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

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Please find attached the related material

For your convenience, the below describes the related updates:

| |
|--|
| E158873-volX13-Index |
| E158873-20210327-CertificateofCompliance |
| E158873-A6060-DescriptionUL |
| Figure-21-Total |
| E158873-A6060-TestRecordUL |

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Times change, Trust Remains™

| | | | | |
|---------|-------|--------|------|-----------|
| File | | Volume | Page | Date: |
| E158873 | Index | X13 | 1 | 08-Apr-21 |

Index

| <u>Product Type</u> | <u>Model/Type Reference</u> | <u>Report Reference #</u> | <u>Status</u> |
|------------------------|--|---------------------------|---------------|
| NETWORK VIDEO RECORDER | XRN-6410B4, XRN-3210B4 | E158873-A6027-UL | |
| NETWORK VIDEO RECORDER | PRN-6410B4, PRN-3210B4, XRP-4210B4 | E158873-A6028-UL | |
| NETWORK VIDEO RECORDER | XRN-6410DB4 | E158873-A6029-UL | |
| NETWORK VIDEO RECORDER | PRN-6410DB4, XRP-4310DB4 | 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 | 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 | |
| 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 | |
| NETWORK VIDEO RECORDER | XRN-1620SB1 | E158873-A6054-UL | |

| File | | Volume | Page | Date: |
|---------|-------|--------|------|-----------|
| E158873 | Index | X13 | 2 | 08-Apr-21 |

| | | | |
|------------------------|--|------------------|--|
| 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 | 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 | |
| NETWORK CAMERA | PNV-A6081R | E158873-A6063-UL | |

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2020022-0
Report Reference E158873-20210327
Date 9-Apr-2021

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

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

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

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

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

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

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

Look for the UL Certification Mark on the product.

B. Mahlen

Bruce Mahrenholz, Director North American Certification Program

UL LLC



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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2020022-0
Report Reference E158873-20210327
Date 9-Apr-2021

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

| Model | Category Description |
|-------------|----------------------|
| PND-A6081RF | NETWORK CAMERA |
| PND-A6081RV | NETWORK CAMERA |



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2016265-0
Report Reference E158873-20210327
Date 9-Apr-2021

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

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

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

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

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

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

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

Look for the UL Certification Mark on the product.



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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2016265-0
Report Reference E158873-20210327
Date 9-Apr-2021

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

| Model | Category Description |
|-------------|----------------------|
| PND-A6081RF | NETWORK CAMERA |
| PND-A6081RV | NETWORK CAMERA |



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UL TEST REPORT AND PROCEDURE

| | |
|------------------------------------|--|
| Standard: | UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Ed, Issued: 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) |
| Certification Type: | Listing |
| CCN: | AZOT, AZOT7 (Audio/video, Information and Communication Technology Equipment) |
| Complementary CCN: | N/A |
| Product: | NETWORK CAMERA |
| Model: | PND-A6081RV, PND-A6081RF |
| Rating: | 12 Vdc, 1.42 A or PoE (53 Vdc), 0.37 A |
| Applicant Name and Address: | HANWHA TECHWIN CO LTD 6, PANGYO-RO 319BEON-GIL, BUNDANG-GU SEONGNAM-SI GYEONGGI-DO 13488 KOREA |

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

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

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

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

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

Supporting Documentation

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

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

B. Generic Inspection Instructions -

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

Product Description

NETWORK CAMERA has been designed for INDOOR use and integrated a bracket for wall or ceiling mount. It is a commercial equipment supplied from 12 Vdc or PoE (Power over Ethernet) and installed by service personnel.

Model Differences

PND-A6081RV is basic model.

PND-A6081RF are identical to basic model except model designation and enclosure design.

Test Item Particulars

| | |
|--|--|
| Classification of use by | Instructed person |
| Supply Connection | External Circuit - not Mains connected ES1 |
| Supply % Tolerance | None |
| Supply Connection – Type | DC or PoE (Power over Ethernet) |
| Considered current rating of protective device as part of building or equipment installation | N/A |
| Equipment mobility | wall-mounted |
| Over voltage category (OVC) | OVC I |
| Class of equipment | Class III |
| Access location | N/A |
| Pollution degree (PD) | PD 2 |
| Manufacturer's specified maximum operating ambient (°C) | 50 |
| IP protection class | IPX0 |
| Power Systems | N/A |
| Altitude during operation (m) | 2000 m or less |
| Altitude of test laboratory (m) | 2000 m or less |
| Mass of equipment (kg) | 1.55 kg – for model PND-A6081RV 1.85 kg – for model PND-A6081RF |

Technical Considerations

- ☐ The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 45
- ☐ 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 values : 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

Additional Information

4789822591

- Maximum Normal Load: Continuous operation with IR LED on.

Additional Standards

The product fulfills the requirements of: N/A

Markings and Instructions

| Clause Title | Marking or Instruction Details |
|--|--|
| Equipment identification marking – Manufacturer identification | Listee's or Recognized 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)", "Output Ratings (voltage, frequency/dc, current/power)" |
| 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 12 Vdc, 1.42 A or PoE (53 Vdc), 0.37 A. |
| Website Manual -2 | The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3.at 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. |
| Hard Copy | A. IMPORTANT B. Please check 'Manuals' from our website, before connecting to the supply. C. Company website URL (https://www.~~) |

Special Instructions to UL Representative

N/A

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

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

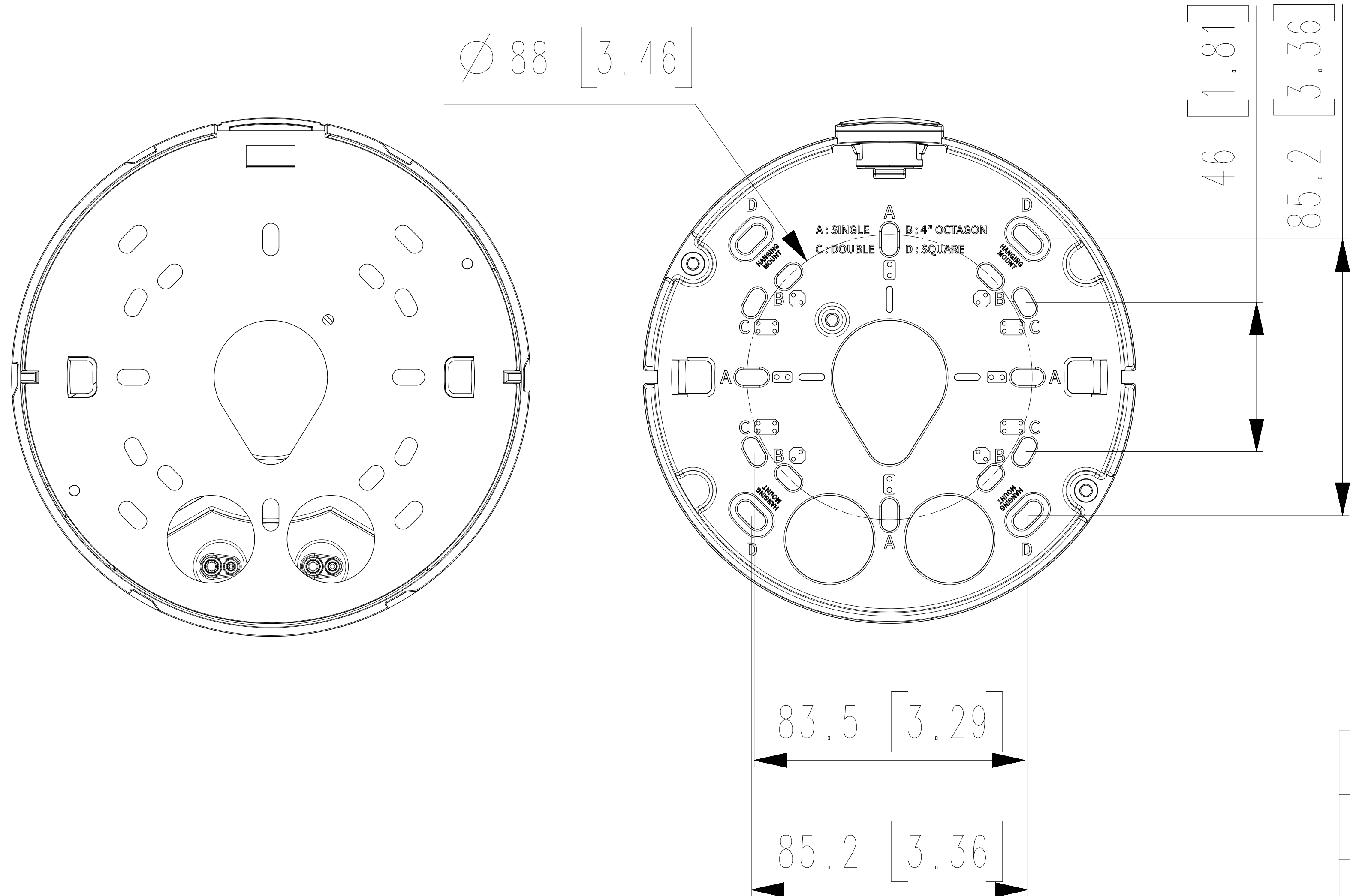
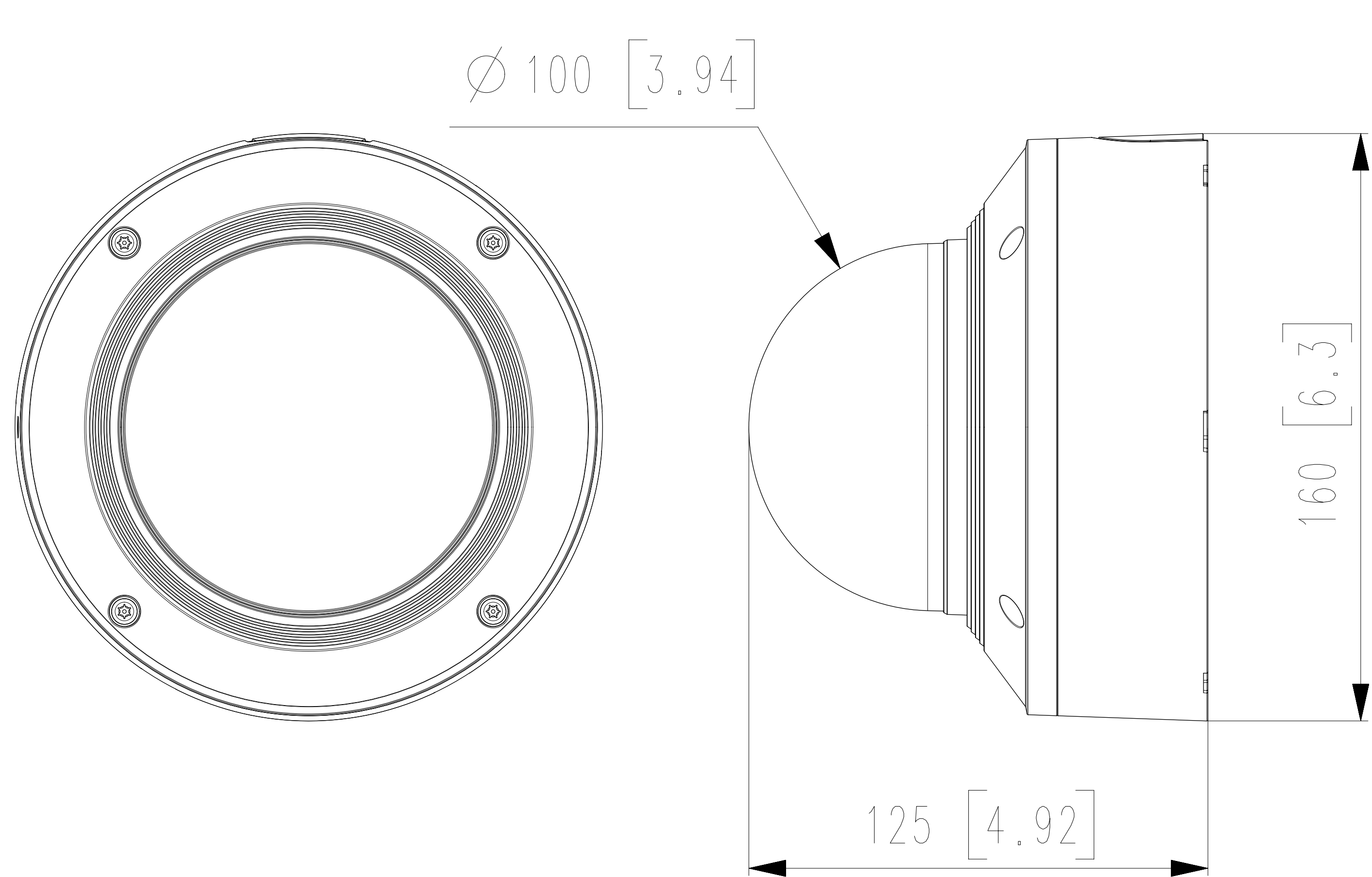
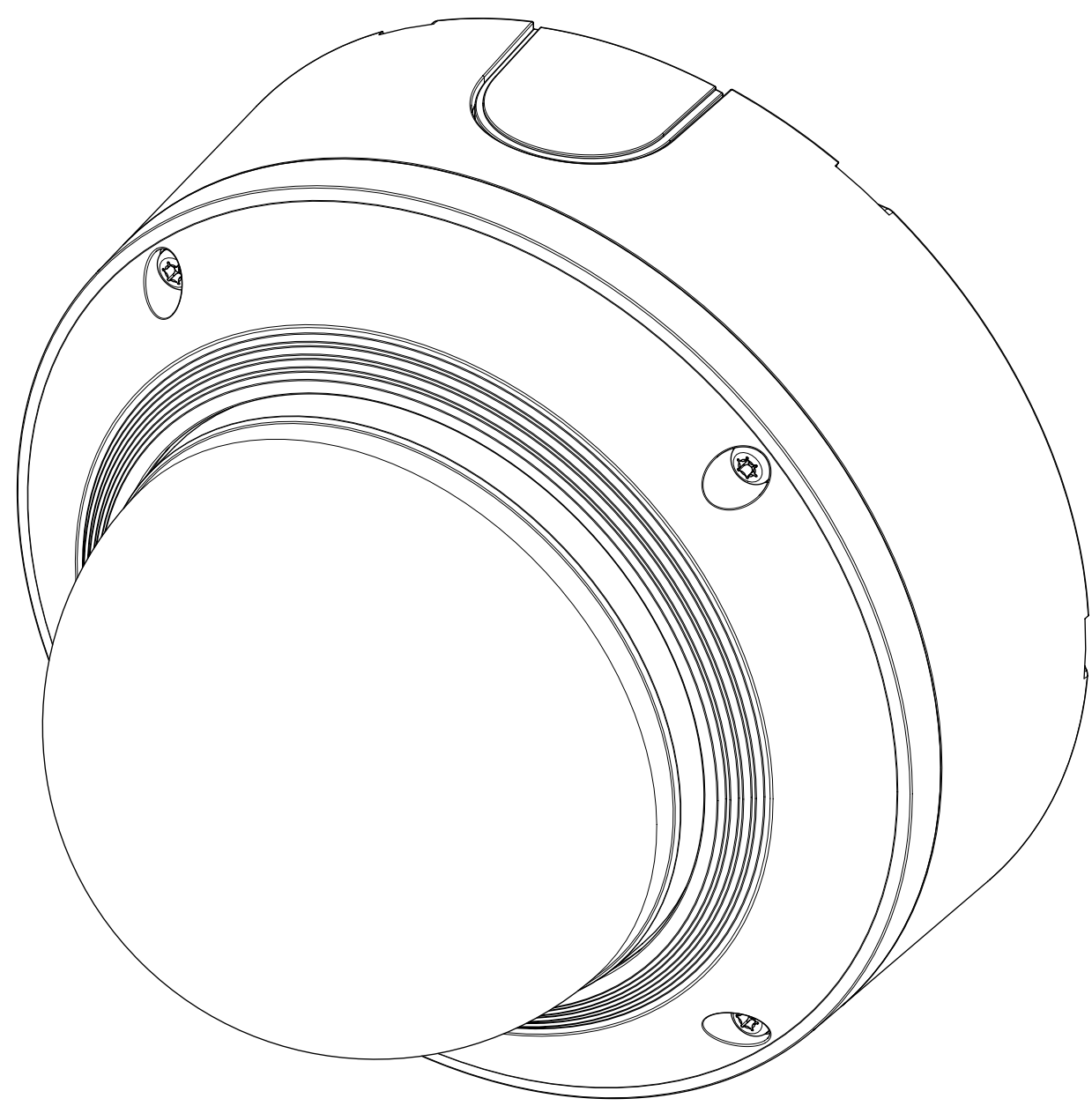
| 4.1.2 | TABLE: List of critical components | | | | | Pass |
|--|---|-----------------|---|----------------------------|--------------------------|---------------|
| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Product Category CCN(s) | Mark(s) of conformity | Supplement ID |
| Dome Cover (Plastic) | MITSUBISHI ENGINEERING- PLASTICS CORP | S-3000(&6)(f1) | Polycarbonate (PC), Min. 1.8 mm thickness, rated Min. V-2, 115 deg. C. | QMFZ2/8 | UL (E41179) | |
| Enclosure (Metal) | Interchangeable | Interchangeable | Aluminium, Min. 2.0 mm thickness, see enclosure for dimension. | - | - | |
| Internal Plastic Part Materials | LOTTE ADVANCED MATERIALS CO LTD | NH-1035(+) | Min. 1.5 mm thickness, rated Min. V-0, 80 deg. C. | QMFZ2/8 | UL (E115797) | |
| Internal Plastic Part Materials - Alternate | Interchangeable | Interchangeable | Min. 1.5 mm thickness, rated Min. HB, 80 deg. C. | QMFZ2/8 | UL | |
| Transformer(T3) | Group-Tek. Electronic Technology Co Ltd | PDT25125SR | 130 deg.C, See enclosure for more detail. | - | - | |
| Line filter (T2, T4) | Group-Tek. Electronic Technology Co Ltd | PCM10029R | 6 mH, 130 deg.C, See enclosure for more detail. | - | - | |
| Opto-coupler (LS1) | LITE-ON TECHNOLOGY CORP | LTV-816 | Isolation Voltage: 5 000. Max. Operation Temperature: 110 deg.C | FPQU2/8 | UL (E113898) | |
| Opto-coupler (LS1) - Alternate | COSMO ELECTRONICS CORP | K1010X* | Isolation Voltage: 5 000. Max. Operation Temperature: 115 deg.C | FPQU2/8 | UL (E169586) | |
| Opto-coupler (LS1) - Alternate | COSMO ELECTRONICS CORP | K1010X-1* | Isolation Voltage: 5 000. Max. Operation Temperature: 115 deg.C | FPQU2/8 | UL (E169586) | |

