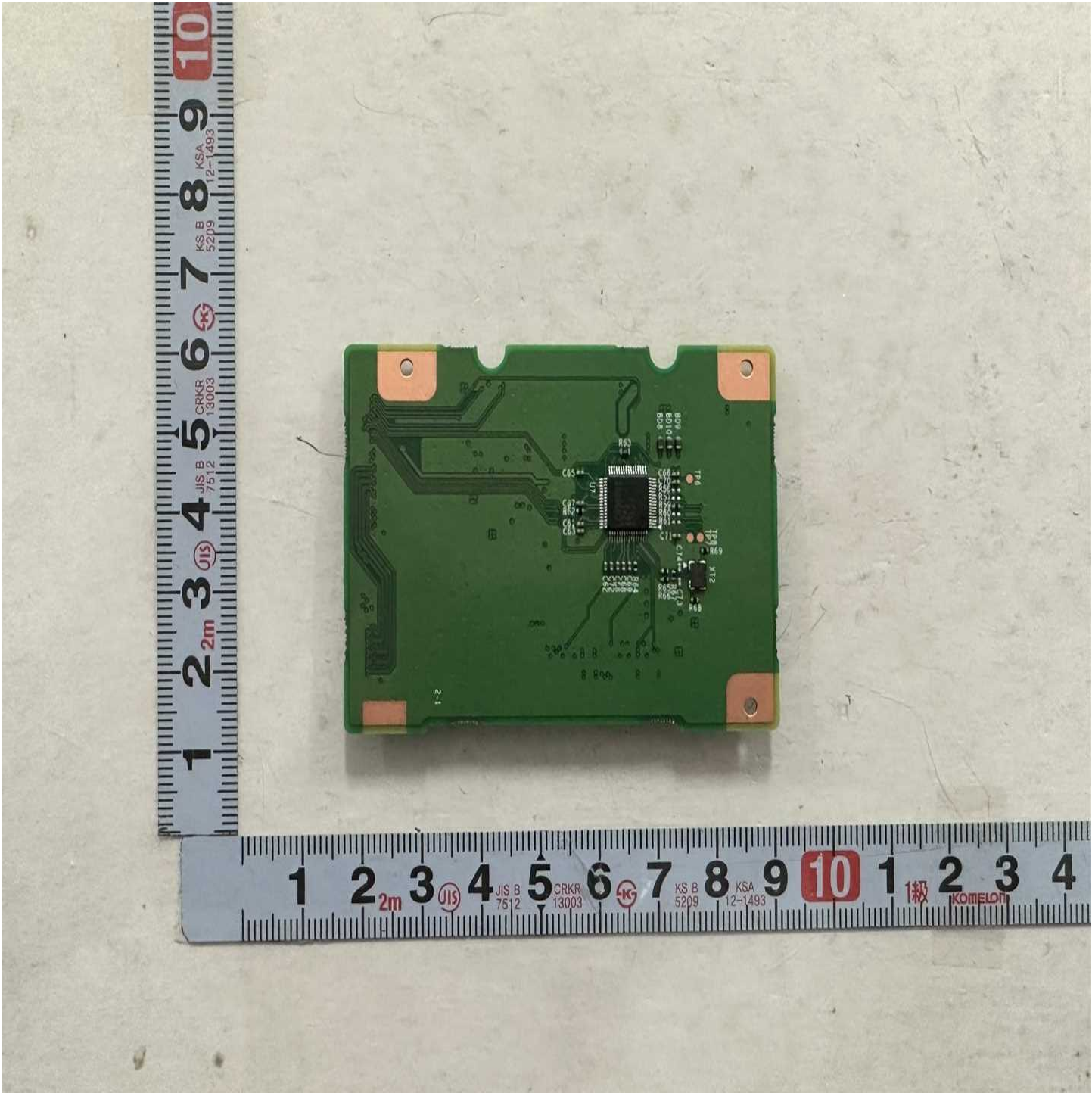




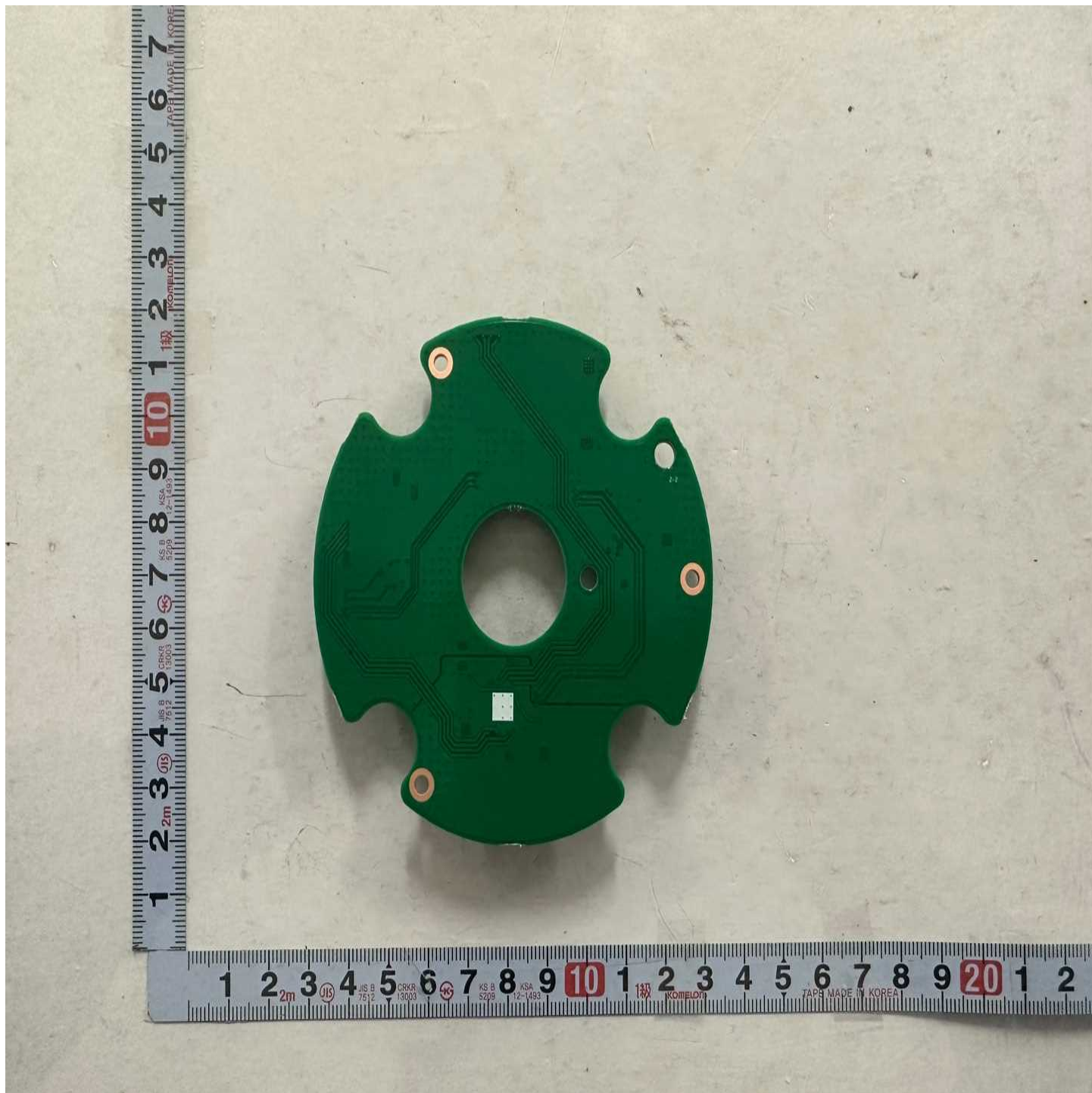




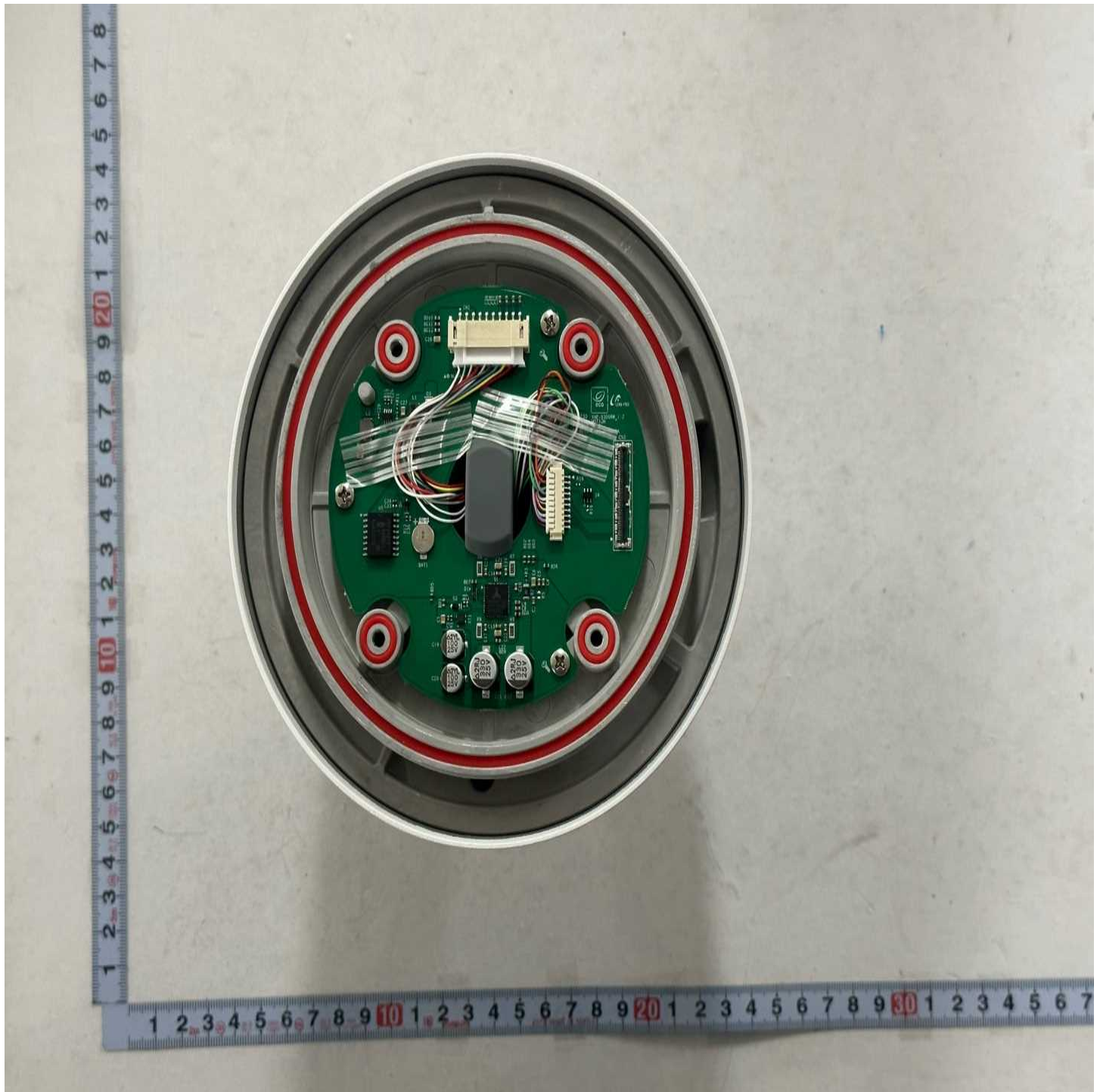


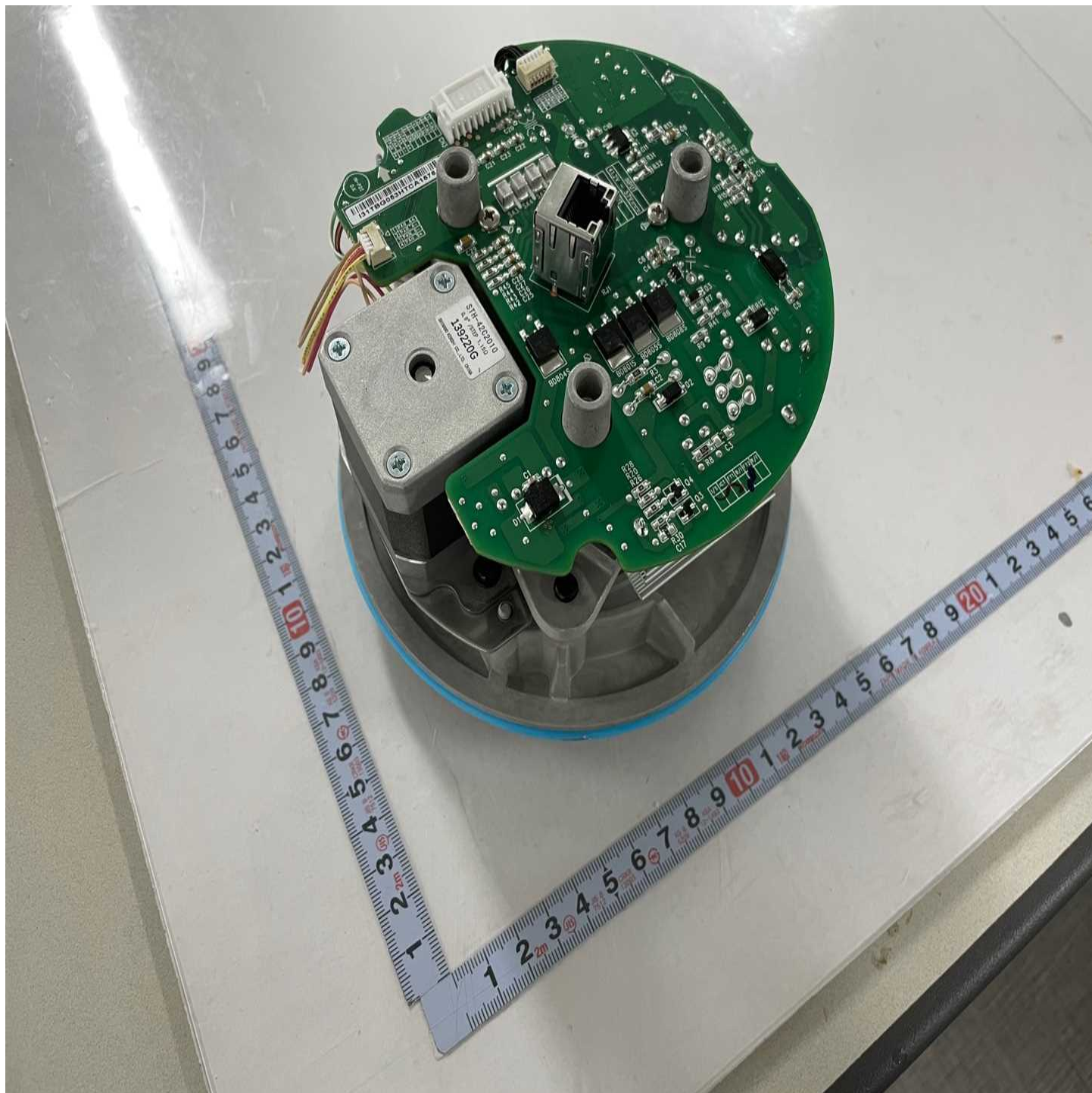


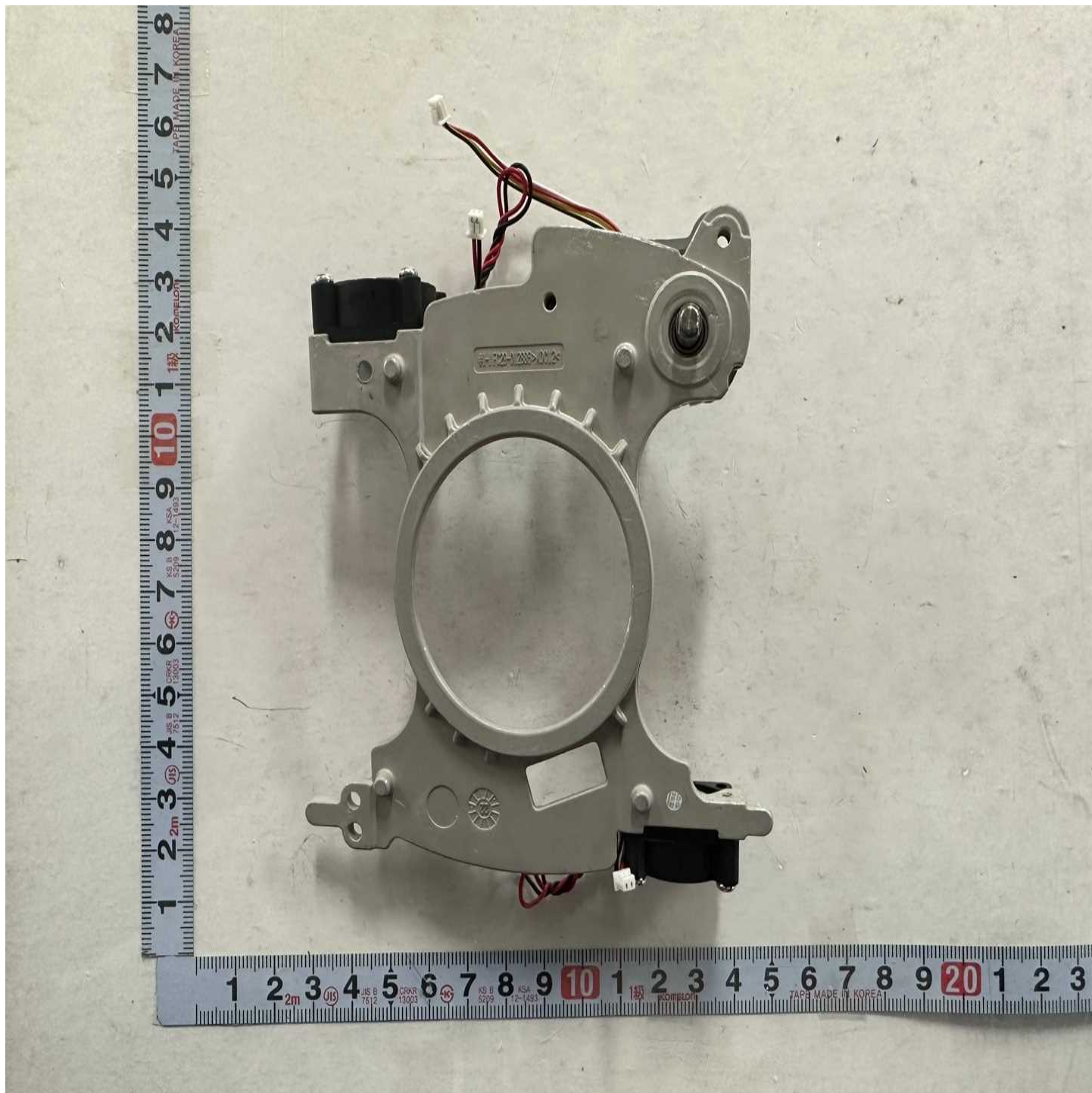


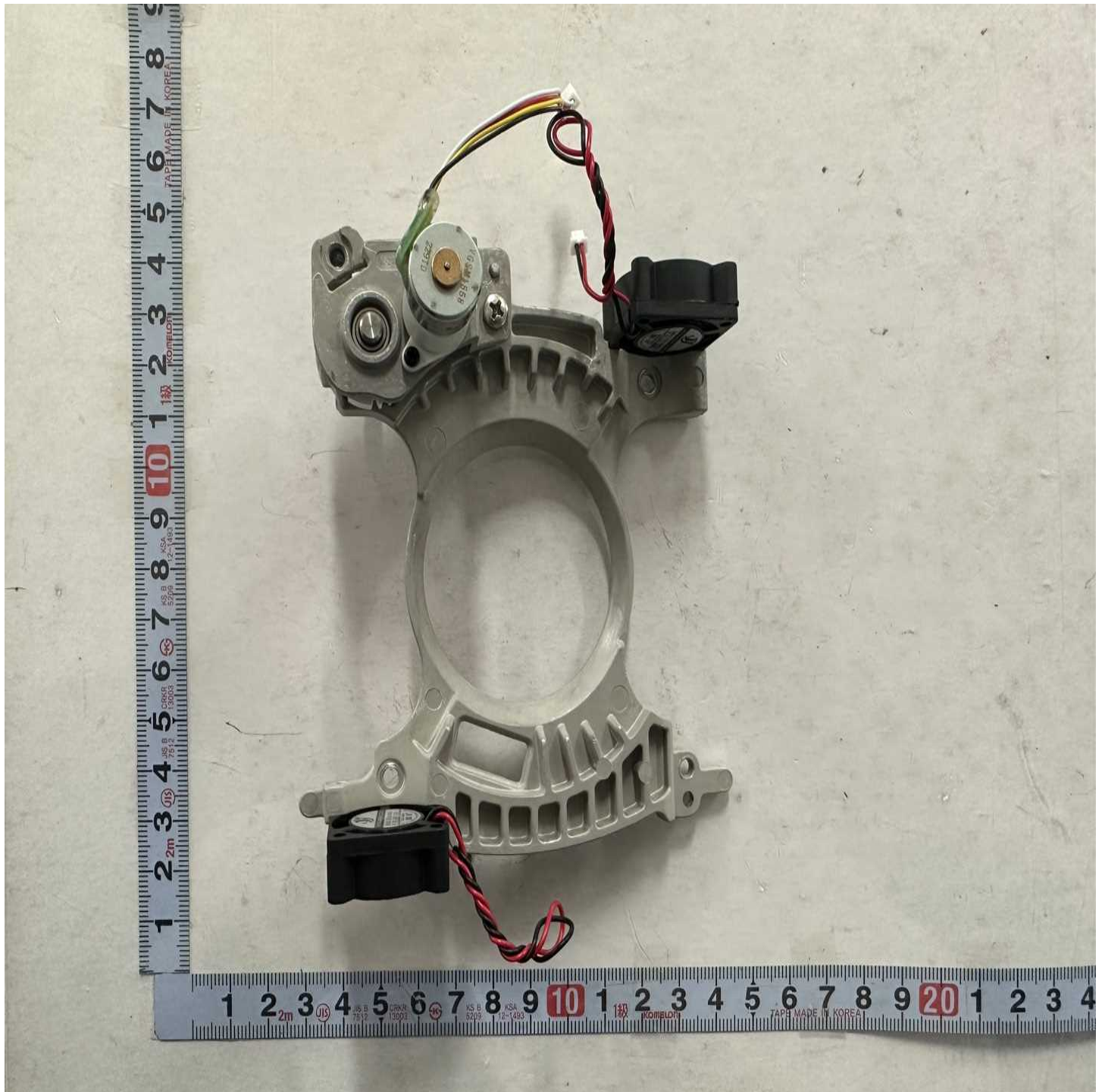


