

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-2023-XXXXX
Page (1) / (13) pages

1. Applicant

- Name : Hanwha Vision Co., Ltd
- Address : 6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 13488 KOREA
- Date of Receipt : 01 10, 2024

2. Manufacturer

- Name : Hanwha Vision Co., Ltd

3. Use of Report :

Quality control

4. Test sample / Model :

Barcode Reader / TNS-9050IBC

5. Date(s) of test :

01 18, 2024~ 01 19, 2024

6. Test Standard (Method) used :

IEC/EN 60068-2-6:2007, Specifications presented by
the sponsor(reference NEMA TS 2.2.9)

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
(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.
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Approval	Tested by	Technical Manager
	Name: Min-Gi Moon (Signature)	Name: HoHyun Lee (Signature)

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

01 23, 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	

2. Product description and Equipment information

2.1 Product description

Product Name	Model Name	Quantity	Comment
Barcode Reader	TNS-9050IBC	1 EA	-

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Manufacturer's name

Name and address of factory (ies)	1) HANWHA TECHWIN SECURITY VIETNAM CO.,LTD Lot O-2, Que Vo Industrial Zone extended area, Nam Son ward, Bac Ninh city, Bac Ninh province, Vietnam 2) D-TECH CO.,LTD. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex)
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Model description

Basic Model	TNS-9050IBC
Series model	
Model differences	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in SW.

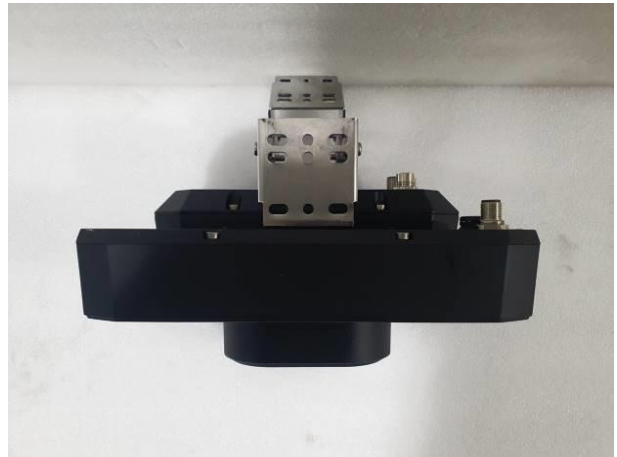
2.2 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
VIBRATION TESTING SYSTEM	GT1000M	FAMTECH	D1803072	N/A
VIBRATION TESTING SYSTEM	GT1000M	FAMTECH	D1803072-1	N/A
Acceleration sensor	8703A250M5	KISTLER	5830236	2024-03-27

2.3 Pre-test product images



Top



Bottom



Front



Back



Left side

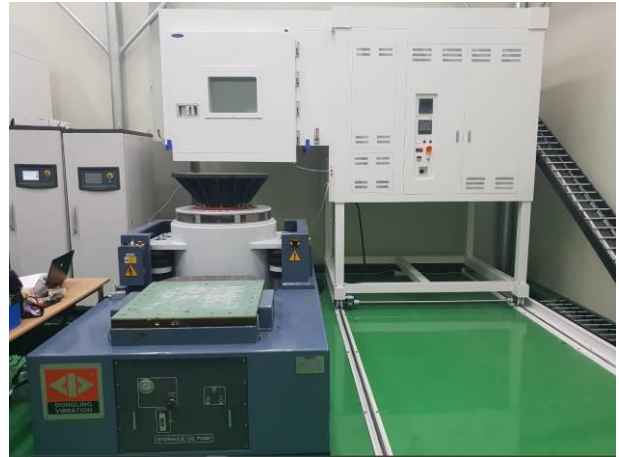


Right side

2.4 Testing equipment images



GT1000M



GT1000M



8703A250M5

3. Test conditions and methods

3.1 Test duration, Environmental conditions, and Location

3.1.1 Test Date : 01 18, 2024~ 01 19, 2024

3.1.2 Measured Environmental Conditions

Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	25.3	45.2	89.1

3.2 Test conditions

3.2.1 Vibration(Sine) Test[IEC/EN 60068-2-6:2007]

- Sample status : unpackaged / not in operation
- Number of samples : 1 EA
- Applied waveform : Sine
- Frequency(Hz) : 10 ~ 50 / 50 ~ 500
- Acceleration : 0.4 mm / 2.0 g
- Sweep rate(Oct/min) : 1
- Applied axis : X, Y, Z axis
- Test time (h) : All 3(Each axis 1)
- Evaluations Criteria
 - Confirmation of visual changes before/after the test.