| | | | | | | |
|--|--|--|--|----------------|--------------|--|
| Lithium Battery (BAT1) | SEIKO INSTRUMENTS INC MICRO-ENERGY DIV | ML414H | Rechargeable, Lithium (Coin), Rechargeable, Max. Charging Voltage: 3.4 Vdc, Max. Charging Current: 300 mAh | BBCV2 | UL (MH15628) | |
| Fuse (F3) | LITTELFUSE INC | 449* | 125 V, 2.5 A | JDYX2/8 | UL (E10480) | |
| Camera module (with Zoom, Focus Motor) | DongGuan YuTong Optical Technology Co., Ltd. | YTW30033A01DB.I R-PIRIS-JZ-4MP+H128+IR0510 | 5.0 Vdc | - | - | |
| Thermal Pad | KOMOTECH CO LTD | KGP-1(a) | Rated V-0, min. 0.2 mm thickness, 150 deg. C | QMFZ2/8 | UL (E245303) | |
| Internal Wiring | Interchangeable | Interchangeable | Marked VW-1 | AVLV2 | UL | |
| Connectors and Receptacles | Interchangeable | Interchangeable | Min. V-2 | ECBT2 | UL | |
| Connectors and Receptacles - Alternate | Interchangeable | Interchangeable | Copper alloy pins housed in bodies of plastic rated Min. V-2 | QMFZ2 | UL | |
| PWB | Interchangeable | Interchangeable | Min. V-0, 130 deg. C | ZPMV2 | UL | |
| Label | Interchangeable | Interchangeable | Min. 50 deg. C if max. surface temperature not specified. | PGDQ2 or PGJ12 | UL | |
| IR LED (2 EA, LD1, LD4) | OSRAM | SFH4718A | Vf = 2.3 Vdc (max) | - | - | |
| IR LED (4 EA, LD2, LD3, LD7, LD8) | OSRAM | SFH4713A | Vf = 2.3 Vdc (max) | - | - | |
| IR LED (2 EA, LD5, LD6) | LITEON OPTOELECTRONICS | LTE-R38386L-YE5-SS | Vf = 2.5 Vd c (max) | - | - | |

