

TEST REPORT

**CTK Co., Ltd.**

5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si,
Gyeonggi-do, Republic of Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2024-02355
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1. Applicant

- Name : Hanwha Vision Co., Ltd
- Address : 6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 13488 KOREA
- Date of Receipt : AUG 13, 2024

2. Manufacturer

- Name : Hanwha Vision Co., Ltd

3. Use of Report :

For customer submission

4. Test sample / Model :

NETWORK CAMERA / QNF-C9010

5. Date(s) of test :

AUG 14, 2024

6. Test Standard (Method) used :

IEC 60529:1989 +A1:1999+A2:2013

7. Testing Environment :

Temperature: (25 ±10) °C, Humidity: (50 ±25) %R.H.
Pressure: (96 ±10) kPa

8. Test Results :

Clause 4. Refer to the test results

9. Location of Test :

☒ Permanent Testing Lab ☐ On Site Testing
(113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
Republic of Korea)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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Approval	Tested by	Technical Manager
	Name: Kyu Nam Park (Signature)	Name: Ho Hyun Lee (Signature)

Remark. This report is not related to KOLAS accreditation and relevant regulation.

AUG 22, 2024

CTK Co., Ltd.



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1. Testing Laboratory

1.1 Testing laboratory information

Lab. Name	CTK Co., Ltd.
Address	5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Tel.	+82-31-339-9970
Fax.	+82-31-624-9501
E-Mail	ctk@e-ctk.com
Website	e-ctk.com

1.2 Testing laboratory accreditation status

Country	Classification	Accreditation Number	Logo
International	KOLAS	TESTING NO. KT119	

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2. Product description and Equipment information

2.1 Product description

Product Name	Model Name	Quantity	Comment
NETWORK CAMERA	QNF-C9010	1 EA	-

2.2 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
Stop Watch	NONE	Casio	612Q01R-1	2026-01-23
ANGLE METER	SR-90	KOD	A-84378	2025-03-22
Push Pull Gage	FB30K	Imada	83805	2025-01-23
Test Rod Probe Ø1.0	TRP-02	ED&D	S1-J15	2027-05-16
Water flow meter with Drip box	M-15	LZT	200971	2025-02-19
Drip box	IEC 60529 Drip Box, IPX1/ IPX2	Kingpo	ZH13388-1	
Steel measuring meter	5.5 m	KOMELON	225851	2025-03-27

2.3 Pre-test product images



Top or Front side (When the sample is big)



Bottom or Rear side (When the sample is big)



