

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-2025-03143
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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 : Jul. 17, 2025

2. Manufacturer

- Name : Hanwha Vision Co., Ltd

3. Use of Report :

For submission to customer

4. Test sample / Model :

NETWORK THERMAL CAMERA / TNP-C4940TD

5. Date(s) of test :

Aug. 16, 2025 ~ Aug. 18, 2025

6. Test Standard (Method) used :

NEMA TS 2-2013 2.2.7.3 Test C ~ 2.2.7.8 Test H,

7. Testing Environment :

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

Pressure: (96 ±10) kPa

8. Test Results :

Refer to the test results

9. Location of Test :

☒ Permanent Testing Lab ☐ On Site Testing
(5 Dongbu-ro 221beon-gil, 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. This report cannot be reproduced or copied without the written consent of CTK.

Approval	Tested by	Technical Manager
	Name: HyungUk Jeon (Signature) 	Name: HoHyun Lee (Signature) 

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

Nov. 12, 2025

CTK Co., Ltd.



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1. Testing laboratory

1.1 Testing laboratory information

Lab. Name	CTK Co., Ltd.
Representative	Young Joseph Seungwon
Address	113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do Republic of Korea
Tel.	+82-31-339-9970
Fax.	+82-31-624-9501
E-Mail	all.youngin@element.com
Website	www.elementkorea.kr

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 THERMAL CAMERA	TNP-C4940TD	1 EA	–

2.2 Model description

Basic Model	TNM-C4940TD	
Series model	TNM-C4950TD, TNM-C4960TD, TNM-C4940TDR, TNM-C4942TDR, TNM-C4952TD, TNM-C4962TD	
Model differences	TNM-C4950TD, TNM-C4960TD TNM-C4952TD, TNM-C4962TD	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in SW.
	TNM-C4940TDR, TNM-C4942TDR	differences in SW.

2.3 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
Temperature & Humidity Chamber	ARS-1100-AE	ESPEC	1110024015	Oct 07, 2025

2.4 Pre-test product images

2.4.1 Test sample



Top



Bottom



Front



Rear



Left side



Right side

2.4.2 Test sample



Top



Bottom



Front



Rear



Left side



Right side

2.5 Testing equipment images

2.5.1 Test equipment



Temperature & Humidity Chamber



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3. NEMA TS 2-2013 2.2.7.3 Test C ~ 2.2.7.8 Test H

3.1 Test date and environmental conditions

3.1.1 Test date: Aug. 16, 2025 ~ Aug. 18, 2025

3.1.2 Measured Environmental Conditions

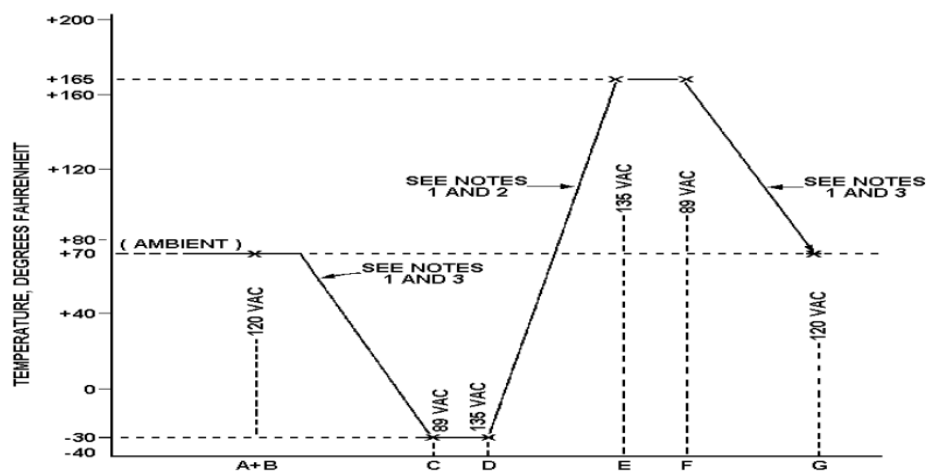
Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	24.2	46.2	96.3