Enclosures

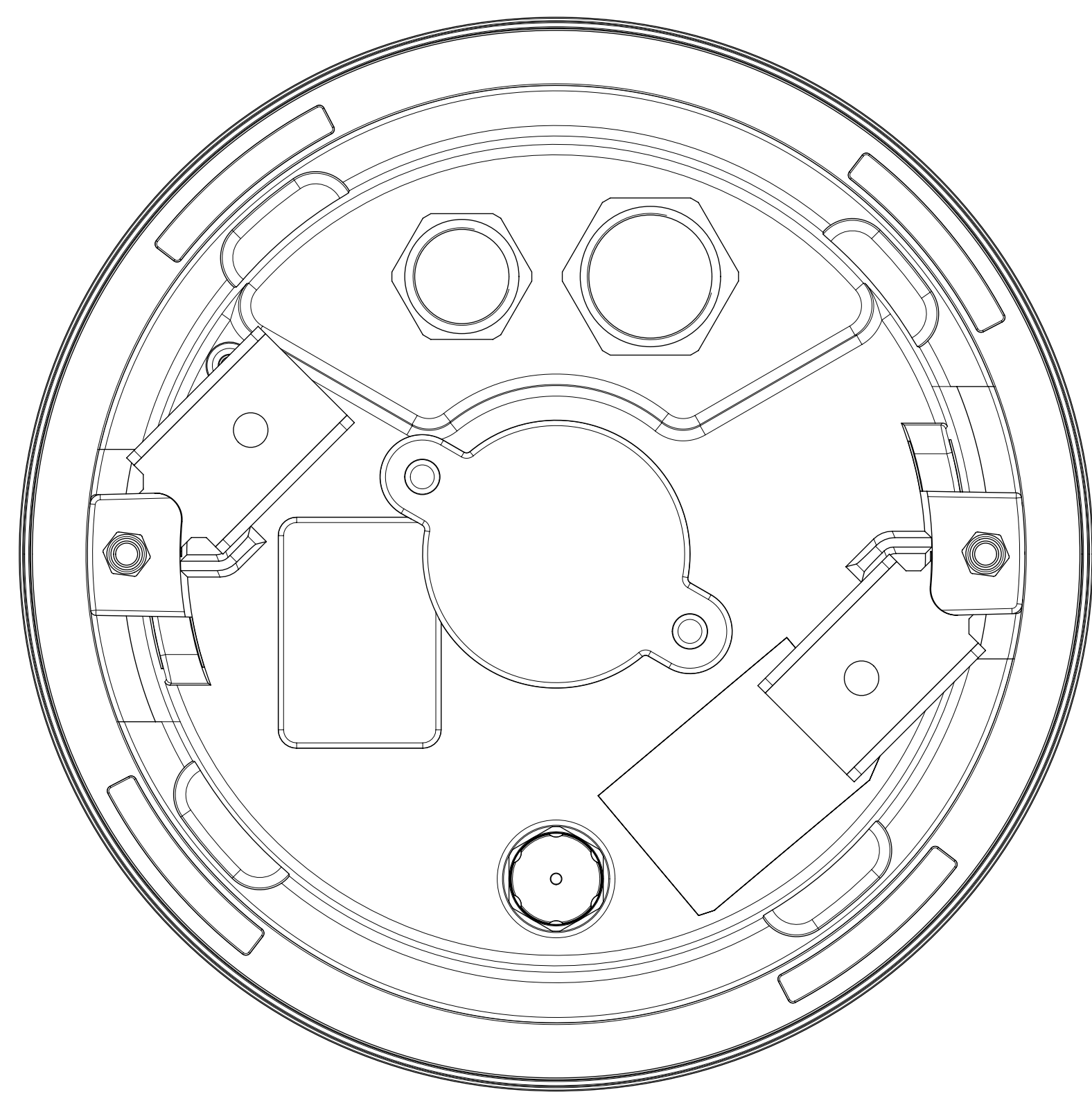
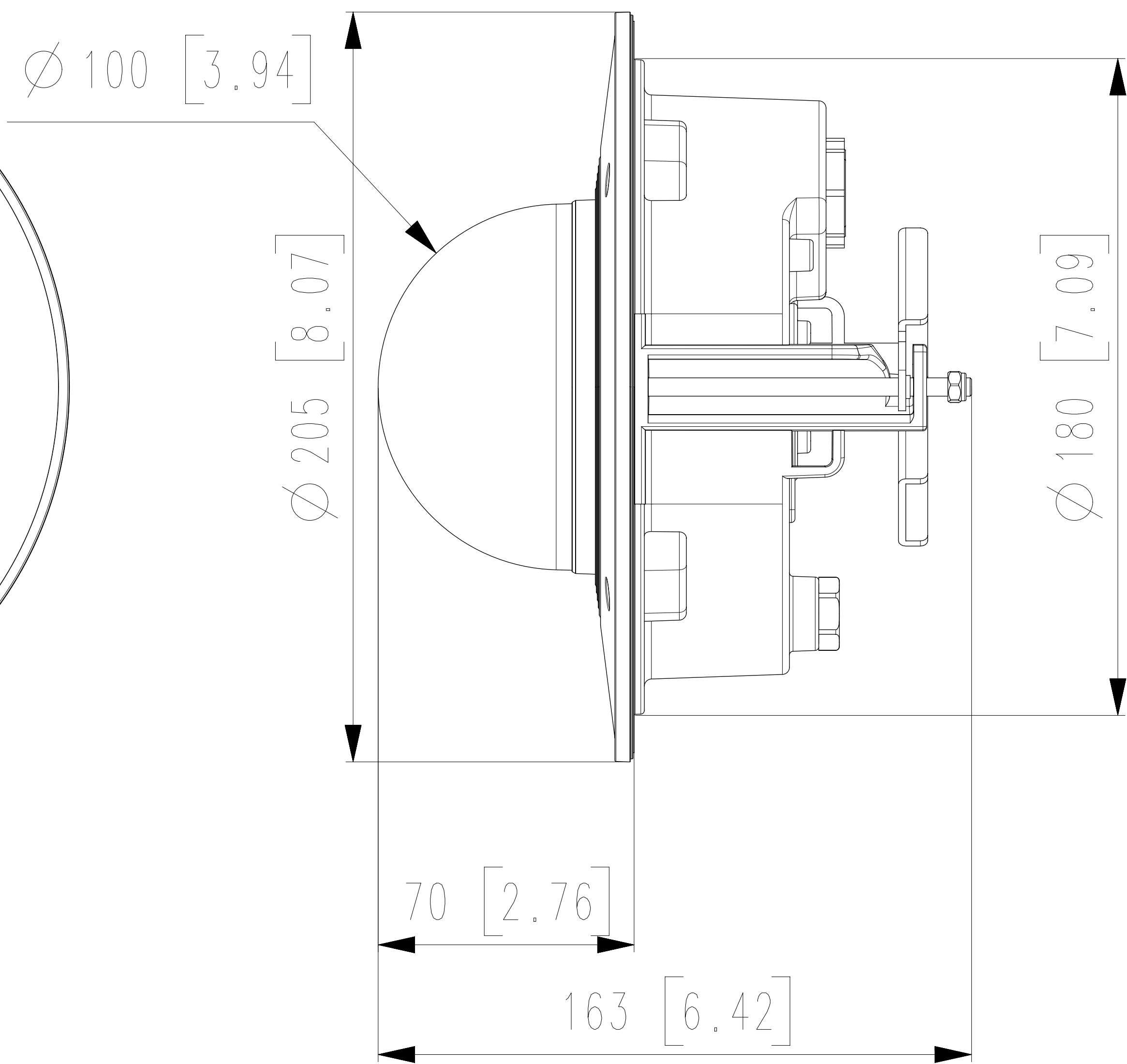
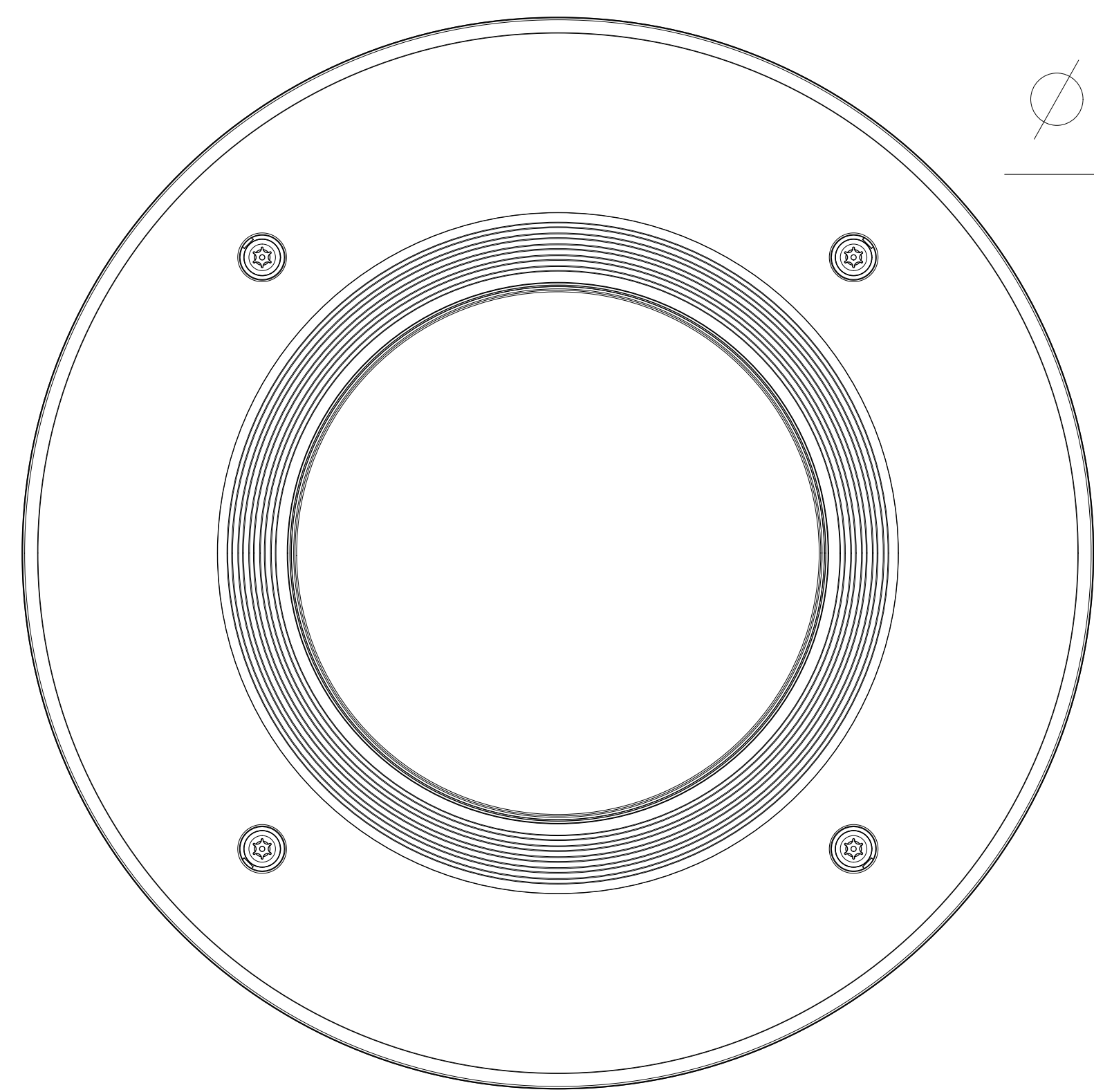
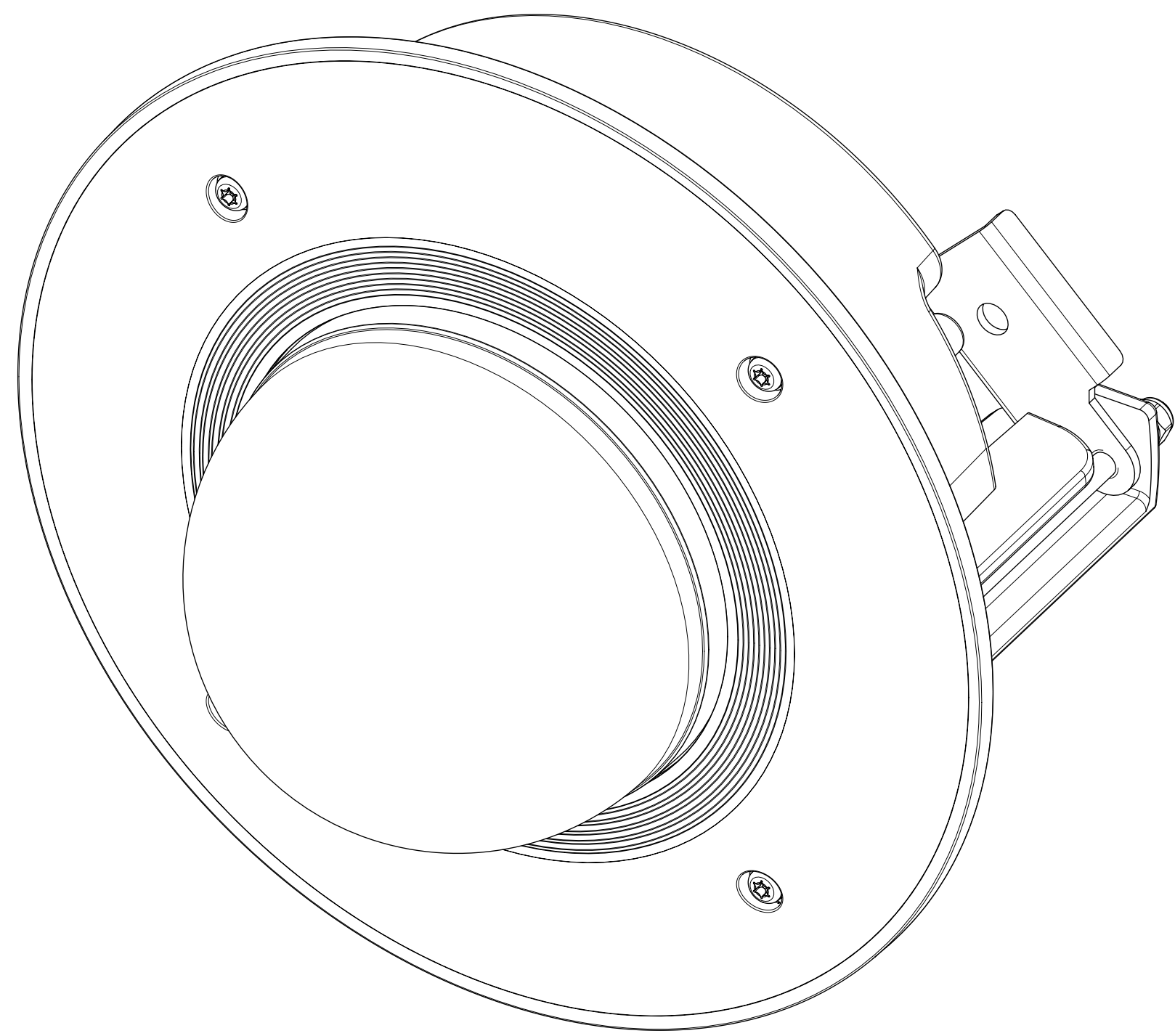
| Type | Supplement Id | Description |
|---------------|---------------|---------------------------------------|
| Photographs | 03-01 | External View - 1 (for PND-A6081RV) |
| Photographs | 03-02 | External View - 2 (for PND-A6081RV) |
| Photographs | 03-03 | External View - 3 (for PND-A6081RV) |
| Photographs | 03-04 | External View - 1 (for PND-A6081RF) |
| Photographs | 03-05 | External View - 2 (for PND-A6081RF) |
| Photographs | 03-06 | External View - 3 (for PND-A6081RF) |
| Photographs | 03-07 | Internal View - 1 |
| Photographs | 03-08 | Internal View - 2 |
| Photographs | 03-09 | Lens Module - 1 (with LED) |
| Photographs | 03-10 | Lens Module - 2 |
| Photographs | 03-11 | Mainboard - Top |
| Photographs | 03-12 | Mainboard - Bottom |
| Photographs | 03-13 | Sensor board - Top |
| Photographs | 03-14 | Sensor board - Bottom |
| Diagrams | 04-01 | Enclosure Dimension (for PND-A6081RV) |
| Diagrams | 04-02 | Enclosure Dimension (for PND-A6081RF) |
| Manuals | 06-01 | Manual |
| Miscellaneous | 07-01 | Transformer (T3) specification |
| Miscellaneous | 07-02 | Line Filter (T2, T4) specification |
| Miscellaneous | 07-03 | Dual language safety labeling CRD |
| Miscellaneous | 07-04 | Label |

