

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-2025-01511
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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 : Apr. 22, 2025

2. Manufacturer

- Name : Hanwha Vision Co., Ltd

3. Use of Report :

For submission to customer

4. Test sample / Model :

BARCODE READER / TNS-7000M

5. Date(s) of test :

Apr. 25, 2025

6. Test Standard (Method) used :

EN 60068-2-6, EN 60068-2-27, IEC 60068-2-6, IEC 60068-2-27

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.

Jun. 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	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	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
BARCODE READER	TNS-7000M	1 EA	—

2.2 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
VIBRATION TESTING SYSTEM	LT1010	FAMTECH	D2012335	N/A
Acceleration sensor	8703A250M5	KISTLER	5830236	Jan. 16, 2026
Acceleration sensor	8703A250M5	KISTLER	5722241	Jan. 16, 2026



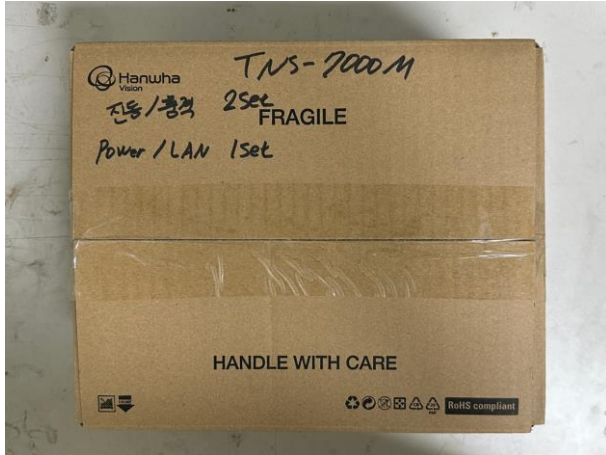
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2.3 Pre-test product images

2.3.1 Test sample (1)



Full packaging Top



Full packaging Bottom



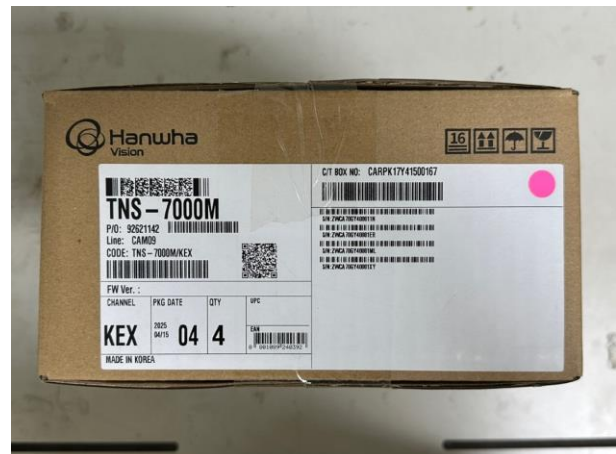
Full packaging Front



Full packaging Rear



Full packaging Left side



Full packaging Right side



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2.3.2 Test sample (2)



Single packaging Top



Single packaging Bottom



Single packaging Front



Single packaging Rear



Single packaging Left side



Single packaging Right side



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2.3.3 Test sample (3)



Top



Bottom



Front



Rear



Left side



Right side

2.3.4 Test sample (3)



Full packaging Inside



Single packaging Inside



Single packaging Inside



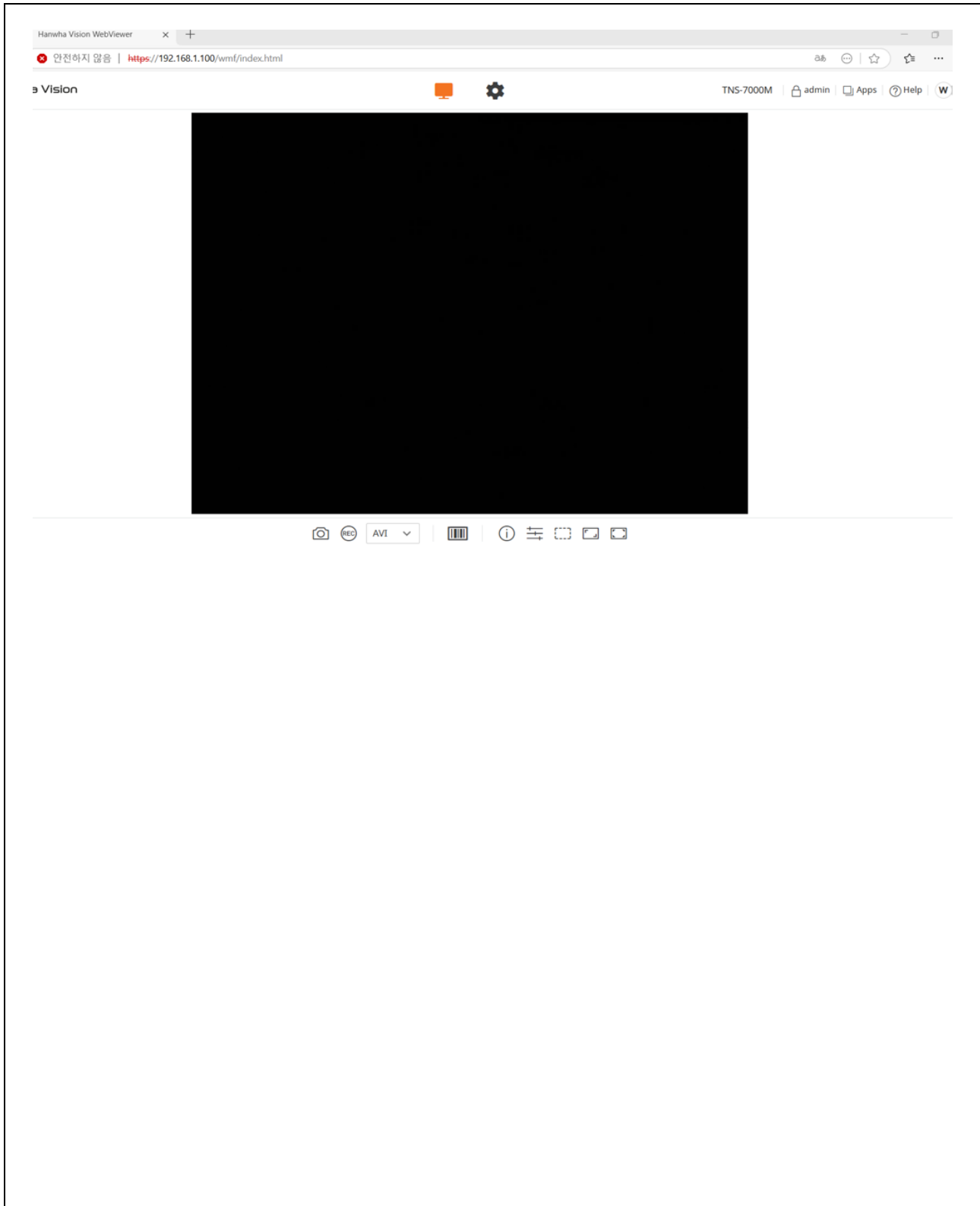
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2.4 Pre-test operation and function