3.2.2 Shock(impact) Test[Refer to NEMA TS 2-2013 2.2.9]

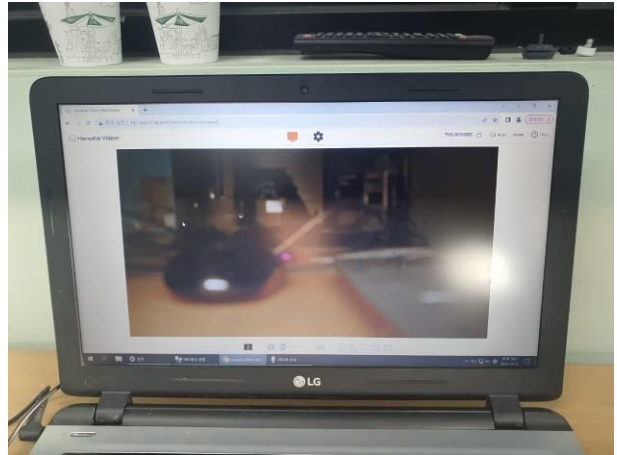
- Sample status : unpackaged / not in operation
- Applied waveform : Half sine
- Acceleration(G) : 10
- Nominal duration (ms) : 11
- Applicable axis : X, Y, Z
- Number of impacts : 1 per direction (total 6)
- Evaluation items
 - Check for mechanical damage before and after testing

3.3 Testing Image

3.3.1 Verification of Normal Operation before testing

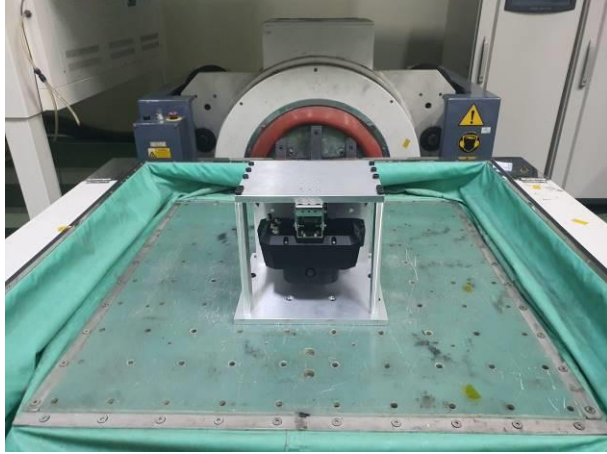


Verification of operation before testing #1

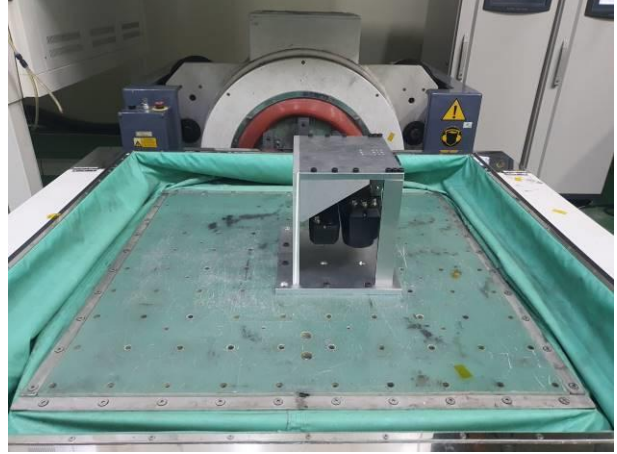


Verification of operation before testing #2

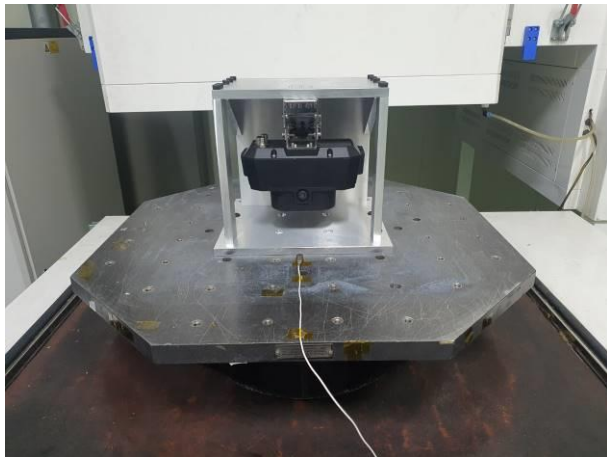
3.3.2 Test Environment Set-up Images



Vibration(Sine) Test[IEC/EN 60068-2-6:2007] – X axis, Test Shock(impact) Test Same configuration