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



| | | |
|----------------|-------------|-----------|
| 16 | | |
| 15 | | |
| 14 | | |
| 13 | | |
| 12 | | |
| 11 | PND-A6081RV | 21.02.08 |
| 10 | XND-9082RV | 19.12.18 |
| 9 | XND-8082RV | 19.12.18 |
| 8 | XND-8081REV | 19.12.18 |
| 7 | XND-6081REV | 19.12.18 |
| 6 | PND-A9081R | 19.09.27 |
| 5 | XND-8081RV | 19.09.27 |
| 4 | XND-6081RV | 19.09.27 |
| 3 | XND-6081V | 19.09.27 |
| 2 | XND-8081VZ | 19.09.27 |
| 1 | XND-6081VZ | 19.09.27 |
| No. | MODEL NAME | DATE |
| Unit:mm[inch] | | SCALE:1/1 |
| Hanwha Techwin | | |

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



| | | |
|-----|-------------|----------|
| 16 | | |
| 15 | | |
| 14 | | |
| 13 | | |
| 12 | | |
| 11 | | |
| 10 | | |
| 9 | PND-A6081RF | 21.02.08 |
| 8 | XND-9082RF | 19.12.18 |
| 7 | XND-8082RF | 19.12.18 |
| 6 | PND-A9081RF | 19.09.27 |
| 5 | XND-8081RF | 20.05.20 |
| 4 | XND-6081RF | 20.05.20 |
| 3 | XND-6081F | 20.05.20 |
| 2 | XND-8081FZ | 20.05.20 |
| 1 | XND-6081FZ | 20.05.20 |
| No. | MODEL NAME | DATE |

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

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth. (Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 1.42 A or PoE, 0.37 A. (PND-A6081RV/PND-A6081RF)
16. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc 1.42 A or PoE, 0.37 A. (PNV-A6081R)
17. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc 1.42 A or PoE, 0.37 A. (PNO-A6081R)
18. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 1.17 A or PoE, 0.33 A. (PNB-A6001)
19. This product is intended to be supplied by isolation power.
20. 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.
21. 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.



22. 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.
23. 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.
24. Installing or using the product in water can cause serious damage to the product.
25. Although a rapid change in temperature could cause frost inside the dome, there will be no problem with the video.
26. This device has been verified using STP cable. The use of appropriate GND grounding and STP cable is recommended to effectively protect your product and property from transient voltage, thunderstroke, communication interruption.

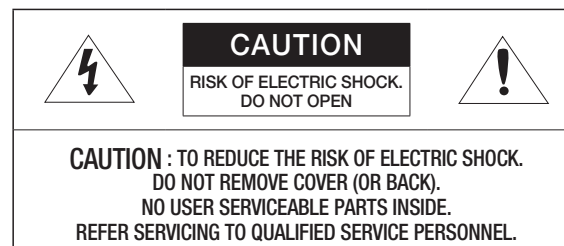
WARNING

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.

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.

When a new product box is opened (or during the initial use of the product), moisture might build up on the glass of the camera. The built-up moisture disappears naturally within a few hours after powered on.

Do not arbitrarily loosen or tighten the gore valve.

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 802.3.at 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.

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.

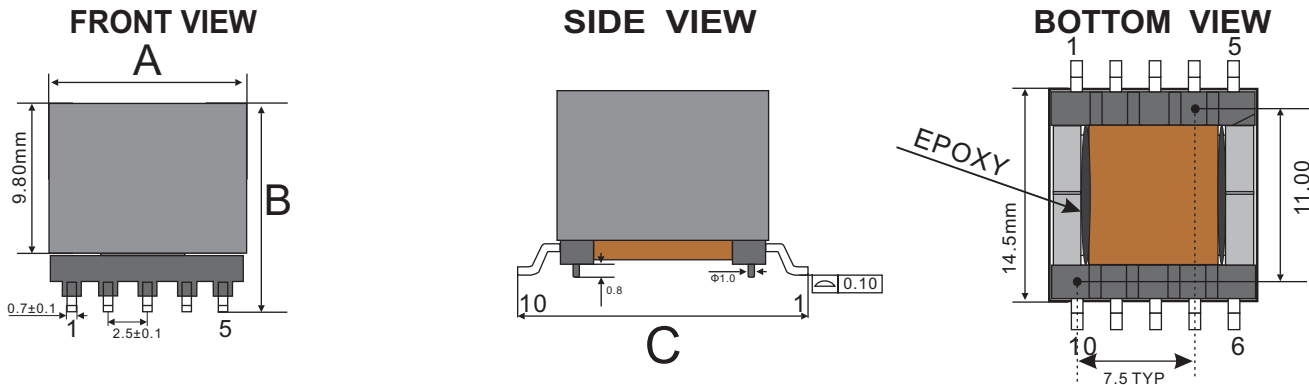
For below models only.

PNV-A6081R/PND-A6081RV/PND-A6081RF/PNO-A6081R

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

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

2. Mechanical Dimensions:



- Note:
- 1.Wrap 2Ts of 7mm kapton tape around the finished part.
 - 2.Fixed the cores with glue,and fixed the case with glue.

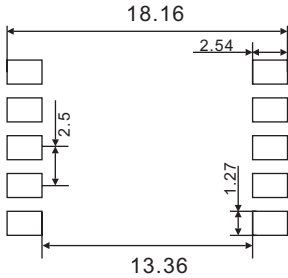
Unit: mm

| A MAX | B MAX | C MAX |
|----------|----------|----------|
| 15.0 | 14.0 | 17.8 |

Marking information

| |
|-------------------------|
| PDT25125SR GROUP-TEK |
| ● YYWW |

Suggested PCB Paad Layout

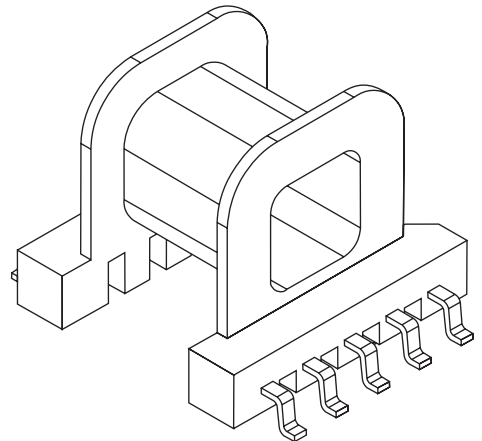
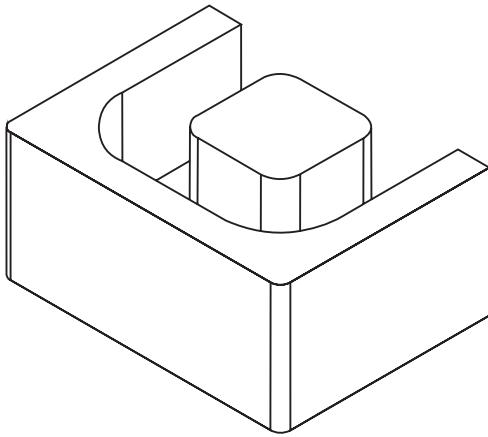


5.Winding Information:

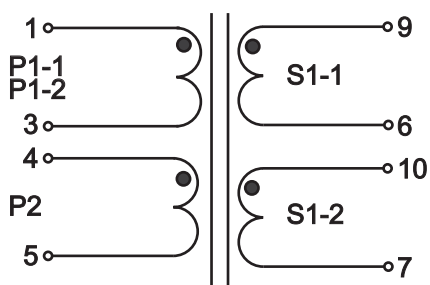
| WINDING SEQ. | ST-FN | WIRE/FOIL | TURNS | WRAP INSUL. | MARGIN TAPE | SLEEVE | NOTE |
|--------------|-------|-------------------------|-------|-------------------------|-------------|--------|------|
| P1-1 | 1--3 | 4*0.21mm 2UEW | 16 | 1T w8.0mm (kapton tape) | N/A | N/A | 1 |
| S1-1 | 9--6 | 4*0.27mm 2UEW (Red) | 6 | 1T w8.0mm (kapton tape) | N/A | N/A | 1 |
| P1-2 | 1--3 | 2*0.21mm 2UEW (Natural) | 16 | 1T w8.0mm (kapton tape) | N/A | N/A | 1 |
| S1-2 | 10--7 | 4*0.27mm 2UEW | 6 | 1T w8.0mm (kapton tape) | N/A | N/A | 1 |
| P2 | 4--5 | 3*0.17mm 2UEW | 6 | 2T w8.0mm (kapton tape) | N/A | N/A | 1 |

NOTE :

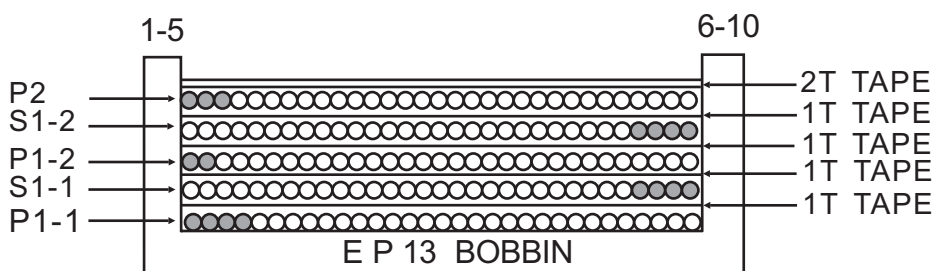
1. -Place the bobbin pin 1 left side of operator.



6.Schematic:



7.Winding construction



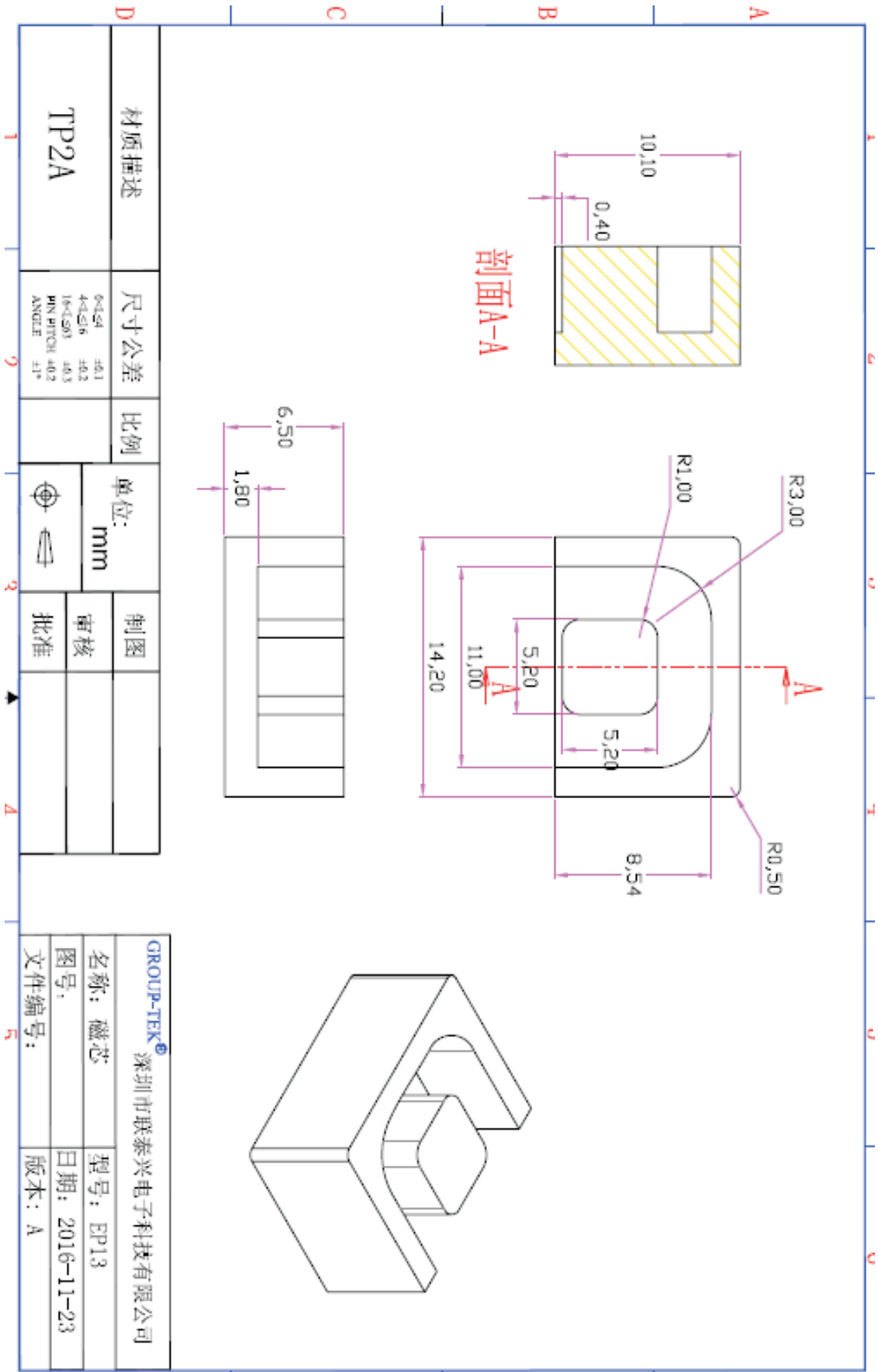
● :Start terminal

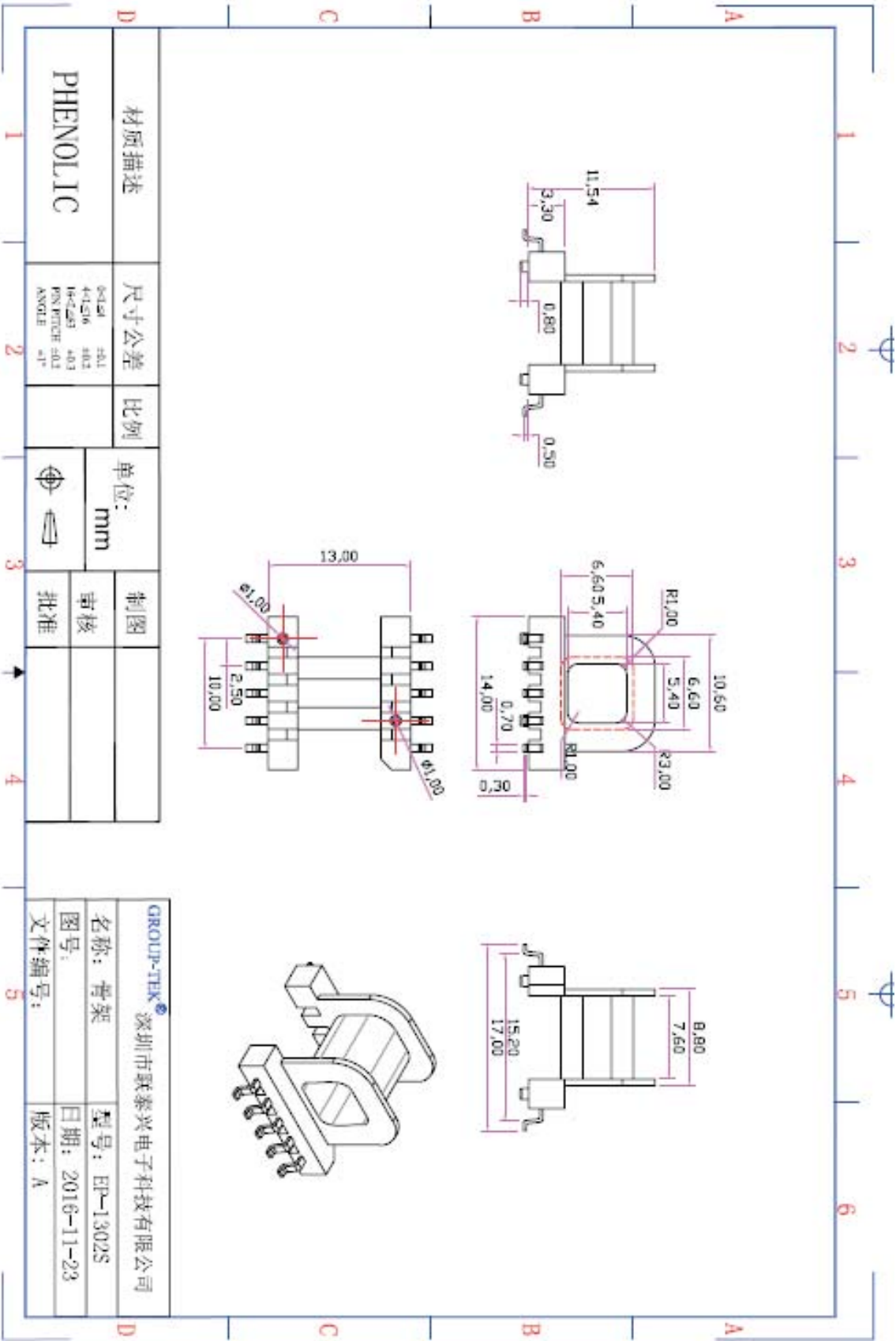
8.Material List:

| NO. | ITEM. | MATERIALS | SUPPLIERS/MANUFAXTURES | UL FILE NO. |
|-----|--------|---|---|---------------|
| 1 | BOBBIN | PHENOLIC T375J UL RATING: 94V-0 | ZHEN HUI PRECISION PLASTIC &HARDWARE (SHEN ZHEN) CO LTD. | E331681 |
| 2 | CORE | TP2A | TTS Technology Co.,Ltd. | N/A |
| 3 | WIRE | POLYURETHANE ENAMELED TYPE NO: 2UEW THERMAL RATING:180°C | ZHU HAI SUNTEK WIRE COLTD | OBMW2.E234867 |
| 4 | TAPE | FLAME RETARDANT POLYIMIDE FILM TAPE TYPE NO.:KAPTON TAPE THERMAL RATING:180°C | Shen zhen Weichuangda Packing material Co.,Ltd | E328315 |
| 5 | SOLDER | SN/CU: 99.3/0.7 | Gao Xin stannum industry Co.,Ltd | N/A |
| 6 | Glue | E-504H-1 | Dong Guan city eatto electronic material Co.,Ltd | E218090 |
| 7 | INK | VIC-120 | Shenshen Huarui samwo group Co.,Ltd | N/A |
| 8 | CASE | PHENOLIC T375J UL RATING: 94V-0 | ZHEN HUI PRECISION PLASTIC &HARDWARE (SHEN ZHEN) CO LTD. | E331681 |

9.PACKING INFORMATION:

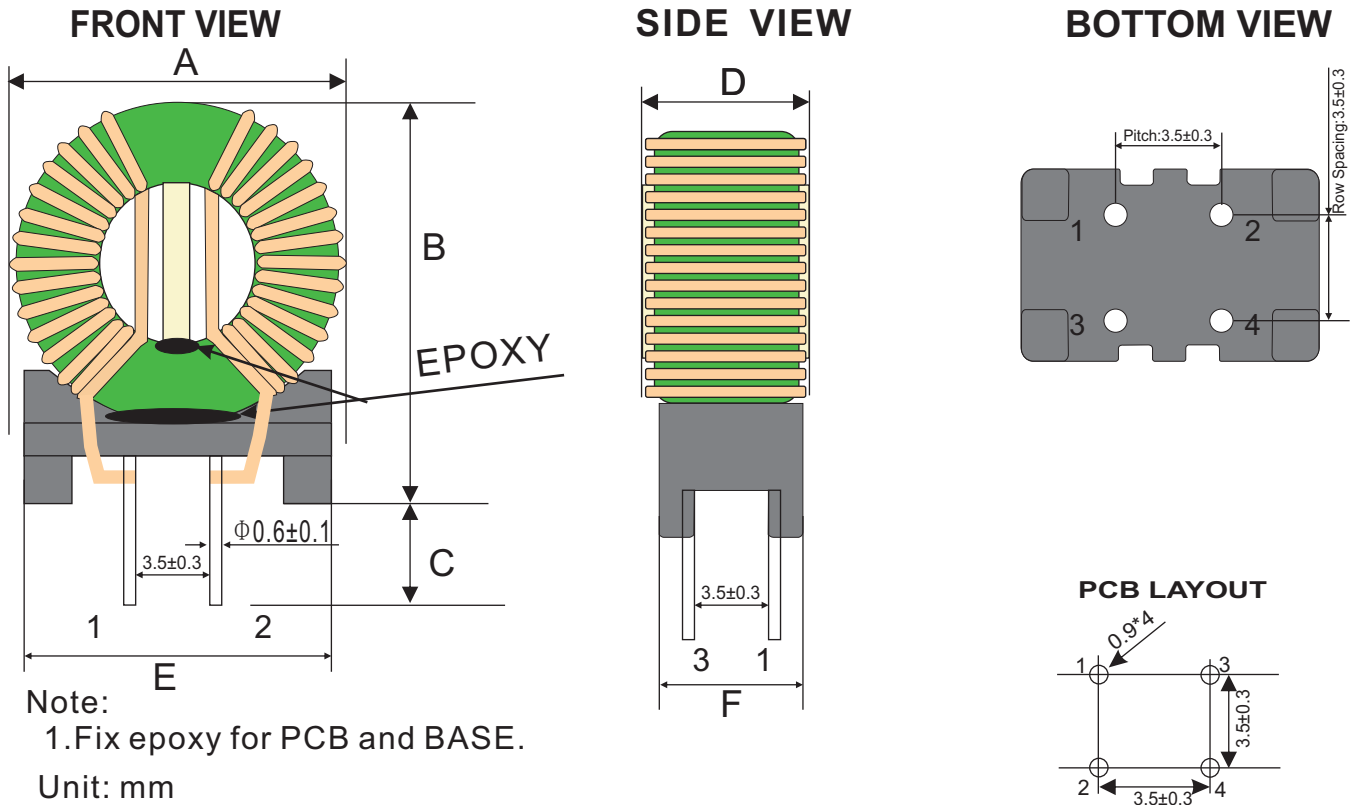
| DESCRIPTION | QTY |
|--------------------------|-----|
| PIECES PER REEL | 150 |
| PIECES PER POCKET | 1 |
| PIECES PER BOX | 450 |
| REEL PER BOX | 3 |
| GROSS WEIGHT PER BOX(KG) | TBD |
| NET WEIGHT PER BOX(KG) | TBD |





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

2. Mechanical Dimensions:



| A | B | C | D | E | F |
|--------|--------|--------|--------|--------|--------|
| +/-1.0 | +/-0.5 | +/-0.5 | +/-1.0 | +/-0.5 | +/-0.5 |
| 12.0 | 14.3 | 3.5 | 7.0 | 9.0 | 5.8 |

3. Electrical Characteristics :

Specifications: at 25°C. Operating Temperature -40 to +125°C

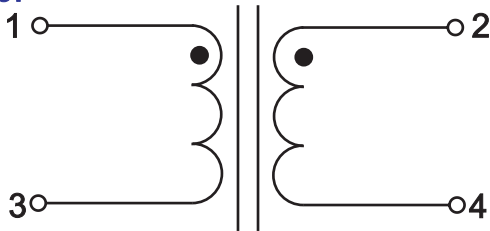
| NO. | ITEM | TEST CONDITION | SPECIFICATION | REMARKS |
|-----|---------------|----------------------------|---------------------|---------|
| 1 | Rated Voltage | Line to Line | AC250V | |
| 2 | Inductance | (1-3)(2-4) @16KHz, 1.0V | 6.0mH+50% -30% | TH-2819 |
| 3 | DCR | (1-3)(2-4) @25°C | 220.0mΩ Max. | TH-2819 |
| 4 | HI-POT | (1-3) to (2-4) | 1500Vac, 1mA, 2SEC. | RK2670A |
| 5 | Rated current | @70°C | 1.0A . | |
| 6 | ΔL | L(1-3)-L(2-4) @16KHz, 1.0V | 0.10mH Max. | TH-2819 |

Remark: Use manual trigger mode of instrument for test.