Front



Rear



Left side



Right side

2.4 Testing equipment images



ANGLE METER



Push Pull Gage



Test Rod Probe Ø1.0



Water flow meter with Drip box



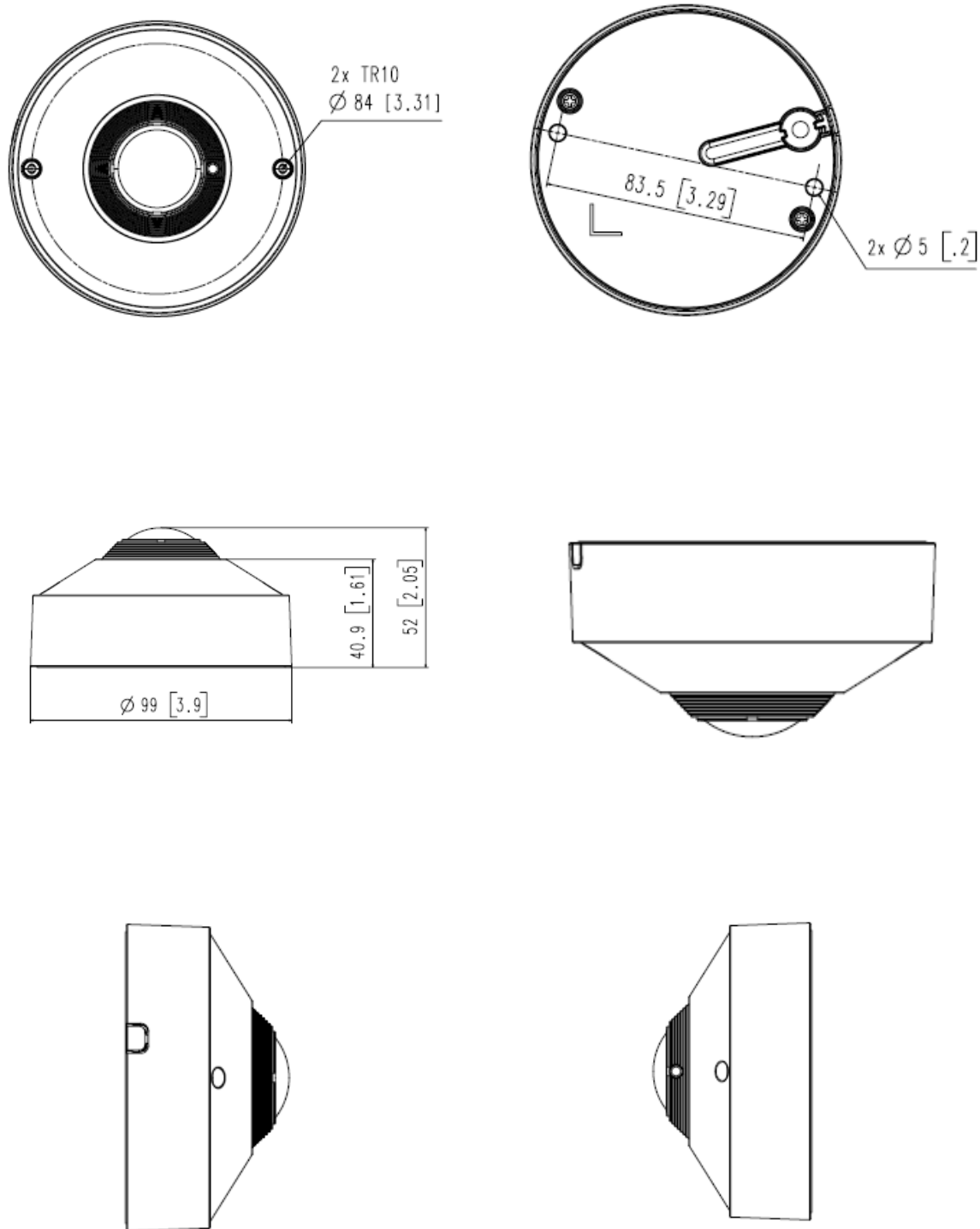
Drip box



Steel measuring meter

2.5 Product Appearance

Enclosure Dimensions [Unit : mm]



3. Test conditions and methods

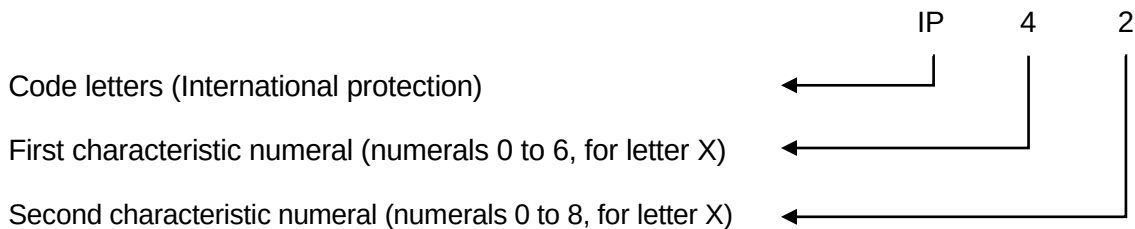
3.1 Test duration

3.1.1 Test Date : AUG 14, 2024

3.2 Test conditions

3.2.1 Test standard: **IEC 60529:1989 +A1:1999+A2:2013**

3.2.2 Arrangement of the IP code



3.2.2.1 Degree of protection against access to hazardous parts indicated by the first characteristic numeral

First characteristic numeral	Degree of protection	Application
4	Protected against access to hazardous parts with a wire. The access probe of 1.0 mmØ, shall not penetrate. Test force: 1 N ± 10 %	☒

NOTE In the case of the first characteristic numerals 3, 4, 5 and 6, protection against access to hazardous parts is satisfied if adequate clearance is kept. The adequate clearance should be specified by the relevant product committee in accordance with 12.3.

Due to the simultaneous requirement specified in table 2, the definition “shall not penetrate” is given in table 1.

3.2.2.2 Degree of protection against solid foreign objects indicated by the first characteristic numeral

First characteristic numeral	Degree of protection	Application
4	Protected against solid foreign objects of 1.0 mmØ and greater. The object probe, sphere of 1.0 mmØ, shall not penetrate at all ¹⁾ . Test force: 1 N ± 10 %	☒

¹⁾ The full diameter of the object probe shall not pass through an opening of the enclosure.
Due to the simultaneous requirement specified in table 2, the definition “shall not penetrate” is given in table 1.