Vibration(Sine) Test[IEC/EN 60068-2-6:2007] – Y axis, Test Shock(impact) Test Same configuration



Vibration(Sine) Test[IEC/EN 60068-2-6:2007] – Z axis, Test Shock(impact) Test Same configuration

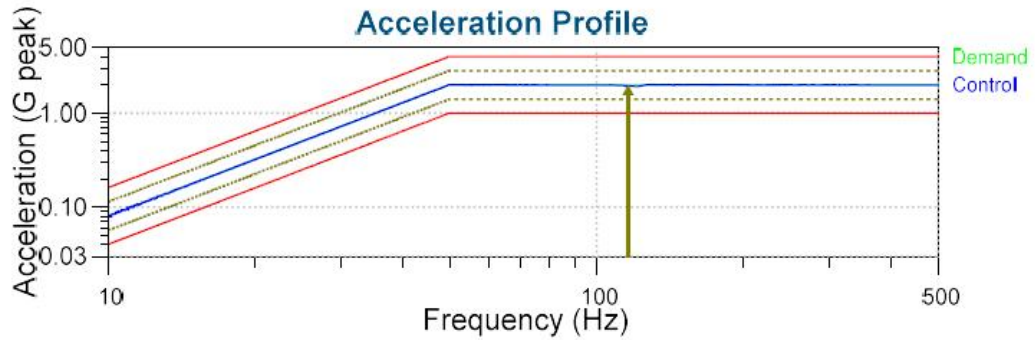
4. Test result

4.1 Test Result Table

Evaluation Criteria		Test Results	Comment
Vibration(Sine) test[IEC 60068-2-6:2007]	Before	Pass	
	After	Pass	
Shock(impact) Test	Before	Pass	
	After	Pass	

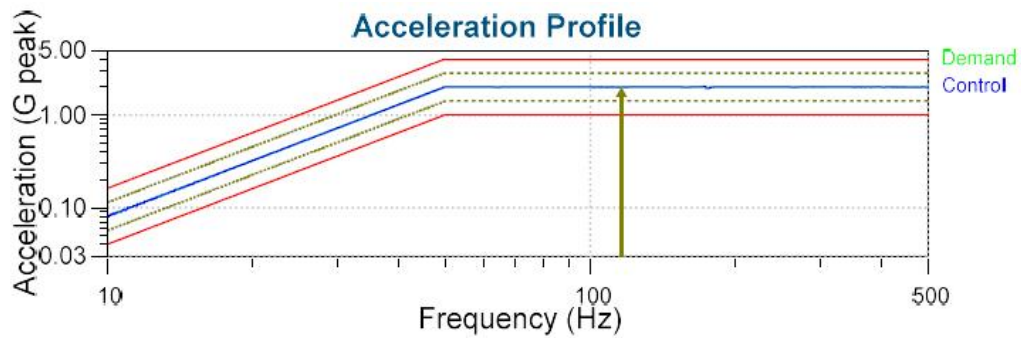
4.2 Data

[Vibration(Sine) Test][IEC/EN 60068-2-6:2007]



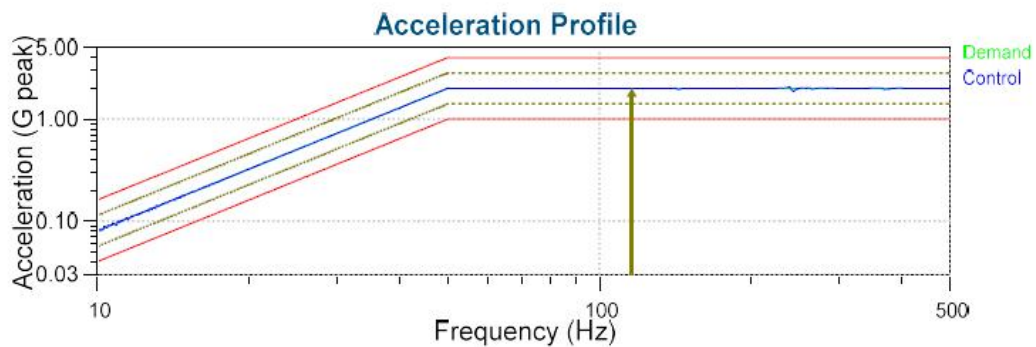
1 19, 2024 12:15: Level 1) 100 % Output: 0.1528 Volts pe 60068-2-6
Demand: 2 Level Time: 1:00: Frequency: 115.9 Hz
Control: 1.989 Total Time: 1:00: End of Timed Test