2.4.1 Test sample operation and function





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2.5 Testing equipment images

2.5.1 Test equipment



VIBRATION TESTING SYSTEM



8703A250M5



ESS

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3. Packaging Vibration Test (EN 60068-2-6, IEC 60068-2-6)

3.1 Test date and environmental conditions

3.1.1 Test date: 25. Apr, 2025

3.1.2 Measured Environmental Conditions

Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	22.6	48.4	93.6

3.2 Test conditions and methods

3.2.1 Sample status: Full packaging

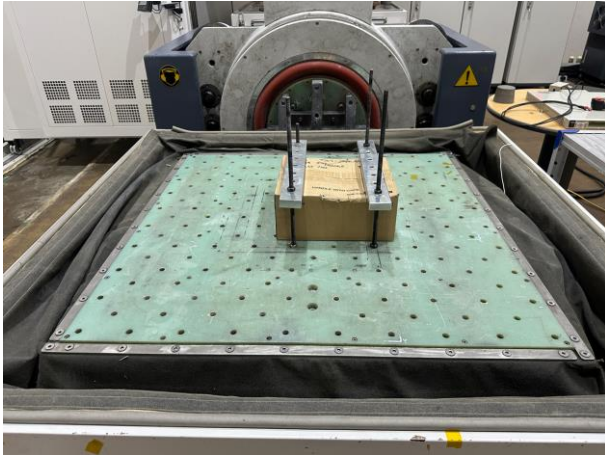
3.2.2 Acceleration: 2 G

3.2.3 Test Axis: X, Y, Z

3.2.4 Test time: each axis 1 hours

3.3 Testing images

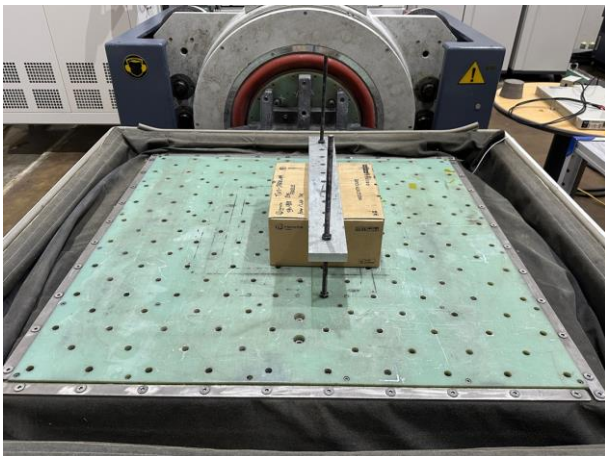
3.3.1 Evidence of test setting



X axis_1



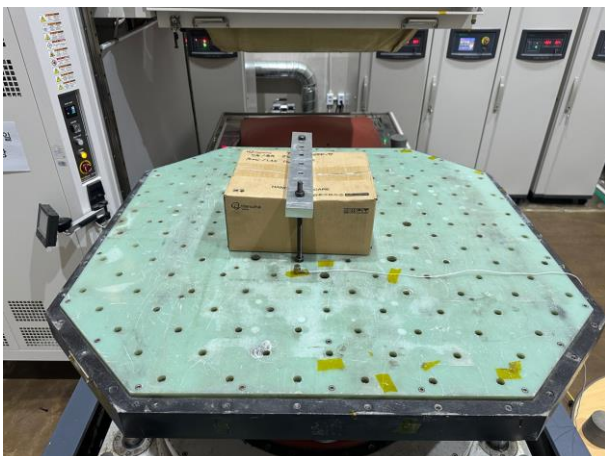
X axis_2



Y axis_1



Y axis_2



Z axis_1



Z axis_2

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3.4 Test result**3.4.1 Test results table**

Evaluations Criteria	Test result		Comment
Vibration Test	Before	Normal	-
	After	Normal	-