4. Winding Information:

| WINDING SEQ. | ST-FN | WIRE/FOIL | TURNS | WRAP INSUL. | MARGIN TAPE | SLEEVE | NOTE |
|--------------|-------|-------------|----------|-------------|-------------|--------|------|
| 1 | 1---3 | 0.35mm 2UEW | 35±3.0T. | | | | |
| 2 | 2---4 | 0.35mm 2UEW | 35±3.0T. | | | | |

5.Schematic:



6.Material List

| NO. | ITEM. | MATERIALS | SUPPLIERS/MANUFAXTURES | UL FILE NO. |
|-----|--------|---|--|---------------|
| 1 | CORE | T10*6*5 TTS-TH10 | TTS TechnologyCo.,Ltd. | N/A |
| | | T10*6*5 SSH-10 | SUNSHINE ELECTRONIC TECHNOLOGY Co.,Ltd. | N/A |
| 2 | WIRE | xUEW 180 | SUNTEK HOLDINGS LIMITED | OBMW2.E234867 |
| | | Polysol 180 / MW 82-C THERMAL RATING:180°C | ELEKTRISOLA HANG ZHOU CO.,LTD. | E258243 |
| 3 | SOLDER | SN/CU: 99.3/0.7 | Gao Xin stannum industry Co.,Ltd | N/A |
| 4 | Glue | E-500(XX) | Dong Guan city eatto electronic material Co.,Ltd | QMFZ2.E218090 |
| 5 | BASE | PHENOLIC T375J | CHANG CHUN PLASTICS CO LTD. | QMFZ2.E59481 |

7.Packing Information:

| DESCRIPTION | QTY |
|--------------------------|-----------|
| PIECES PER CELL | 1 |
| PIECES PER TRAY | 560 |
| PIECES PER BOX | 3360 |
| GROSS WEIGHT PER BOX(KG) | 10.14(kg) |
| NET WEIGHT PER BOX(KG) | 9.50(kg) |



TOP



BOTTOM



FRONT



back



left



right



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

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


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

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



NETWORK CAMERA
MODEL: PND-A6081RV

DC 12V  1.42A/

PoE (53V ) 0.37A

M/C: PND-A6081RV/KUS Fac. ID: D



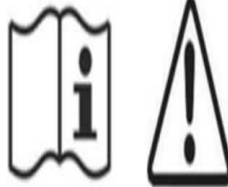
DATE S/N: XXXXXXXXXXXXXXXX

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

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

HANWHA TECHWIN CO.,LTD.

MADE IN KOREA

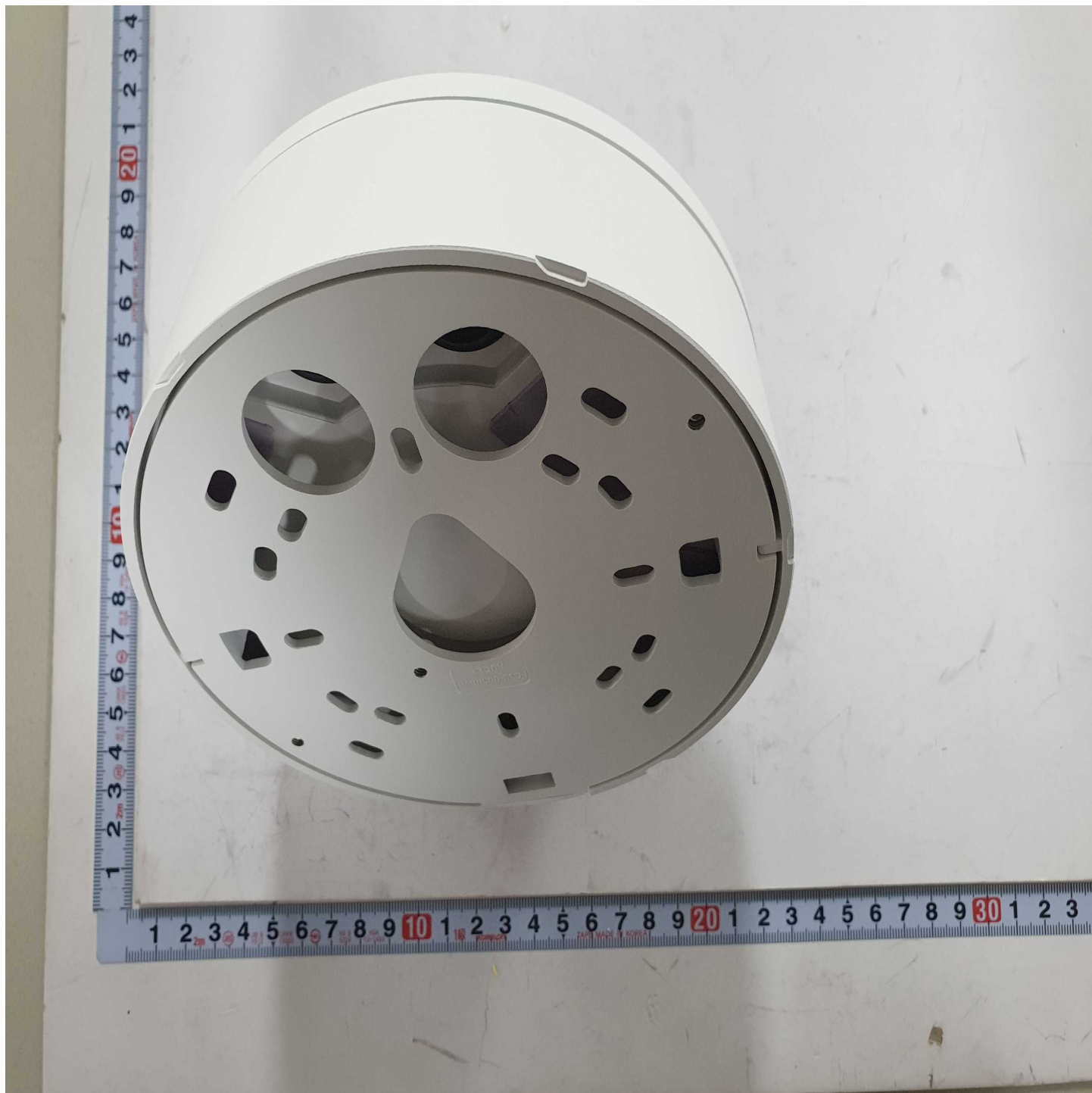


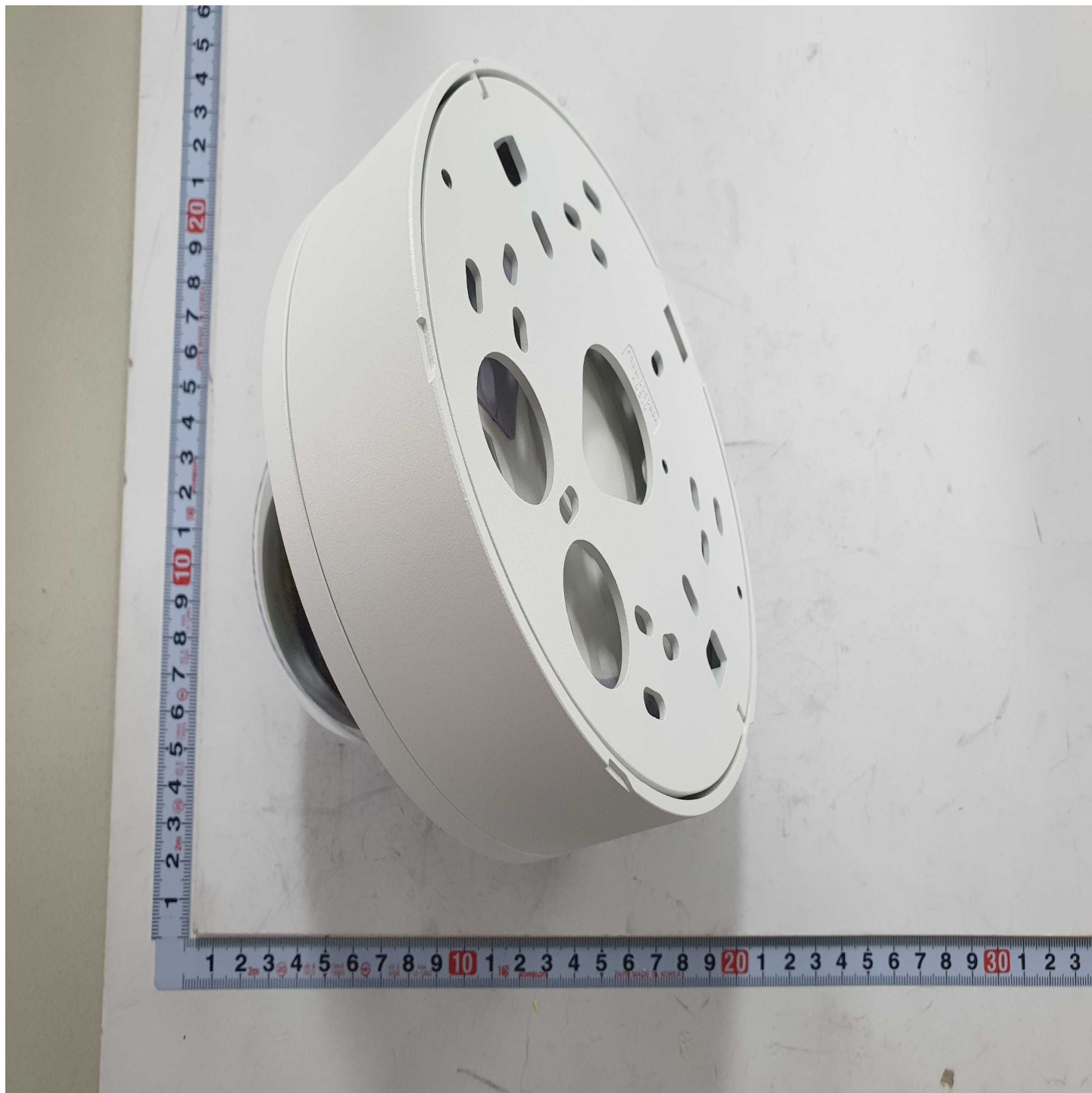
Risk Group 1

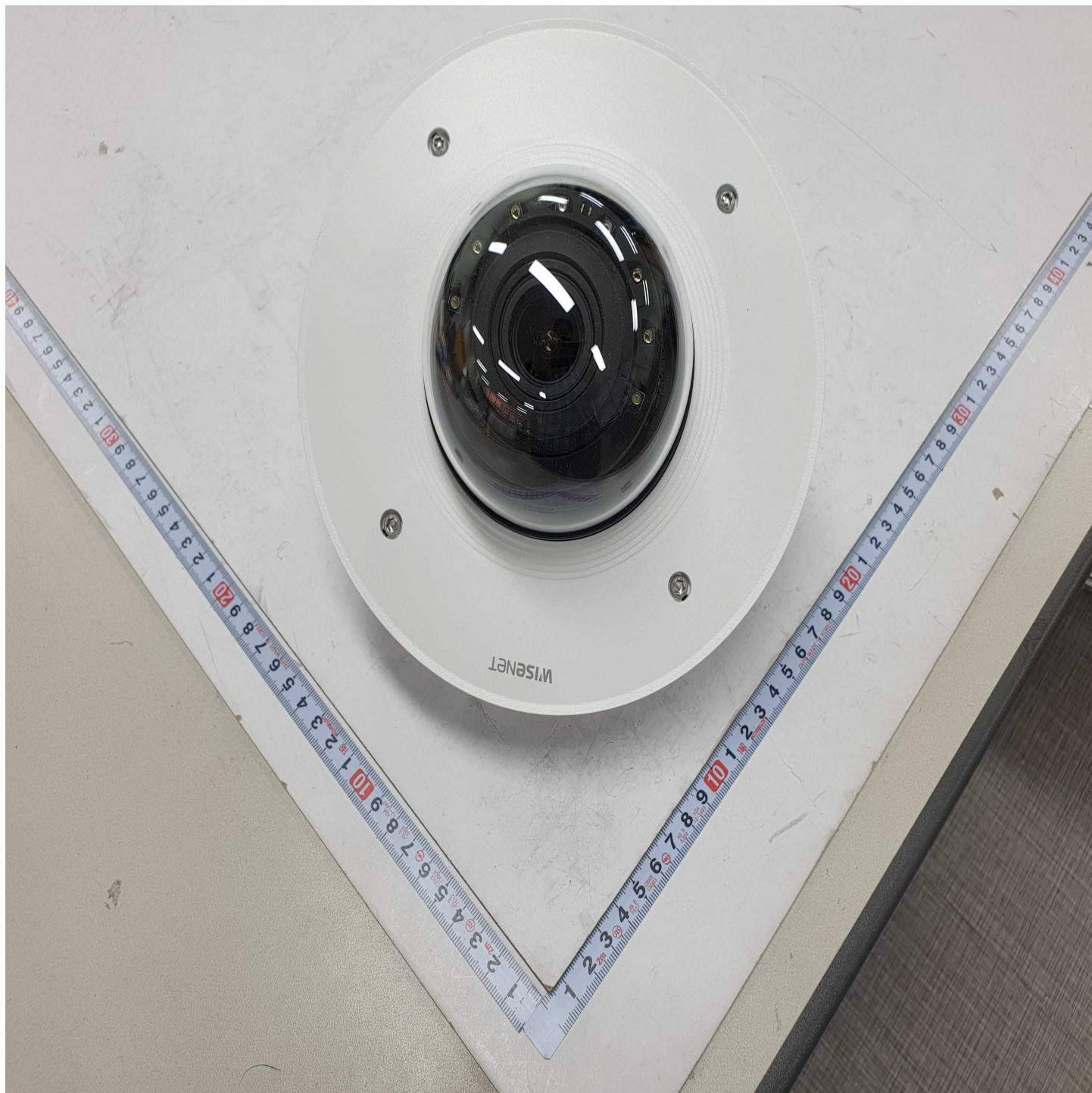
WARNING IR emitted from this product. Do not stare at operating lamp