X axis



1 19, 2024 14:31: Level 1) 100 % Output: 0.08478 Volts pe 60068-2-6
Demand: 2 Level Time: 1:00: Frequency: 115.9 Hz
Control: 1.999 Total Time: 1:00: End of Timed Test

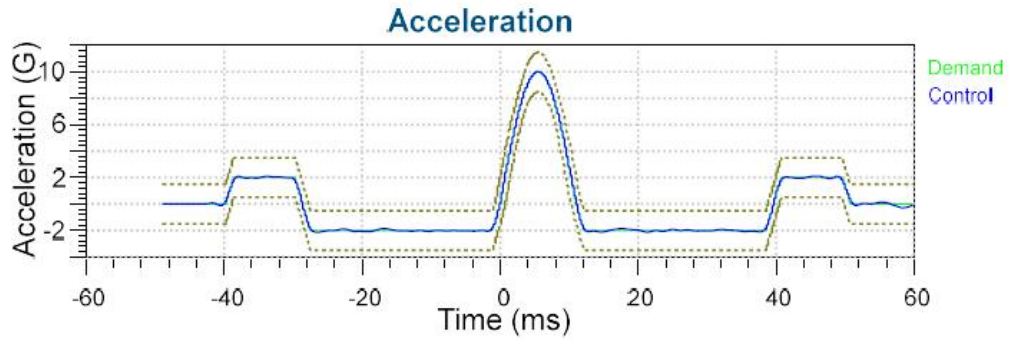
Y axis – 18.93 Hz



1 18, 2024 10:53:3 Level 1) 100 % Output: 0.05388 Volts peal 20240118 한화 60068-2
Demand: 2 G Level Time: 1:00:01 Frequency: 116 Hz
Control: 2.002 C Total Time: 1:00:07 End of Timed Test

Z axis

[Shock(impact) Test[Refer to NEMA TS 2-2013 2.2.9]