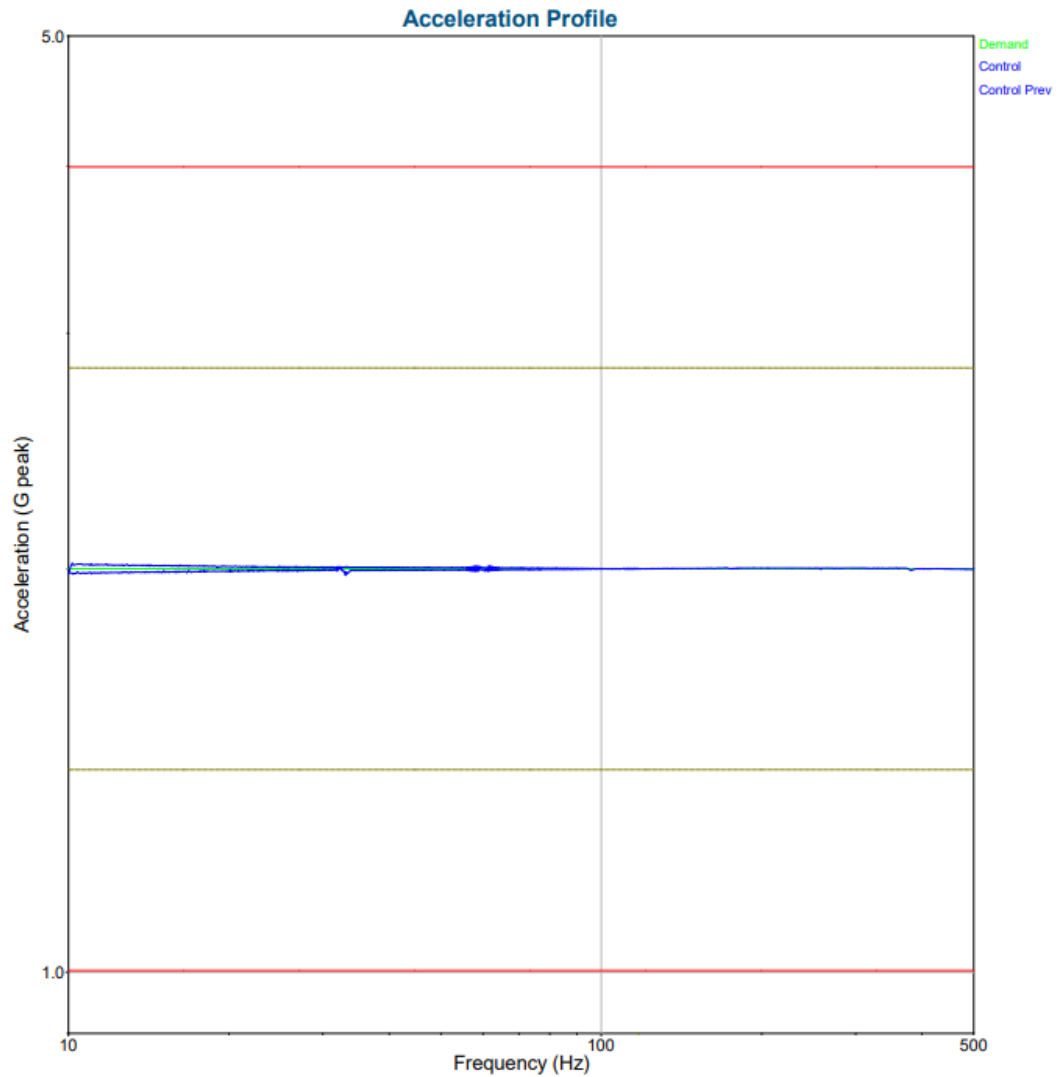
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3.5 Test Data

3.5.1 Test data and graph (Vibration Test X Axis)



4 25, 2025 16:07:11	Level 1) 100 %	Output: 0 Volts peak	20250425 한화비전 60068-2-6 사인 진동 TI
Demand: 2 G	Level Time: 1:00:00	Frequency: 117.6 Hz	
Control: 0.0005871 G	Total Time: 1:00:11	End of Timed Test	