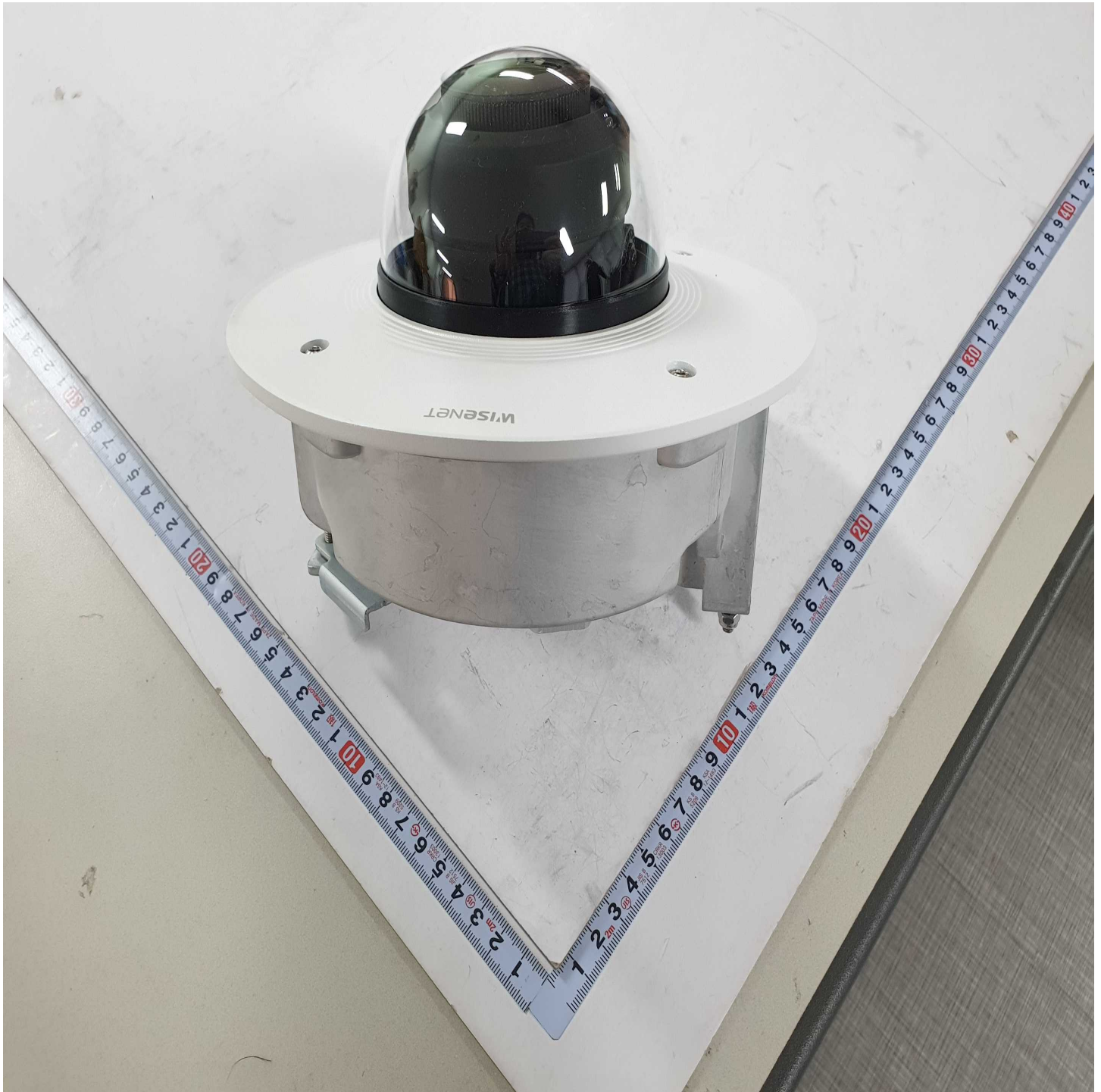
Product tested against IEC62471

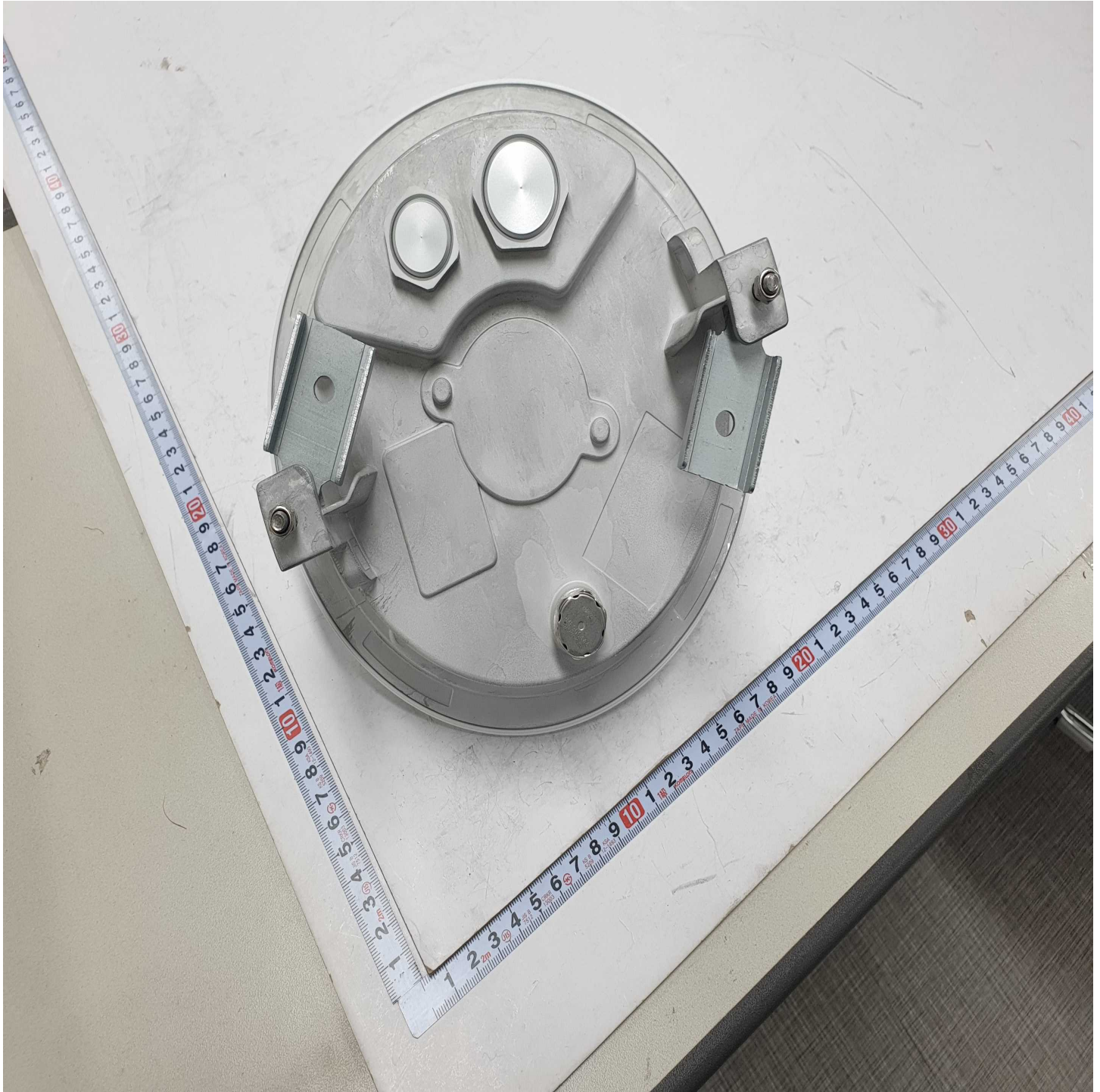


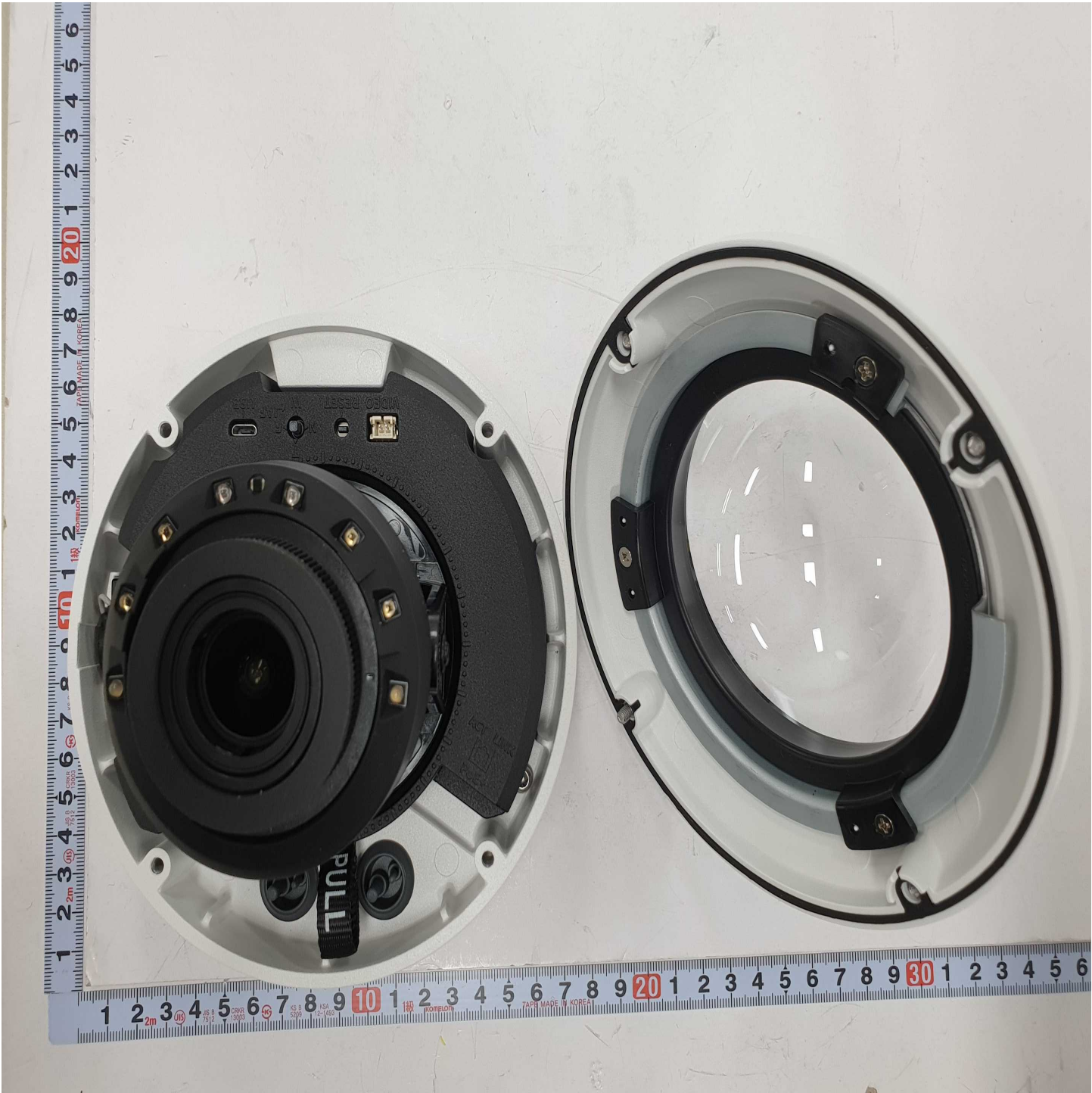








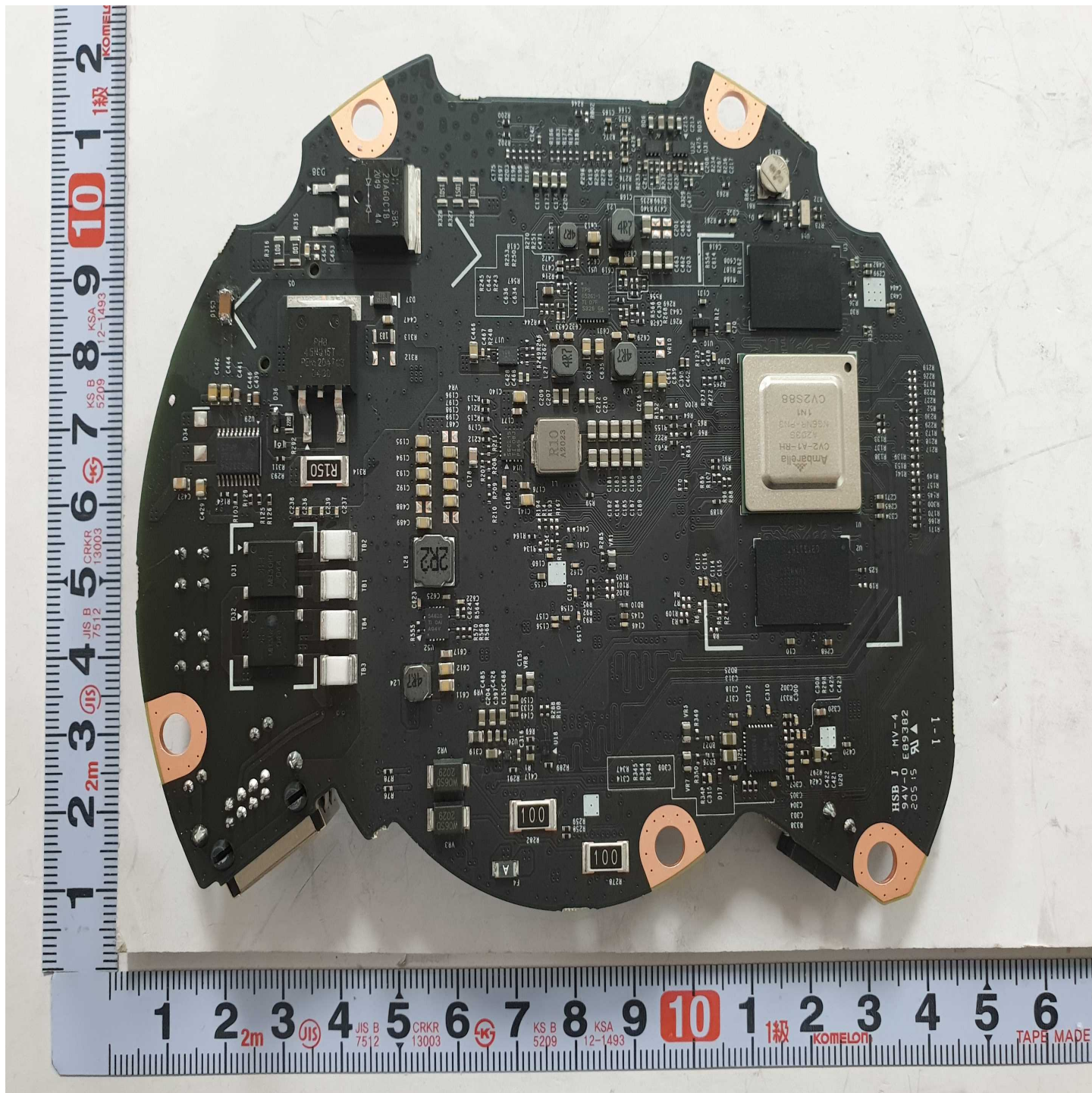


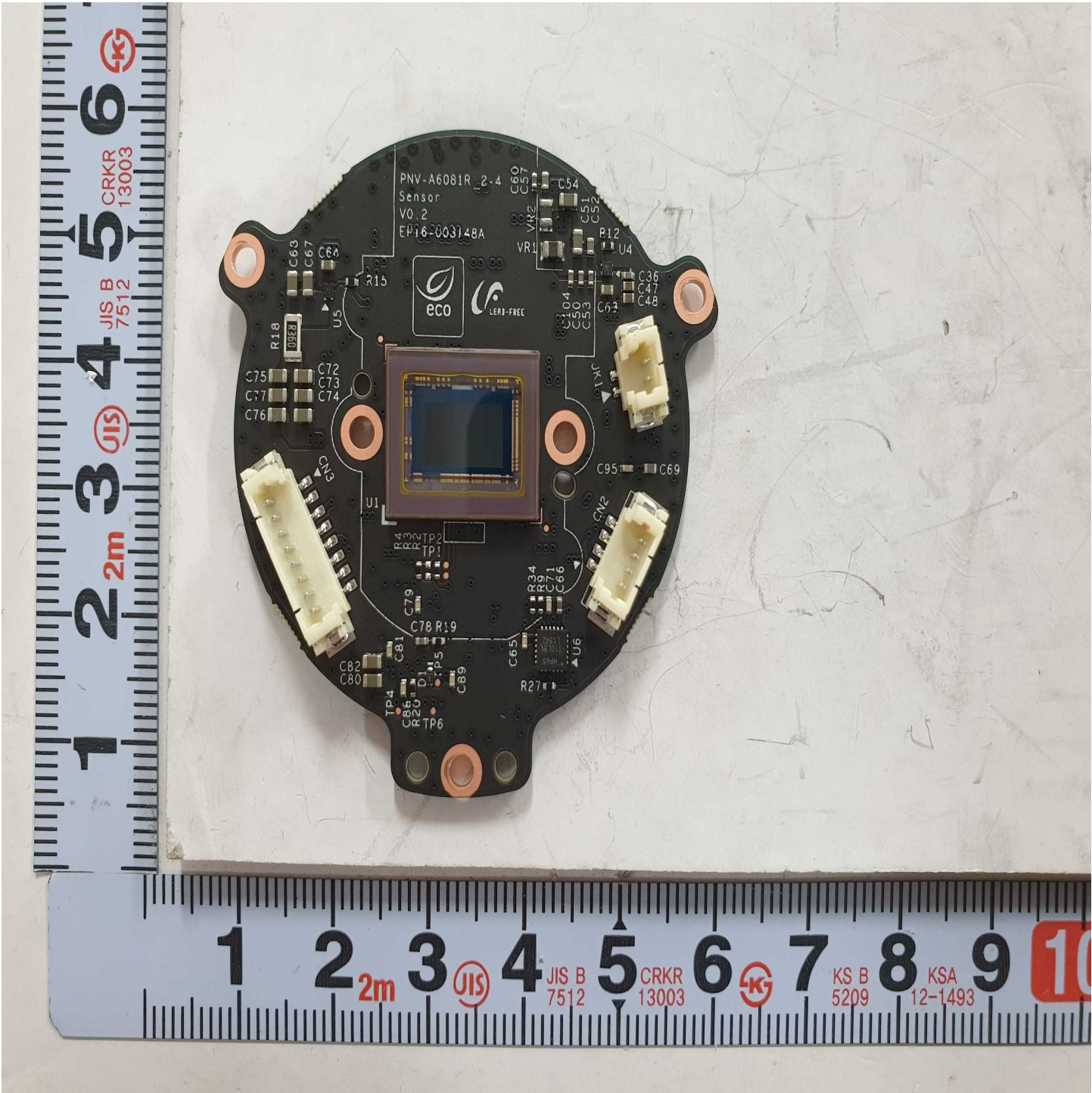


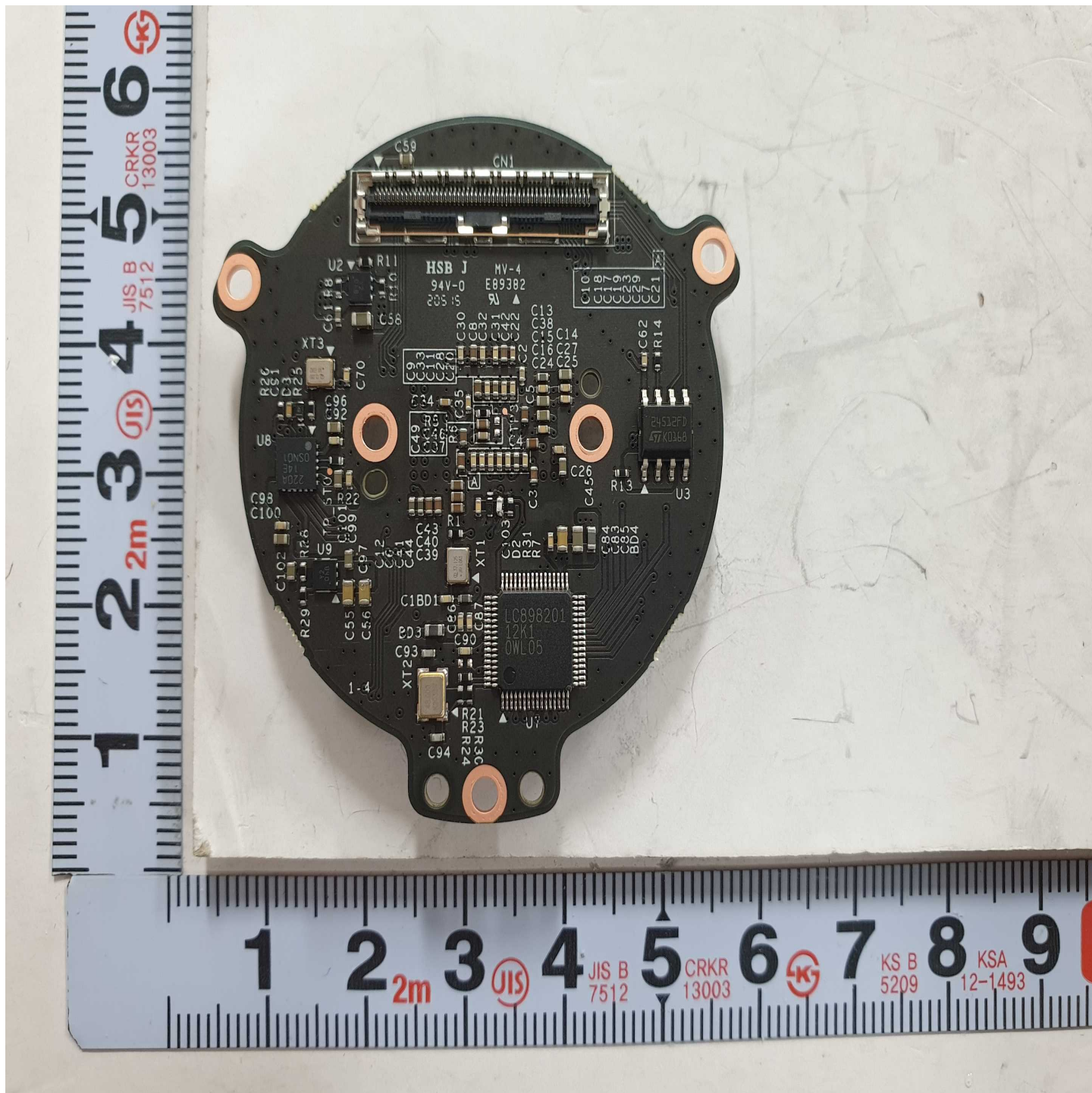












Test Record No. 1

1. Test result relate only to the items tested.
2. The manufacturer submitted representative production samples of NETWORK CAMERA, PND-A6081RV, PND-A6081RF.
3. Only the test listed were considered necessary.

The following tests were conducted:

| | |
|---|---|
| Tests performed (name of test and test clause): | Testing location: CTK Co., Ltd., 386-1 Ho-dong Yongin-shi, Kyungki-do, 449-100, Korea |
| MAXIMUM OPERATING TEMPERATURE FOR MATERIALS, COMPONENTS AND SYSTEMS (5.4.1.4, 6.2, 9.2.5 ANNEX B.2) | |
| DETERMINATION OF WORKING VOLTAGE (5.4.1.8) | |
| NORMAL OPERATING CONDITIONS TEMPERATURE TEST (6.3) | |
| WALL OR CEILING MOUNTING TESTS (8.7) | |
| INPUT TEST: SINGLE PHASE (B.2.5) | |
| SIMULATED SINGLE FAULT CONDITIONS (B.4) | |
| PROTECTION CIRCUITS FOR BATTERIES (ANNEX M.3.2) | |
| The following tests were waived: | Rationale for Waiving |
| | |
| | |

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

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

| Type | Supplement Id | Description |
|-----------|---------------|-------------|
| Datasheet | 02-01 | Datasheet |