1 19, 2024 11:14: Level 1) 100 % Output: 0.7024 Volts pe NEMA TS-2 2.2

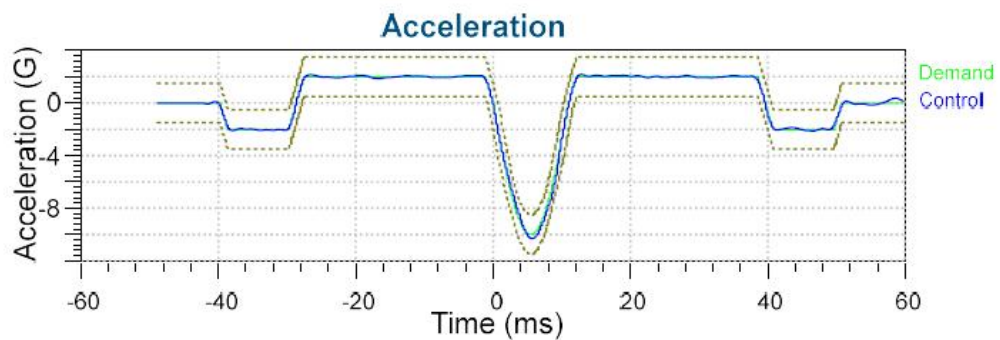
Demand: 10

Control: 10.02

Pulse: 1 of

Runnin

+X axis



1 19, 2024 11:14: Level 2) 100 % Output: 0.7005 Volts pe NEMA TS-2 2.2

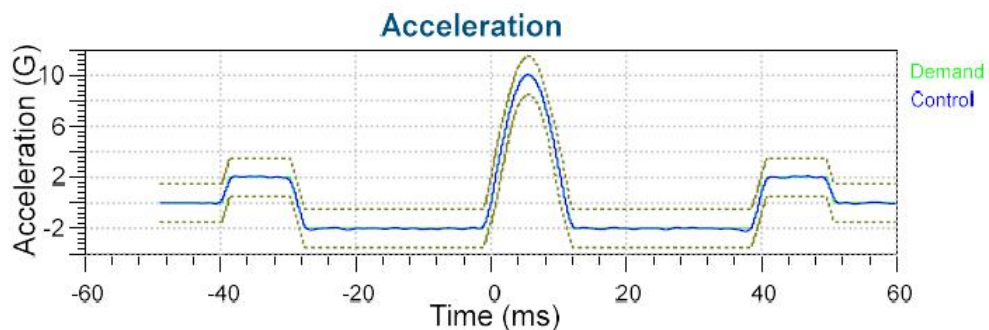
Demand: 10

Control: 10.31

Pulse: 1 of

End of Tes

-X axis



1 19, 2024 13:29: Level 1) 100 % Output: 0.685 Volts pe NEMA TS-2 2.2

Demand: 10

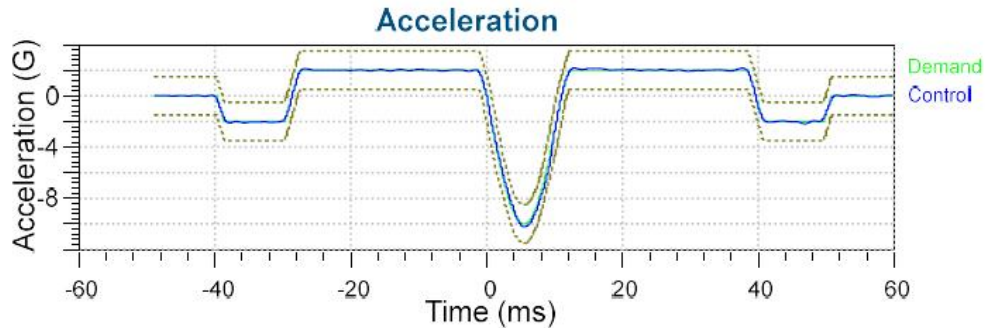
Control: 10.05

Pulse: 1 of

Runnin

+Y axis

[Shock(impact) Test[Refer to NEMA TS 2-2013 2.2.9]



1 19, 2024 13:29:1 Level 2) 100 % Output: 0.6841 Volts peak NEMA TS-2 2.2

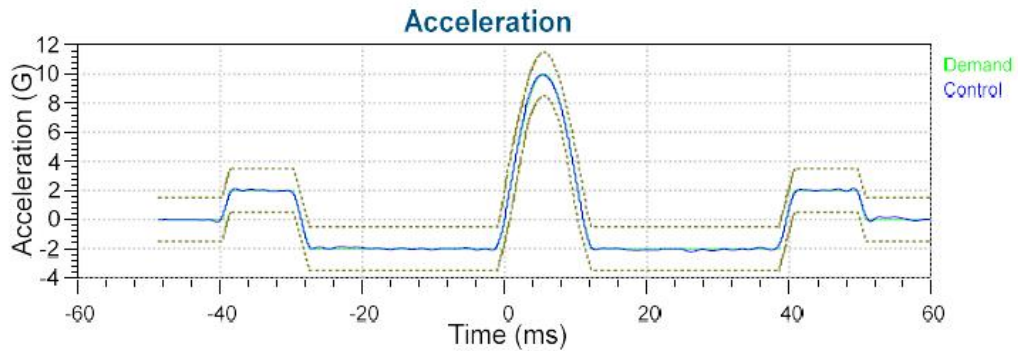
Demand: 10

Control: 10.21

Pulse: 1 of

End of Test

-Y axis



1 18, 2024 09:52:4 Level 1) 100 % Output: 0.652 Volts peak NEMA TS-2 2.2.9

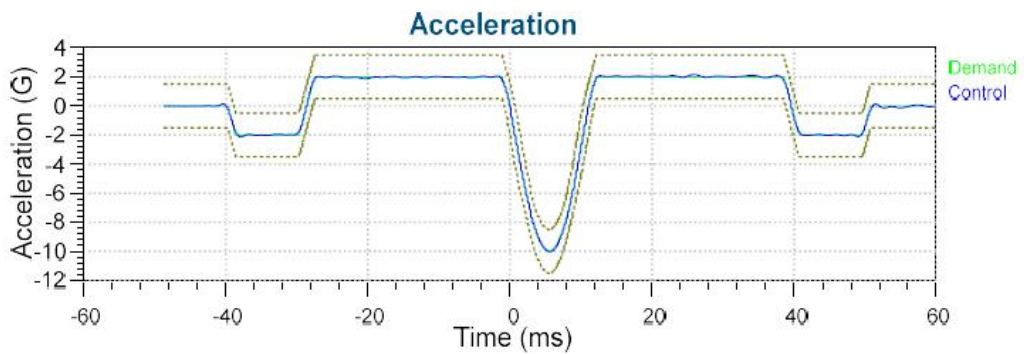
Demand: 10 G

Control: 9.95 G

Pulse: 1 of 1

Running

+Z axis



1 18, 2024 09:52:4 Level 2) 100 % Output: 0.6495 Volts peak NEMA TS-2 2.2.9

Demand: 10 G

Control: 10.02 G

Pulse: 1 of 1

End of Test

-Z axis

4.3 Post-Test Product Images

4.3.1 Verification of Normal Operation after testing



Verification of Normal Operation after testing #1



Verification of Normal Operation after testing #2

- End -