X Axis

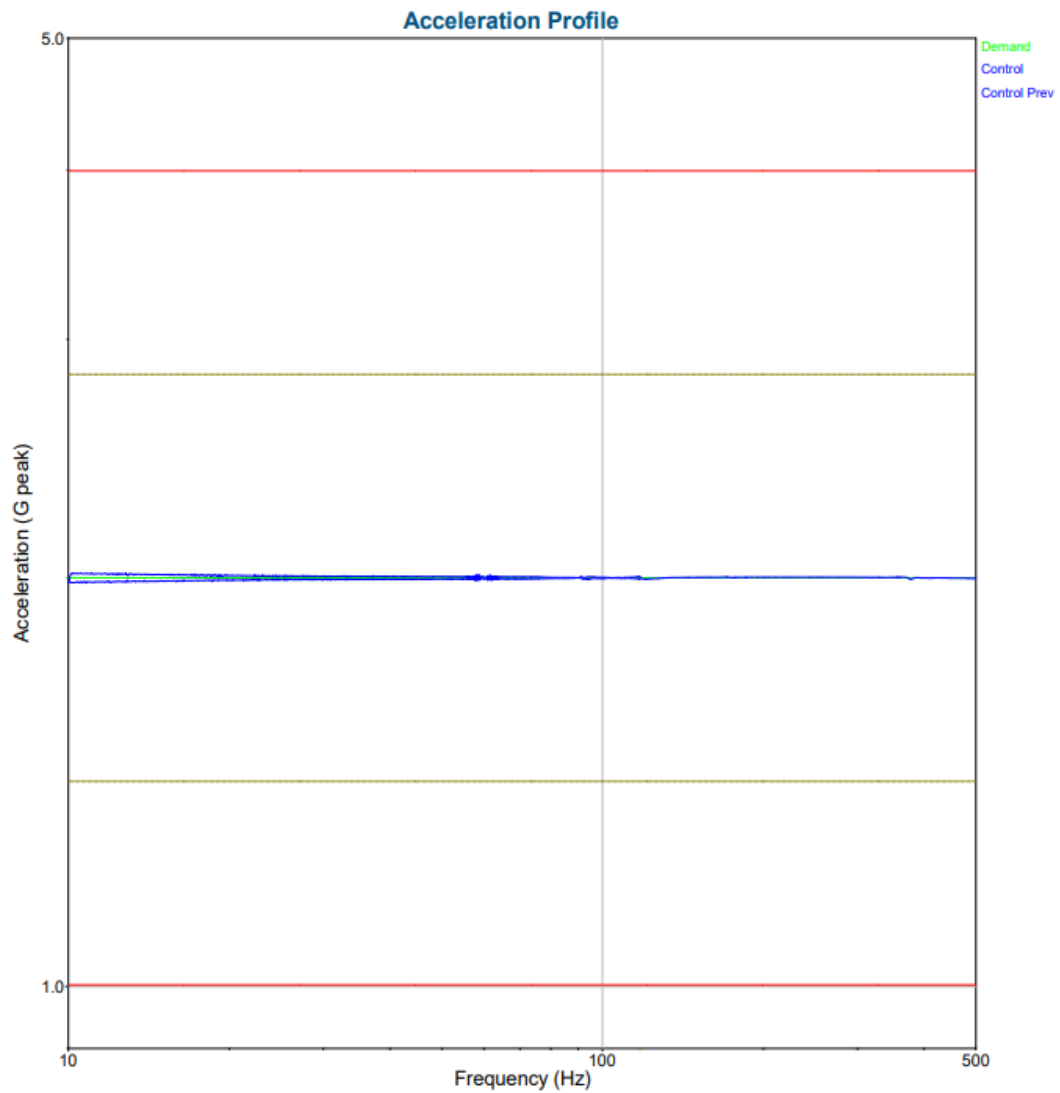


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3.5.2 Test data and graph (Vibration Test Y Axis)



4 25, 2025 17:30:47

Level 1) 100 %

Output: 0 Volts peak

20250425 한화비전 60068-2-6 사진 진동 TI

Demand: 2 G

Level Time: 1:00:00

Frequency: 117.6 Hz

Control: 0.0002011 G

Total Time: 1:00:11

End of Timed Test

Y Axis

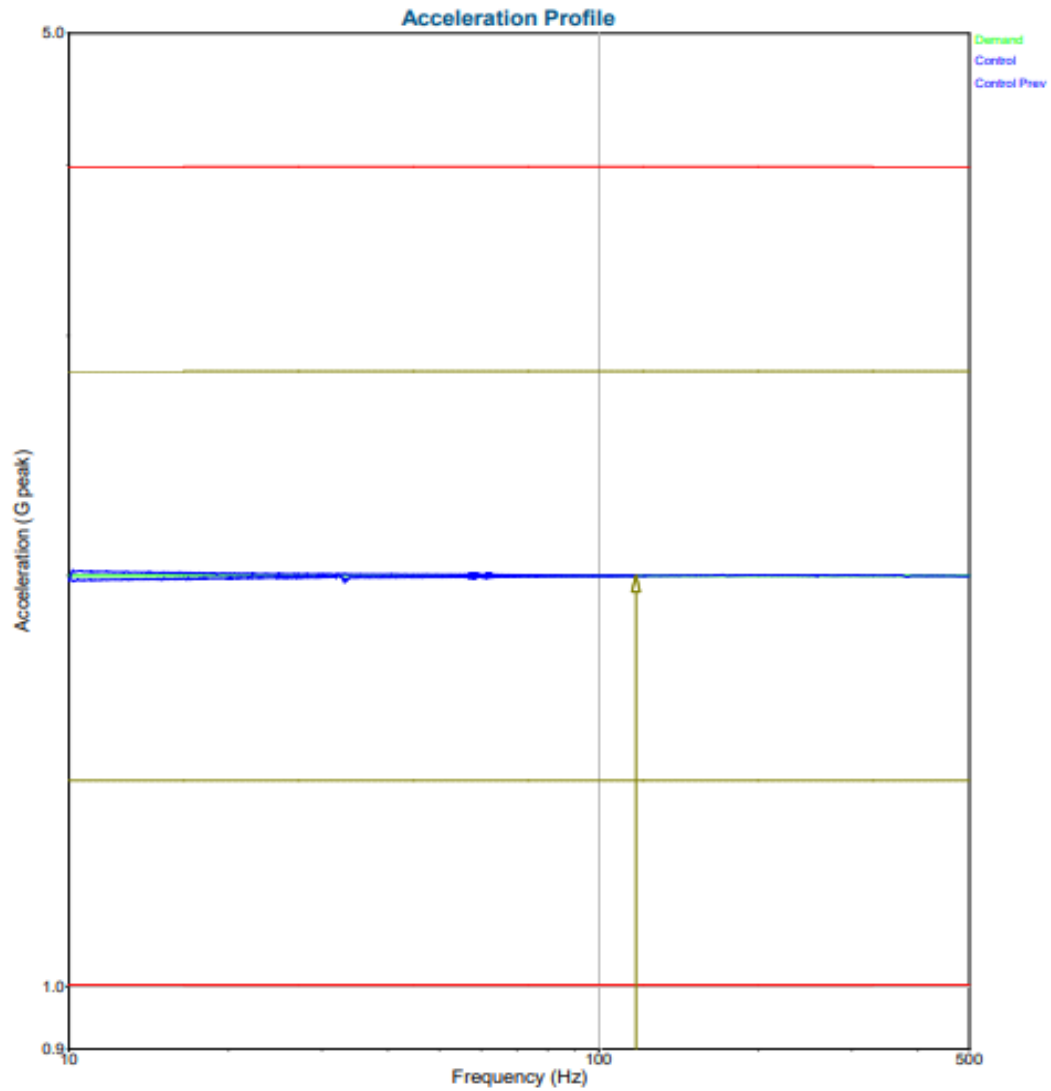


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3.5.3 Test data and graph (Vibration Test Z Axis)



4/25, 2025 14:10:05	Level 1) 100 %	Output: 0.05641 Volts peak	20250425 현화비전 60068-2-6 사인 진동 TT
Demand: 2 G	Level Time: 1:00:00	Frequency: 117.6 Hz	
Control: 2 G	Total Time: 1:00:11	End of Timed Test	