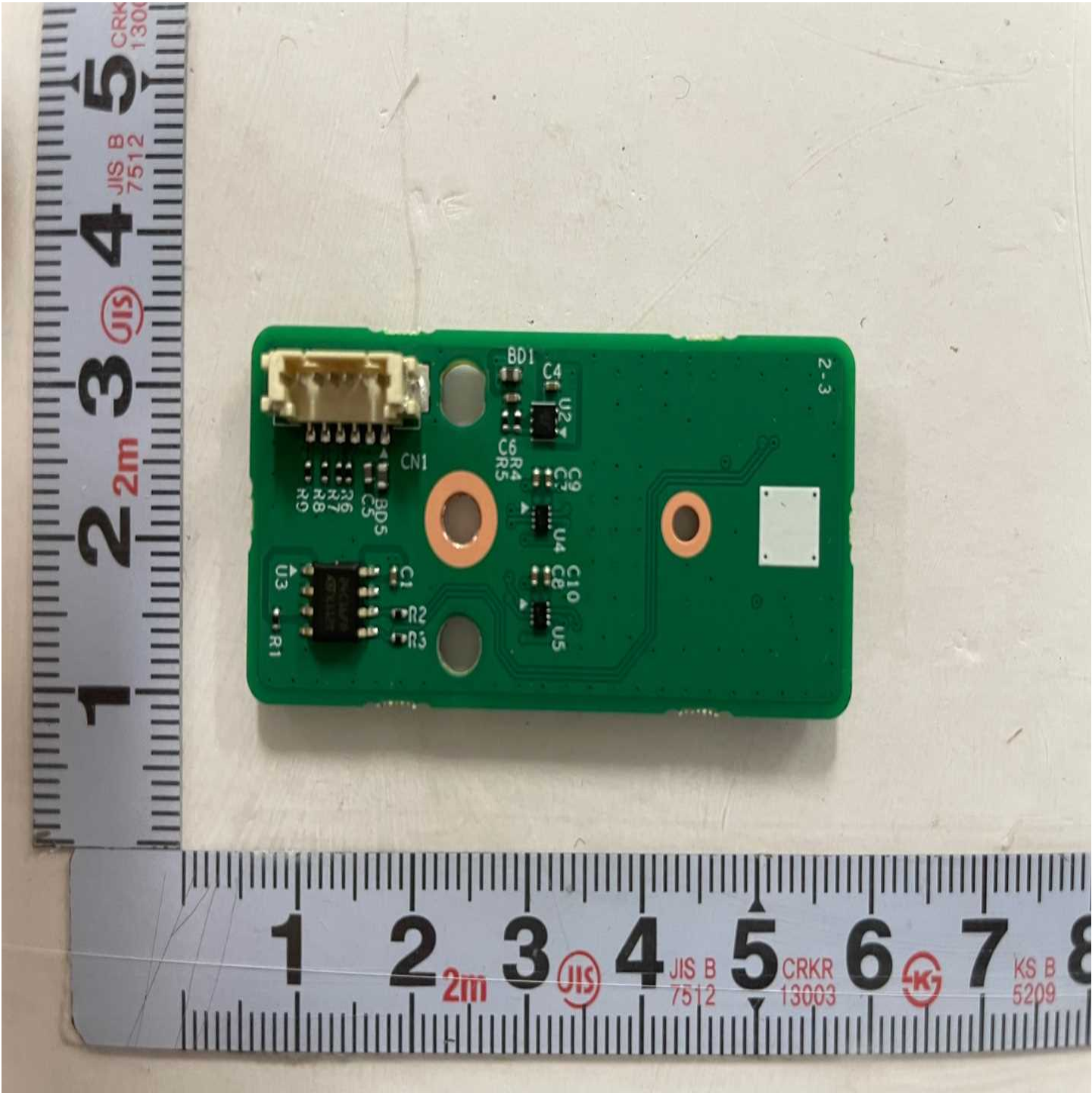


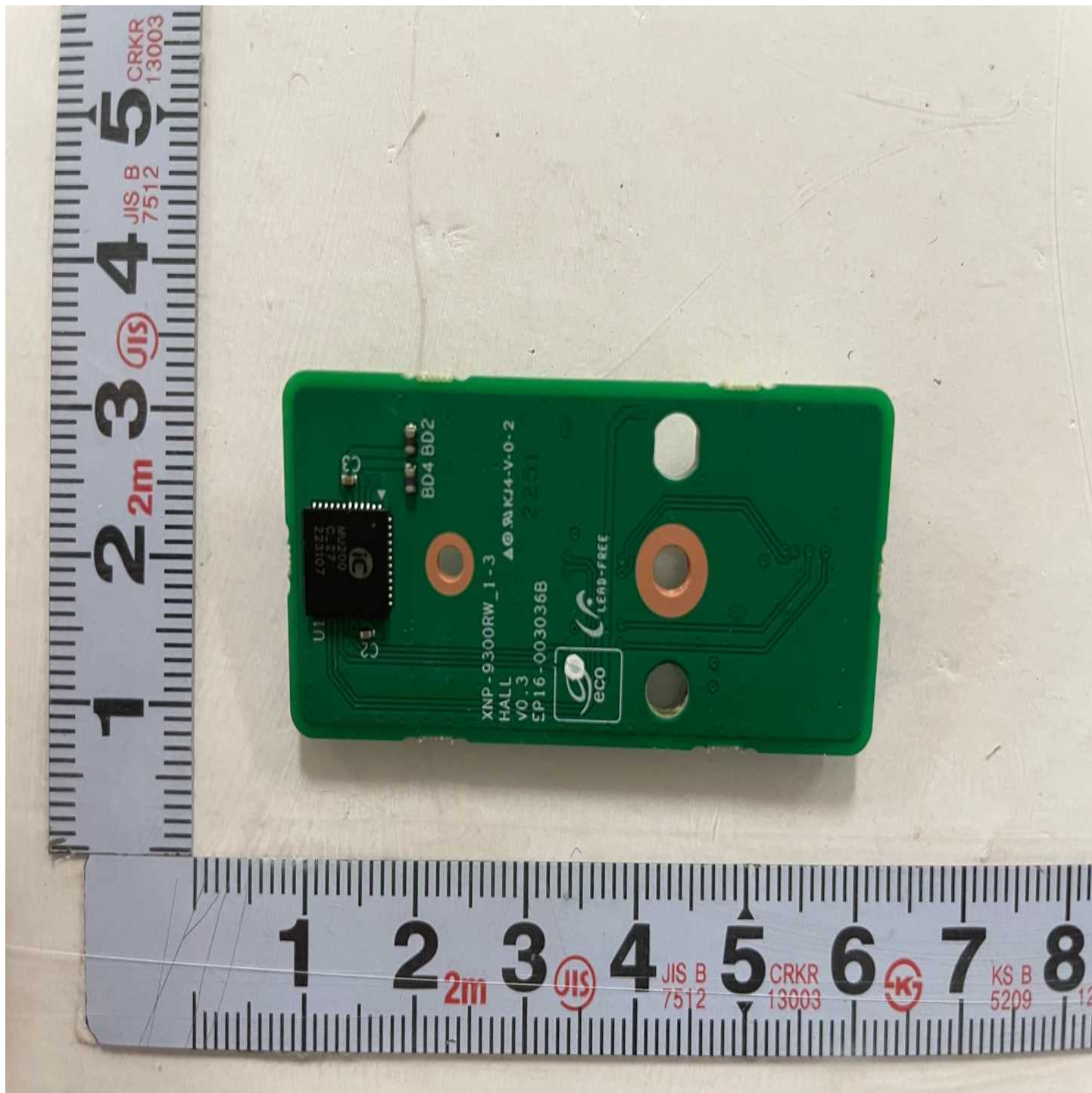


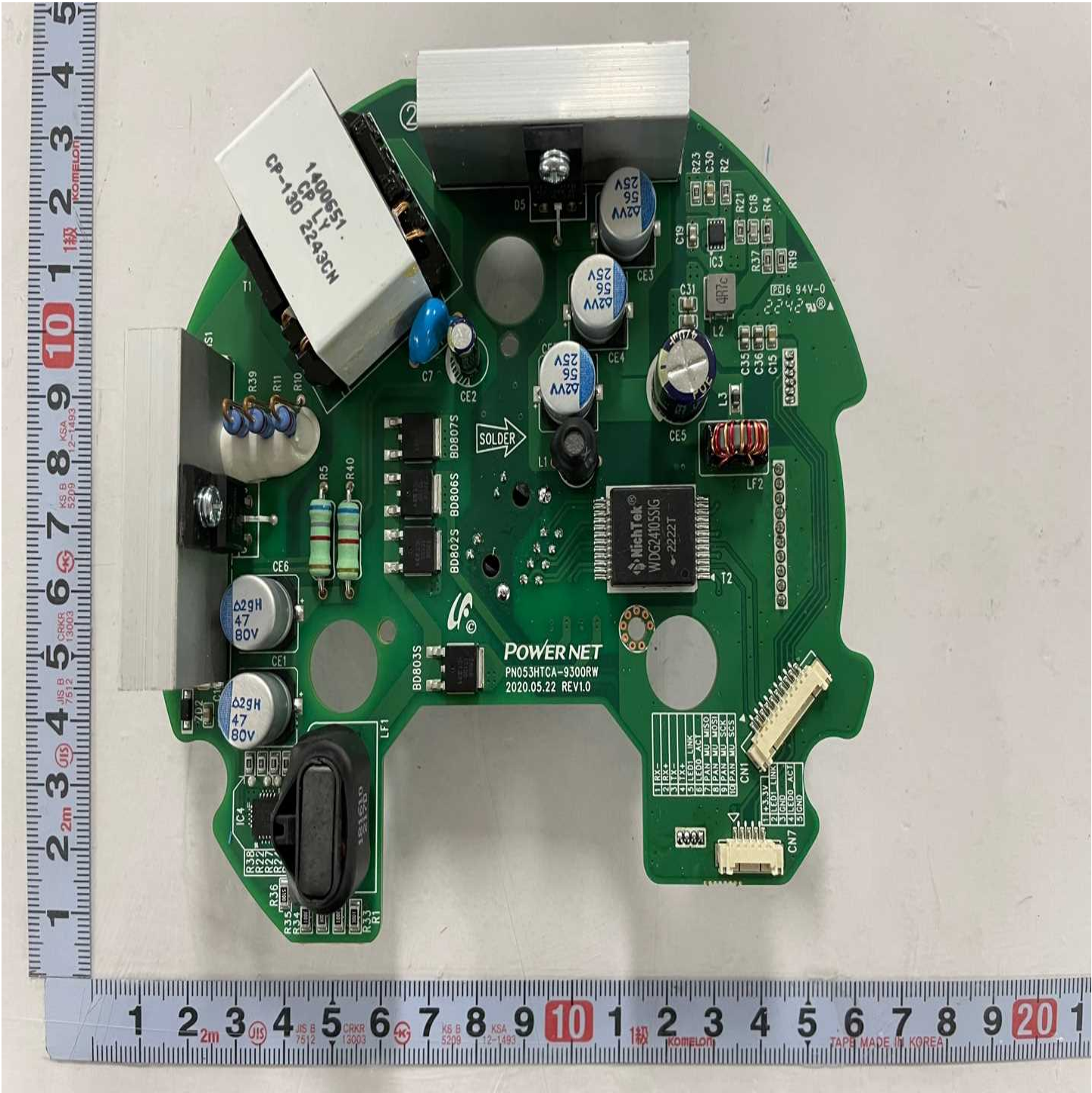


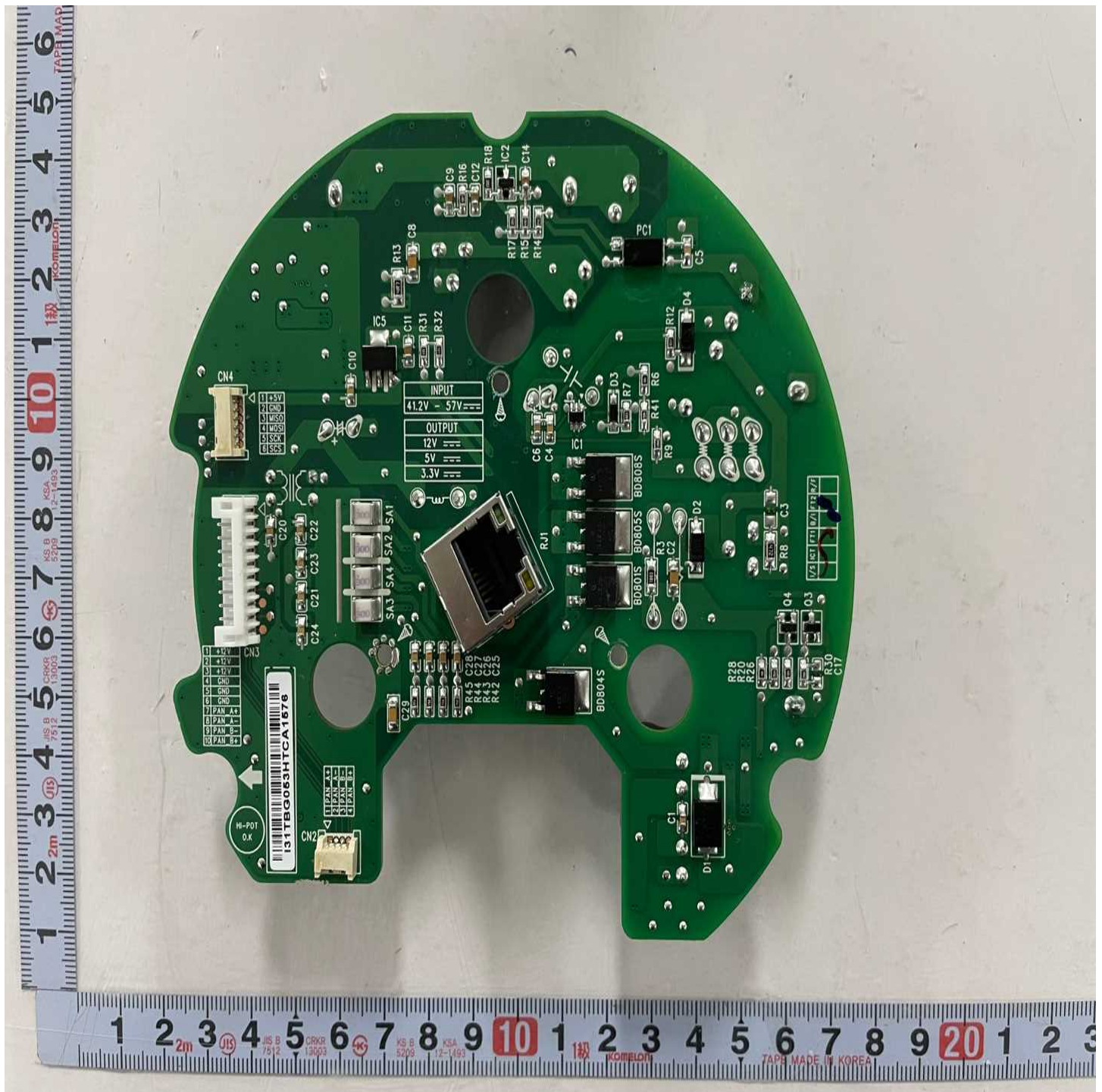






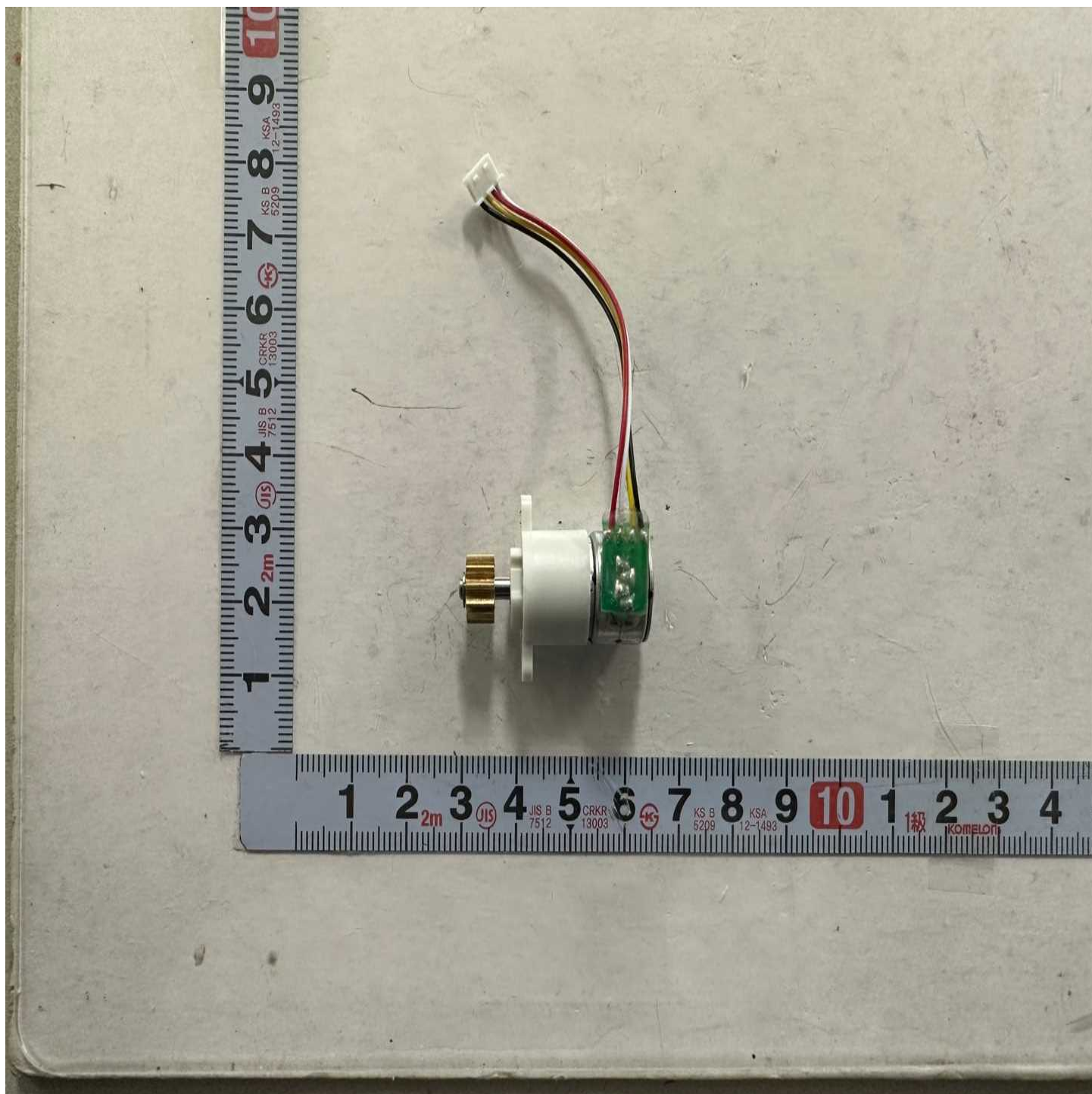














Test Record No. 1