3.2 Test conditions and methods

- 3.2.1 2.2.7.3 Test C: - 34 °C, 89 Vac, 10 h (Check interim operation after 5 h and operation check after 10h)
- 3.2.2 2.2.7.4 Test D: - 34 °C, 135 Vac, 1 h (Operating state)
- 3.2.3 2.2.7.5 Test E: 74 °C, 18 %, 135 Vac, 15 h (Operating state)
- 3.2.4 2.2.7.6 Test F: 74 °C, 18 %, 89 Vac (Operation check after 2.2.7.5 Test E)
- 3.2.5 2.2.7.7 Test G: (21 ±6) °C, 120 Vac (Operating state)
- 3.2.6 2.2.7.8 Test H: Check for mechanical damage

3.2.7 Test Methods

- Evaluations Criteria :
 - Check for mechanical damage before and after testing
- Test methods



3.3 Testing images

3.3.1 Evidence of test setting



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3.4 Test Result

3.4.1 Test result table

Evaluation Criteria		Test Results	Comment
2.2.7.3 Test C ~ 2.2.7.8 Test H	Before	Normal	-
	After	Normal	-



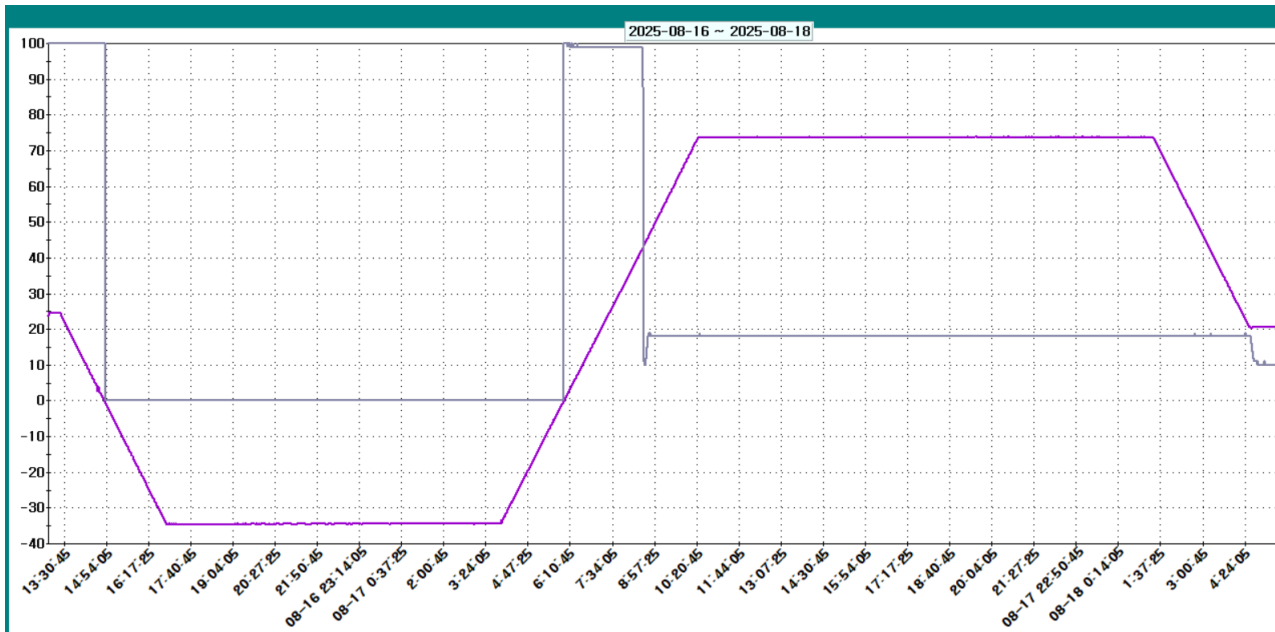
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3.5 Test Data