Z Axis

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4. Packaging Shock Test (EN 60068-2-27, IEC 60068-2-27)

4.1 Test date and environmental conditions

4.1.1 Test date: 25. Apr, 2025

4.1.2 Measured Environmental Conditions

Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	22.6	48.4	93.6

4.2 Test conditions and methods

4.2.1 Sample status: Full packaging

4.2.2 Applied waveform: Half sine

4.2.3 Acceleration: 80 G

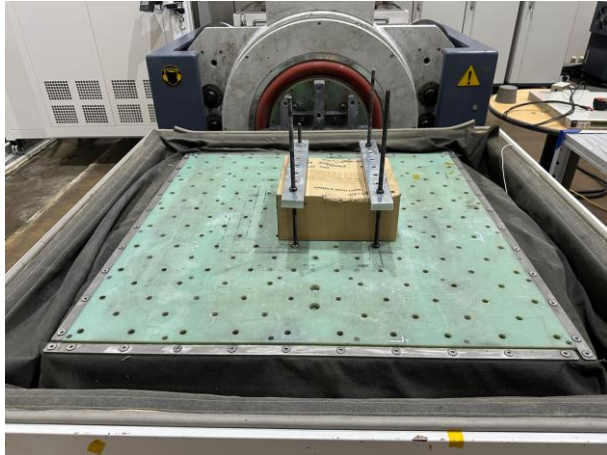
4.2.4 Amplitude: 11 ms

4.2.5 Test Axis: X, Y, Z

4.2.6 Test time: Total 24 Cycles (4 cycles per axis)

4.3 Testing images

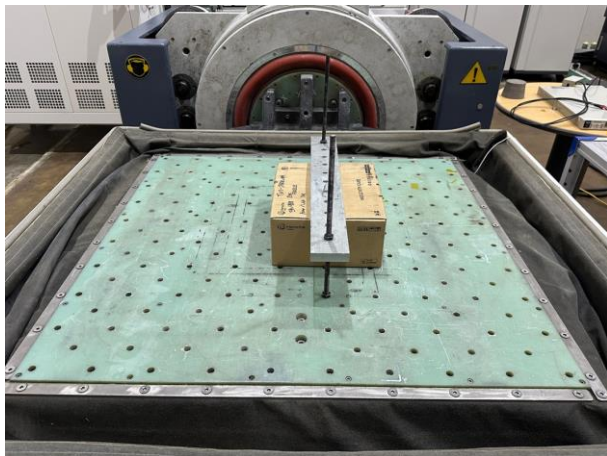
4.3.1 Evidence of test setting



X axis_1



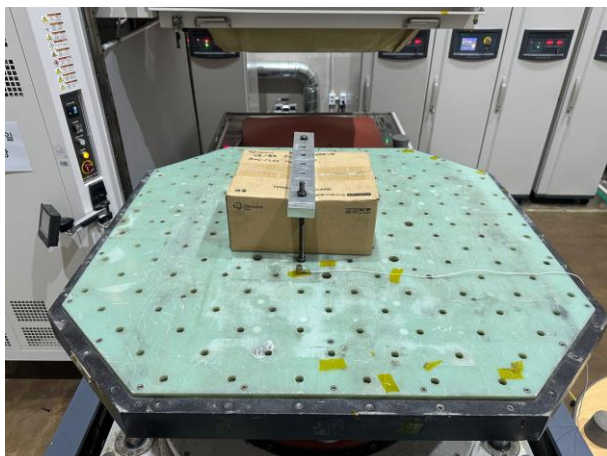
X axis_2



Y axis_1



Y axis_2



Z axis_1



Z axis_2

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4.4 Test result

4.4.1 Test results table

Evaluations Criteria	Test result		비고
Sample	Visual Inspection	Normal	-
	Operation and Function	Normal	-