3.2.2.3 Degree of protection against water indicated by the second characteristic numeral

Second characteristic numeral	Degrees of protection	Application
2	When outskirts of the product have been tilted by 15° Water that drops vertically has to be harmless. Drip box Fig.3, Enclosure in 4 fixed positions of 15° tilt Water flow rate: 3 mm/min Duration of test: 2.5 min for each position of tilt	☒

3.3 Testing Image

3.3.1 Test Environment Set-up Images



Probe test



Probe test



Probe test



Probe test

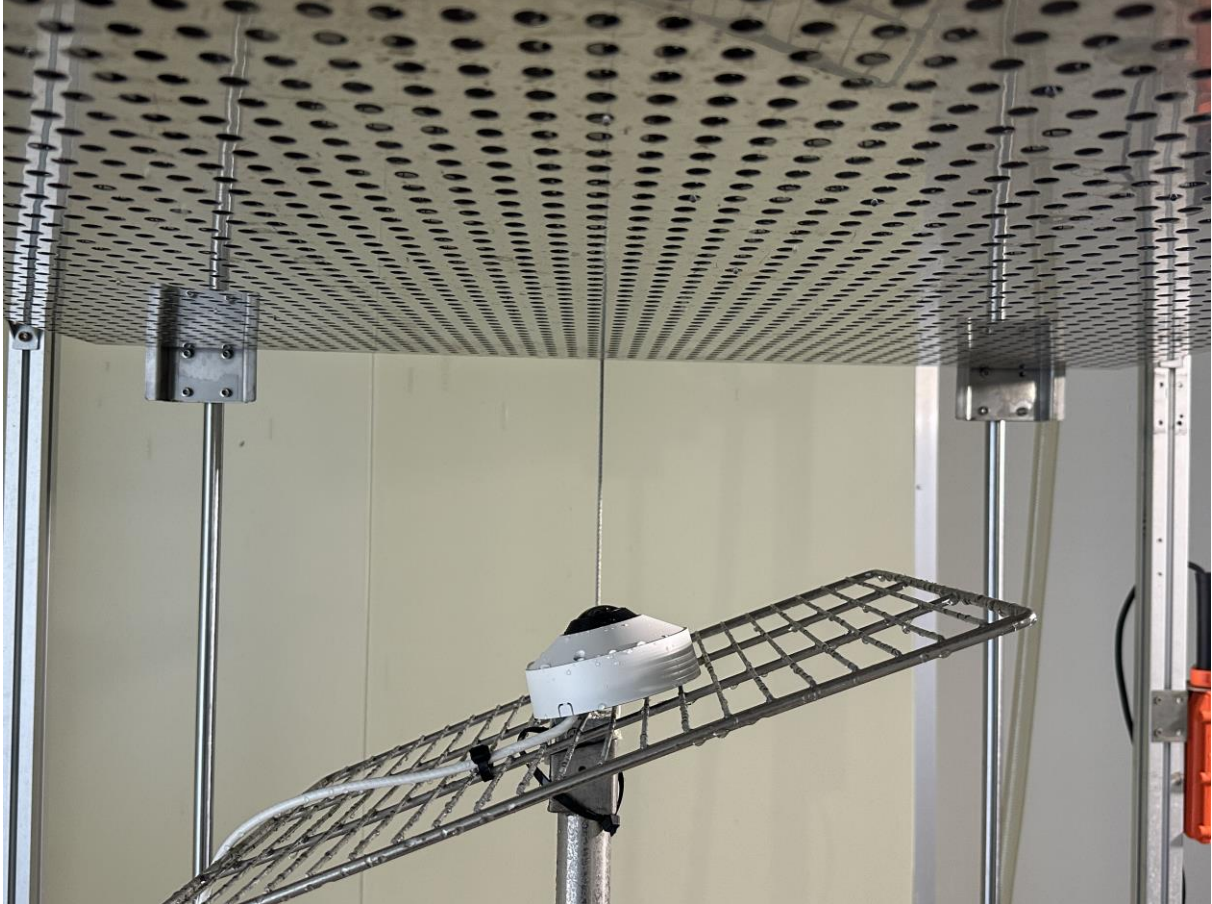


Probe test



Probe test

Test Environment Set-up Images



Water test

4. Test result

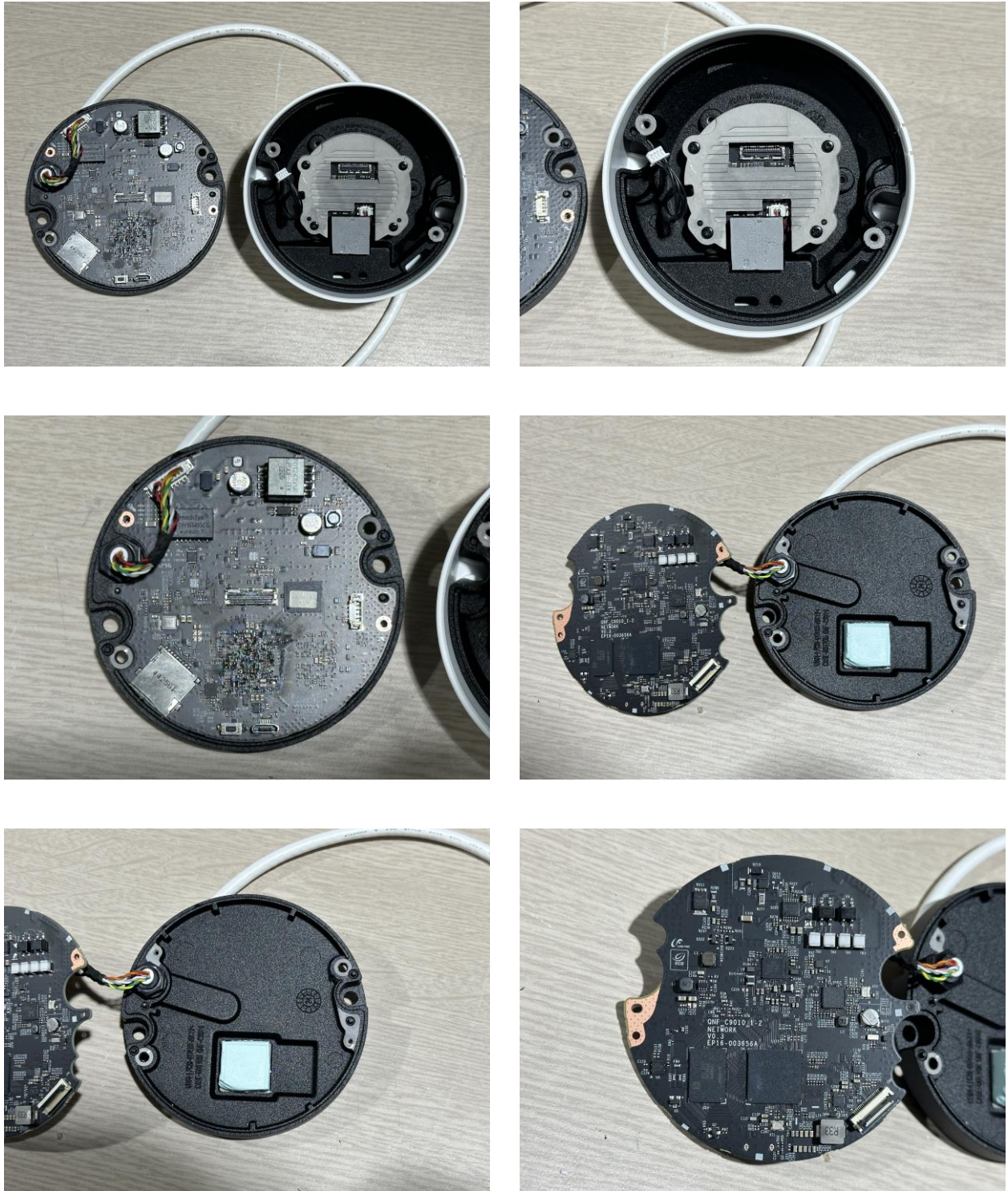
4.1 Test Result Table

IP code	Evaluation Criteria	Test Results	Remark
IP 4X	No penetration of probe.	Normal	-
IP X2	No ingress of water.	Normal	-

※ Refer to the sample images after the test is completed. (Clause 4.2)

4.2 Post-Test Product Images

4.2.1 Product internal images after test [The Second characteristic Numeral Test]



- End -