3.5.1 Test data and graph



Temperature Data



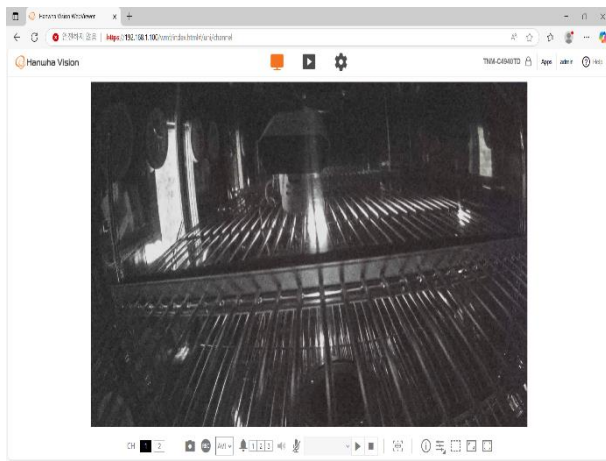
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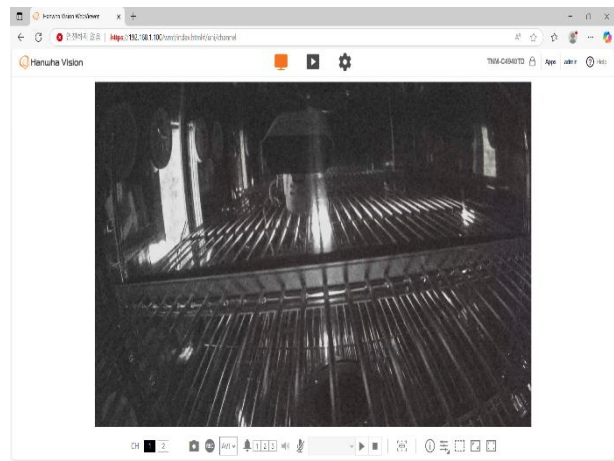
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3.6 Test sample operation images

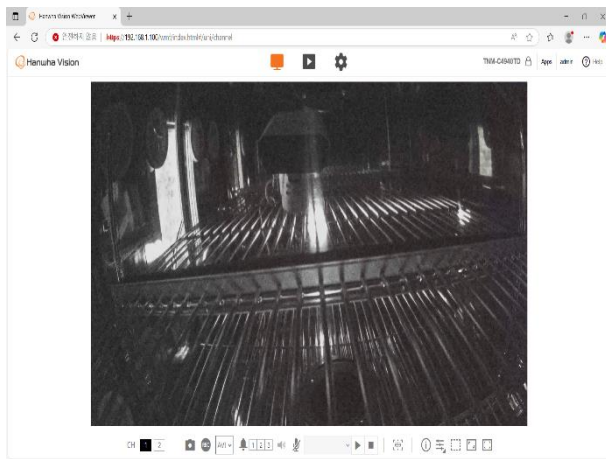
3.6.1 Test sample operation and function



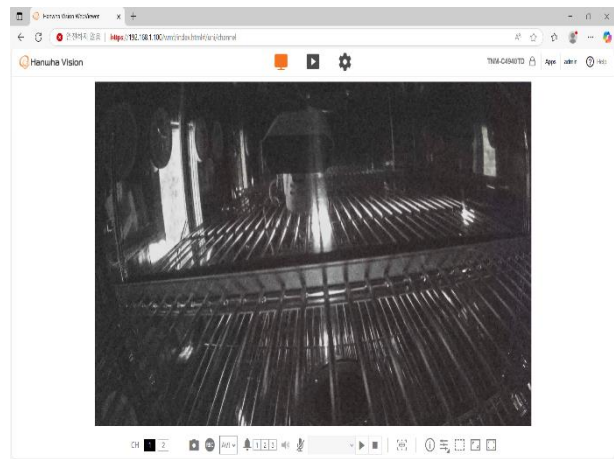
-34 °C 89 Vac



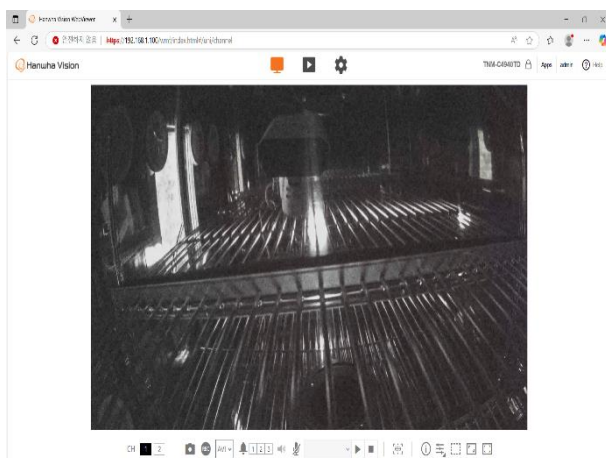
-34 °C 135 Vac



74 °C 135 Vac



74 °C 89 Vac



(21 ±6) °C 120 Vac

- End -