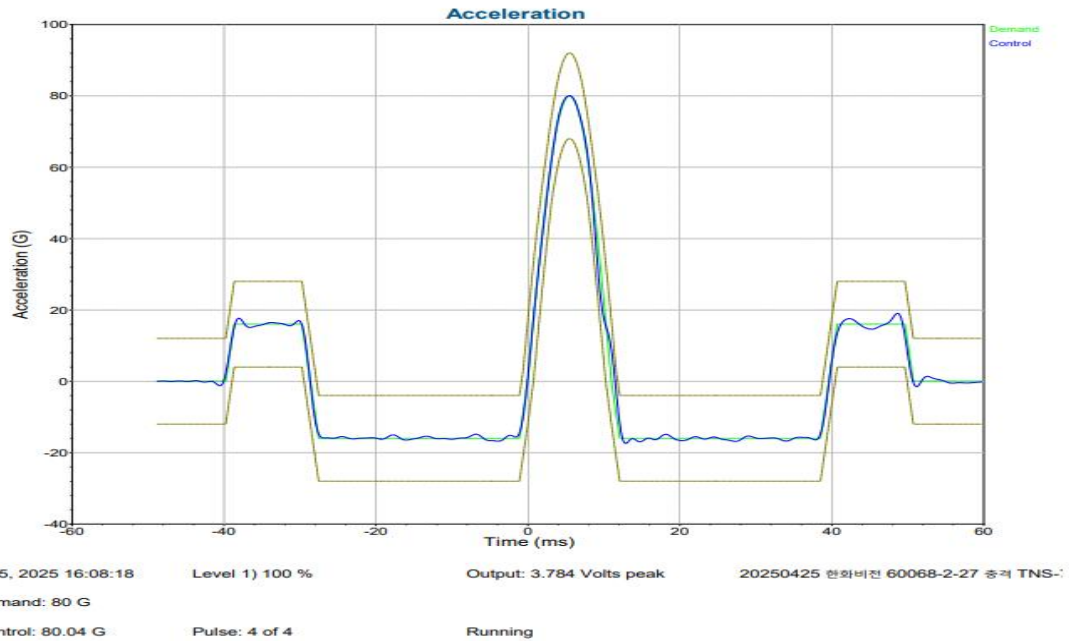
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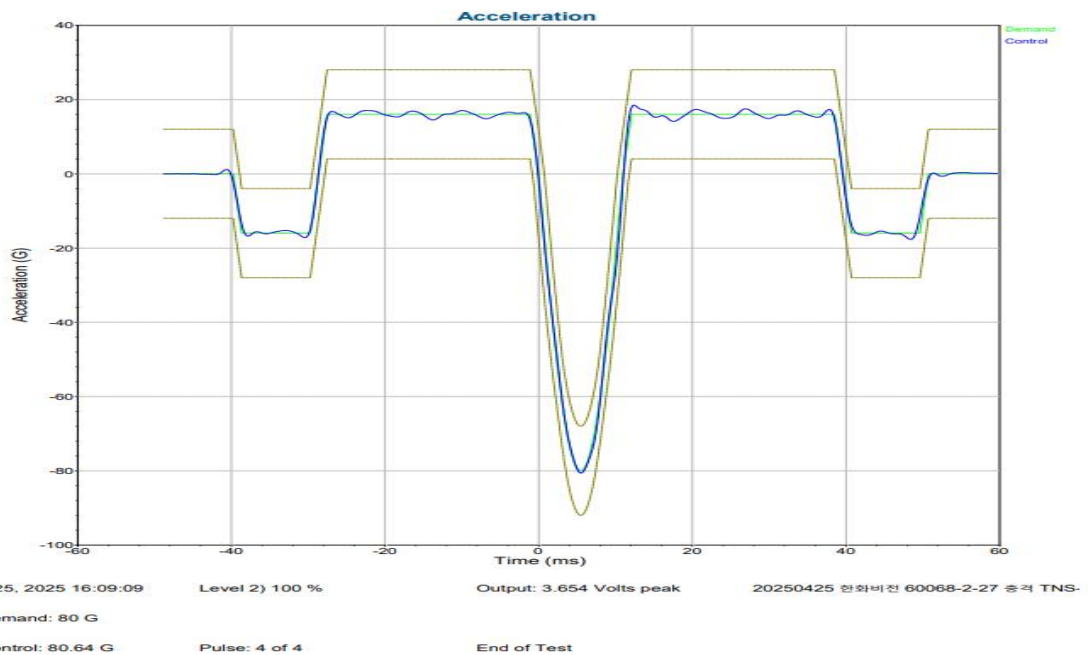
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4.5 Test Data