1. Test result relate only to the items tested.
2. The manufacturer submitted representative production samples of NETWORK CAMERA, XNP-C9253RW
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 142, Dongbu-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, 17141, Korea WTDP
4.4.3.2, T.5 – STEADY FORCE TEST, 250 N	
4.4.3.4, T.6 - IMPACT TEST	
4.4.3.8, T.8 – STRESS RELIEF TEST	
5.4.1.8 – DETERMINATION OF WORKING VOLTAGE	
8.7 – WALL, CEILING, OR OTHER STRUCTURE MOUNTING TESTS	
B.2.5 – INPUT TEST: SINGLE PHASE	
B.2.6, 5.4.1.4, 6.3, 9.3, B.1.5 – NORMAL OPERATING CONDITIONS TEMPERATURE MEASUREMENT	
B.3 – SIMULATED ABNORMAL OPERATING CONDITIONS	
B.4 – SIMULATED SINGLE FAULT CONDITIONS	
M.3.2 – PROTECTION CIRCUITS FOR BATTERIES	
Y.5.3 - WATER SPRAY TEST	
Y.6.2 - POLYMERIC OUTDOOR ENCLOSURE IMPACT	
The following tests were waived:	Rationale for Waiving
Y.4.3 – TENSILE STRENGTH AND ELONGATION-Alternate	Gasket Test was conducted under E158873-A6034 (PART 22, 8.5, ANNEX D.2 – TENSILE STRENGTH AND ELONGATION)
Y.4.4 - COMPRESSION TEST - GASKETS, CLOSED CELL CONSTRUCTION	Gasket Test was conducted under E158873-A6034 (PART 22, 8.5, ANNEX D.2 – TENSILE STRENGTH AND ELONGATION) Gasket Test was conducted under E158873-A6034 (PART 22, 8.5.1, ANNEX D.3 – COMPRESSION TEST – GASKETS, CLOSED CELL CONSTRUCTION)

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
Attachment	02-02	Dual language safety labeling CRD

Attachment	02-03	Dual Language Letter of Assurance (C-UL)
------------	-------	--