

# 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-2024-00093-1  
Page (1) / (11) 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 : DEC 07, 2023

**2. Manufacturer**

- Name : Hanwha Vision Co., Ltd

**3. Use of Report :**

For customer submission

**4. Test sample / Model :**

Barcode Reader / TNS-9050IBC

**5. Date(s) of test :**

DEC 07, 2023

**6. Test Standard (Method) used :**

Requester suggest standards(IEC/EN 60068-2-27:2008)

**7. Testing Environment :**

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

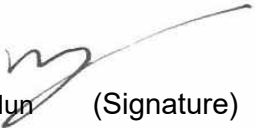
**8. Test Results :**

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                                                                                                      |
|          | <br>Name: Min-Gi Mun (Signature) | <br>Name: SooChan Bae (Signature) |

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

08 12, 2024

**CTK Co., Ltd.**



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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--|
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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    | <a href="mailto:ctk@e-ctk.com">ctk@e-ctk.com</a>                              |
| Website   | <a href="http://e-ctk.com">e-ctk.com</a>                                      |

### 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<br>(ies) | <div> 1) HANWHA VISION VIETNAM COMPANY LIMITED<br/> Lot O-2, Que Vo Industrial Zone extended area,<br/> Nam Son ward, Bac Ninh city,<br/> Bac Ninh province, Vietnam </div> <div> 2) D-TECH CO.,LTD.<br/> 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex) </div> |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Model description**

|                          |                                                                                                               |
|--------------------------|---------------------------------------------------------------------------------------------------------------|
| Basic Model .....:       | TNS-9050IBC                                                                                                   |
| Series model .....:      | TNS-9040IBC                                                                                                   |
| 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 | LT1010     | FAMTECH      | D2012335             | N/A              |
| Acceleration sensor      | 8703A250M5 | KISTLER      | 5722241              | 2024-08-17       |

## 2.3 Pre-test product images



Front



Rear

## 2.4 Testing equipment images



LT1010



8703A250M5

## 3. Test conditions and methods

### 3.1 Test duration, Environmental conditions, and Location

3.1.1 Test Date : Dec 07, 2023

3.1.2 Measured Environmental Conditions

| Item        | Temperature (°C) | Humidity (% R.H.) | Pressure (kPa) |
|-------------|------------------|-------------------|----------------|
| Measurement | 24.7             | 65.5              | 97.5           |



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### 3.2 Test conditions

#### 3.2.1 Shock Test (Refer to IEC/EN 60068-2-27:2008)

- Sample status : Packaging
- Applied waveform : Half sine
- Acceleration(G) : 80
- Amplitude(ms) : 11
- Applied axis : X, Y, Z axis
- Test time : Total 24 Cycles (4 cycles per axis)
- Evaluations Criteria
  - Check appearance deformation before/after the test
  - Check normal operation after the test

### 3.3 Testing Image

#### 3.3.1 Test Environment Set-up Images



X axis



Y axis



Z axis

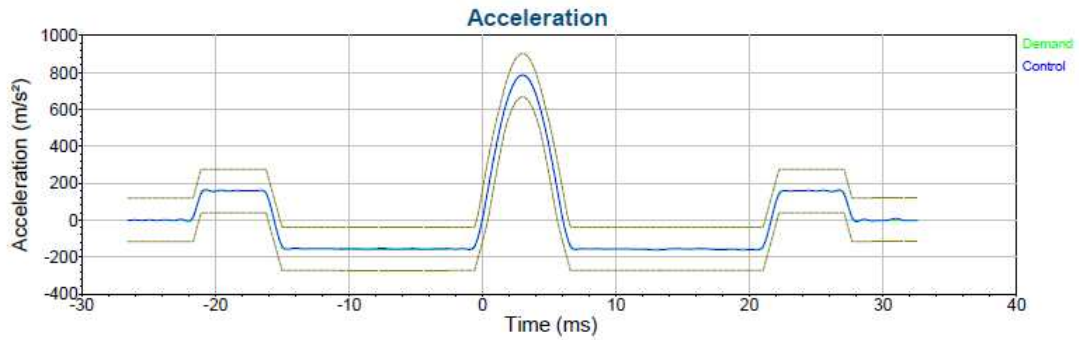
## 4. Test result

### 4.1 Test Result Table

| Evaluation Criteria    |             | Test Results | Remark |
|------------------------|-------------|--------------|--------|
| Check normal operation | Before test | Normal       | -      |
|                        | After test  | Normal       | -      |
| Check appearance       | After test  | Normal       | -      |