4.5.1 Test data and graph (Shock Test X Axis)



X+



X-

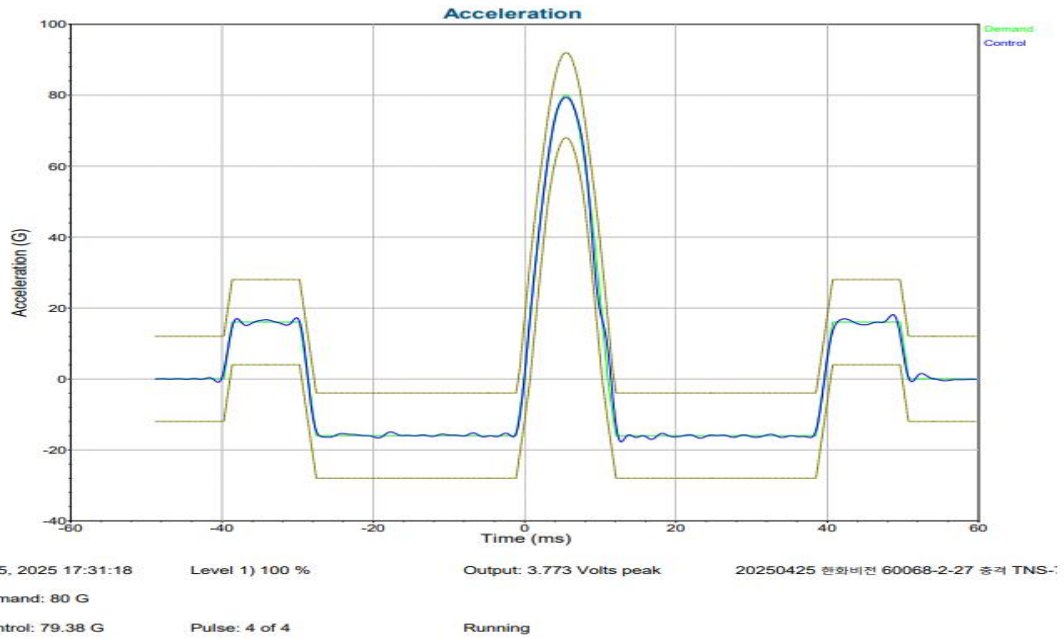


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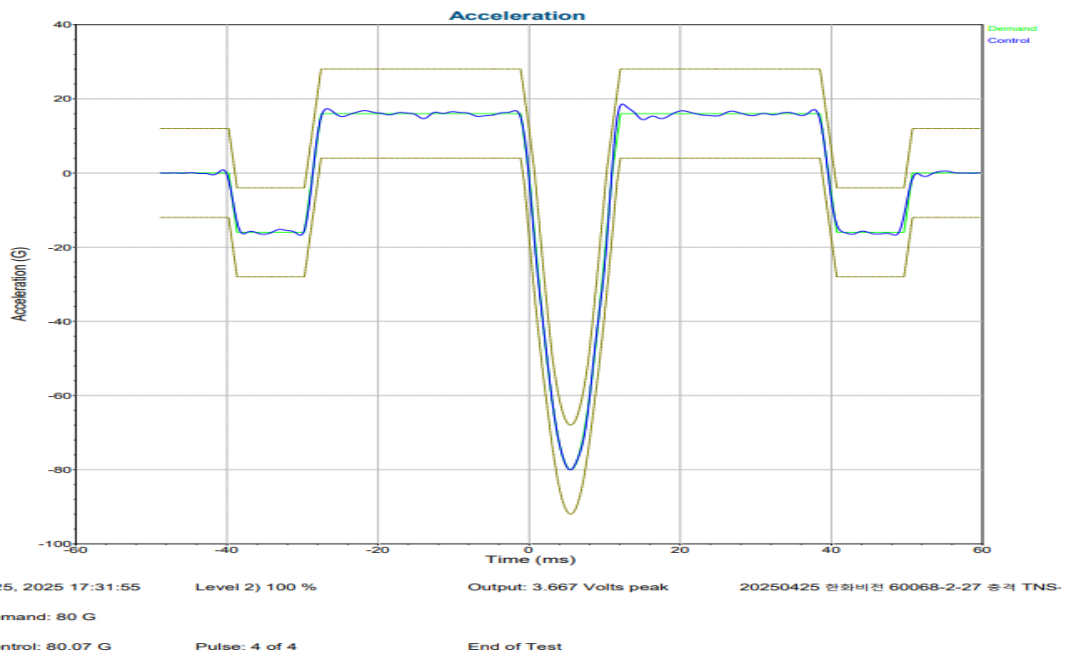
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4.5.2 Test data and graph (Shock Test Y Axis)



Y+



Y-

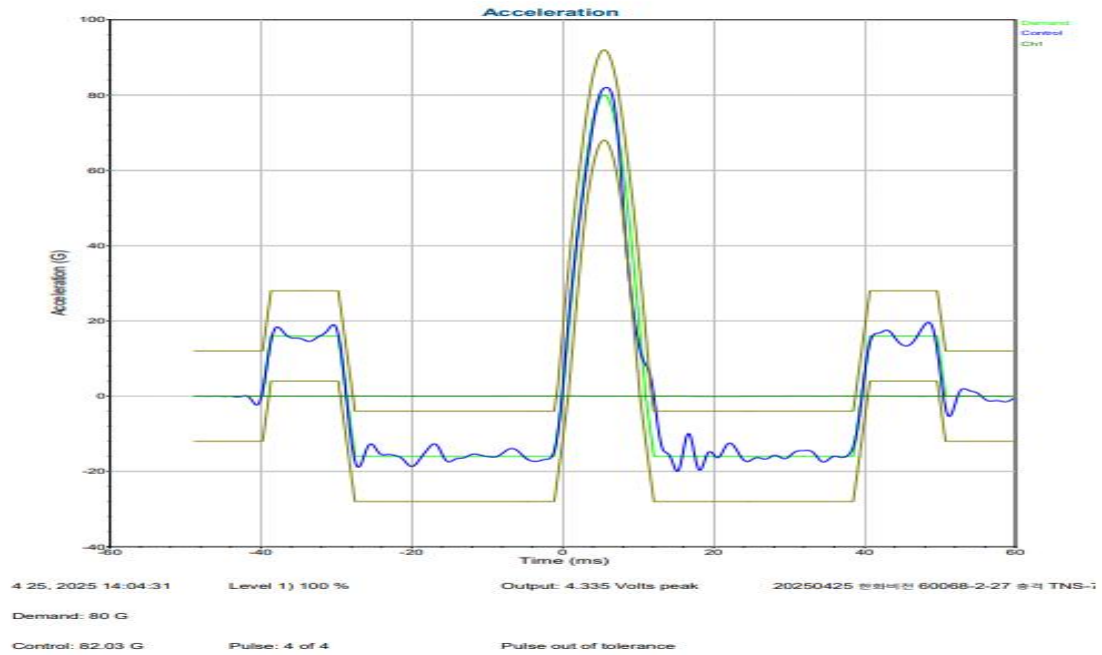


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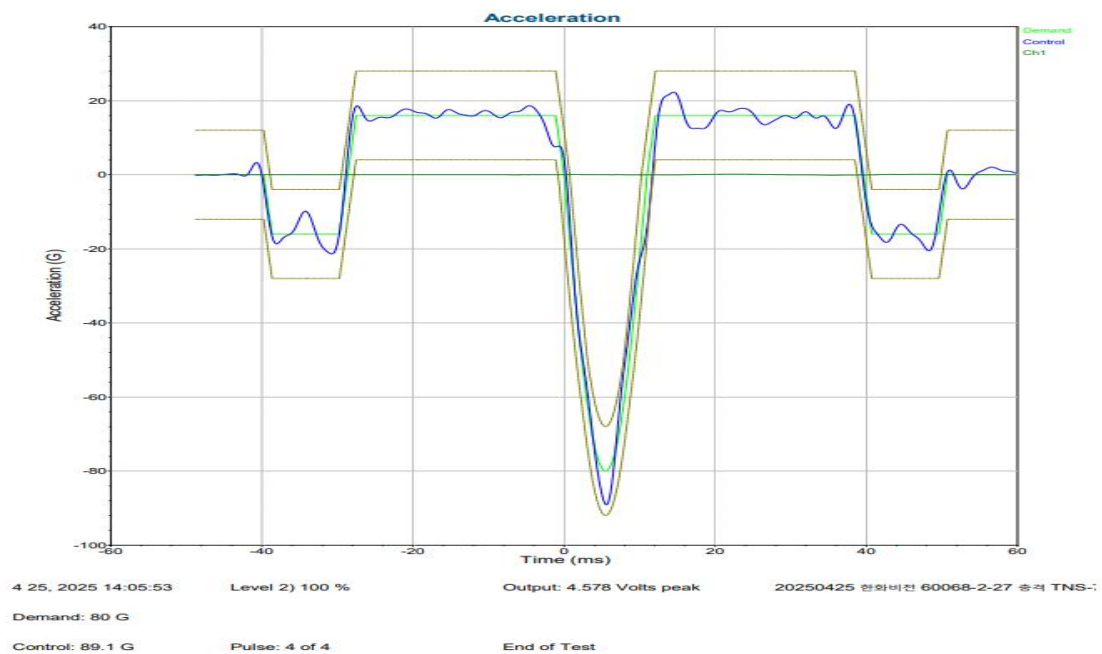
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4.5.3 Test data and graph (Shock Test Z Axis)



Z+



Z-



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4.6 Post-test product images

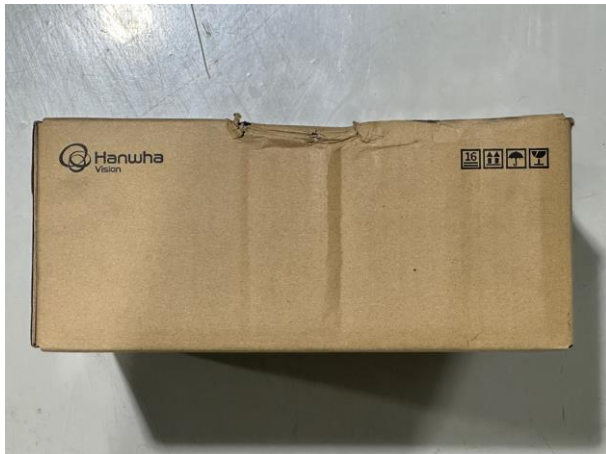
4.6.1 Test sample (1)



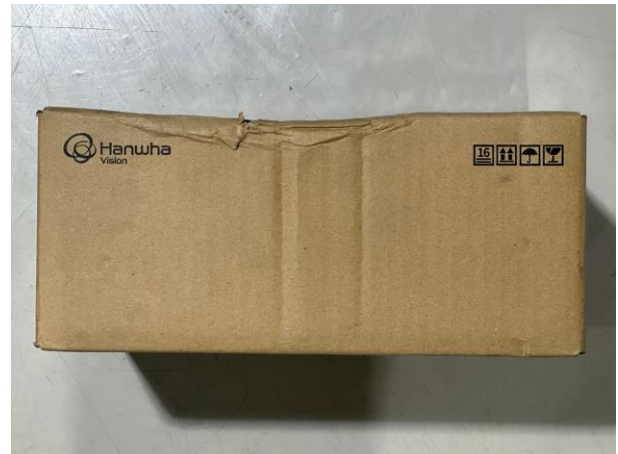
Full packaging Top



Full packaging Bottom



Full packaging Front



Full packaging Rear



Full packaging Left side



Full packaging Right side



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4.6.2 Test sample (2)



Single packaging Top



Single packaging Bottom



Single packaging Front



Single packaging Rear



Single packaging Left side



Single packaging Right side

4.6.3 Test sample (3)



Top



Bottom



Front



Rear



Left side



Right side



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4.6.4 Test sample (3)



Full packaging Inside



Single packaging Inside



Single packaging Inside



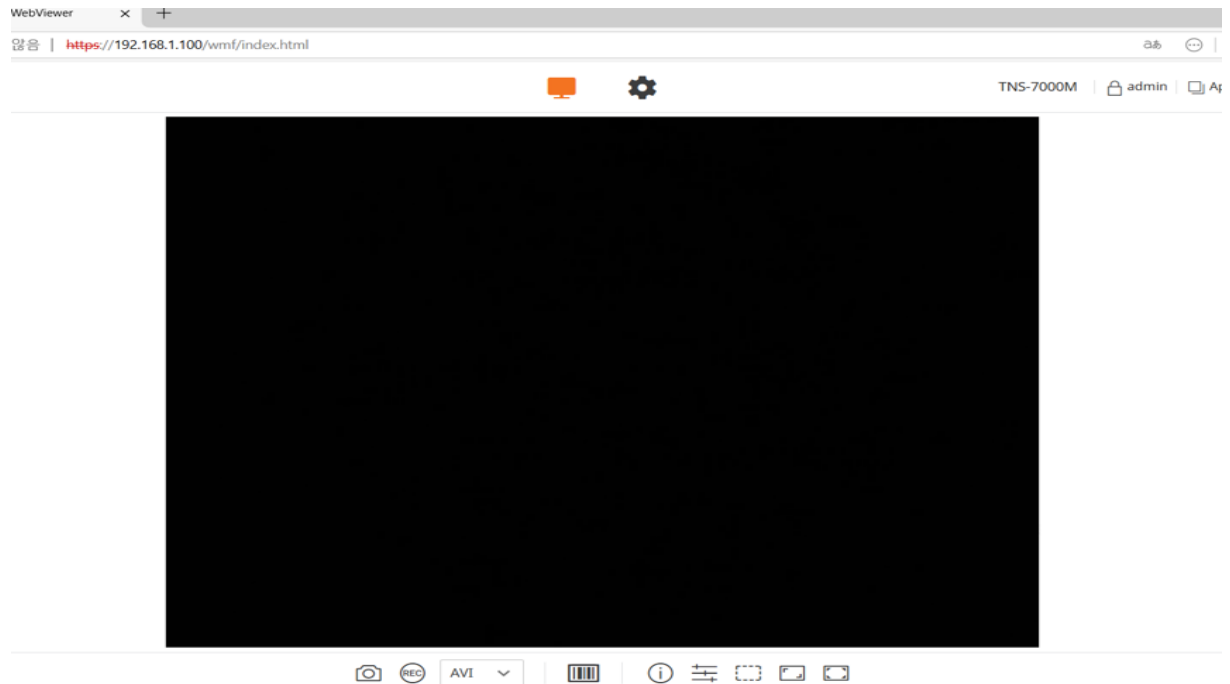
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4.7 Post-test operation and function

4.7.1 Test sample operation and function



- End -