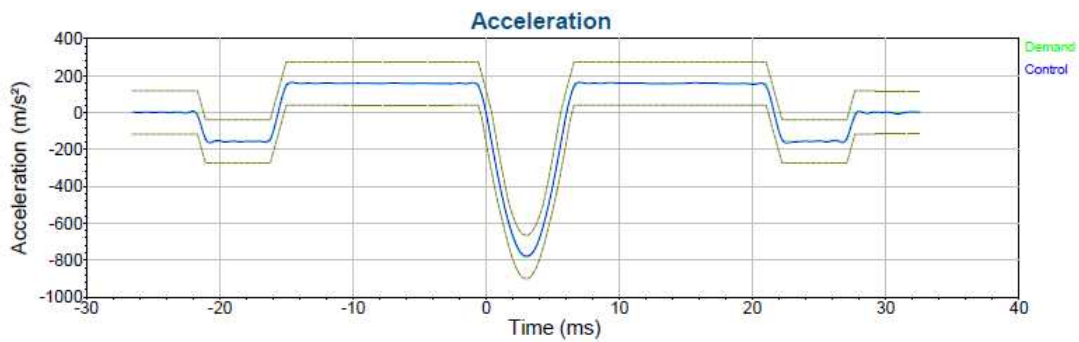
※ Refer to the sample images after the test is completed. (Clause 4.3)

## 4.2 Test Data



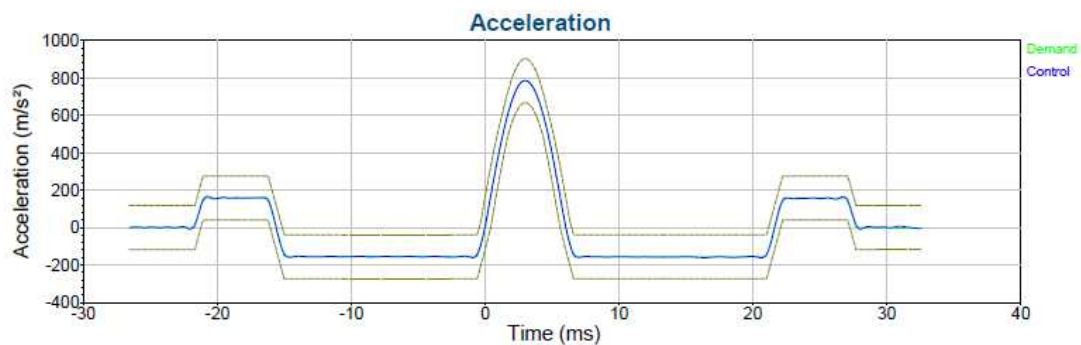
12 07, 2023 13:57:58 Level 1) 100 % Output: 2.709 Volts peak 1207 한화 포장 충격\_6ms\_80G  
Demand: 784.5 m/s<sup>2</sup>  
Control: 784.2 m/s<sup>2</sup> Pulse: 4 of 4 Running

+X aixs



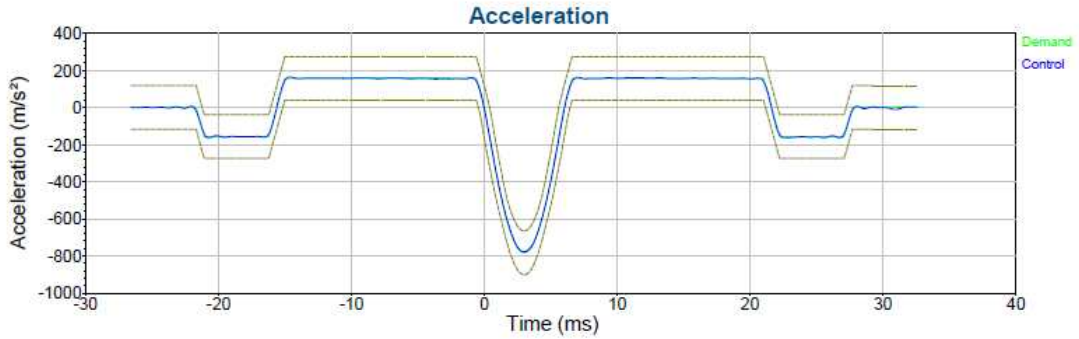
12 07, 2023 13:58:22 Level 2) 100 % Output: 2.887 Volts peak 1207 한화 포장 충격\_6ms\_80G  
Demand: 784.5 m/s<sup>2</sup>  
Control: 778.8 m/s<sup>2</sup> Pulse: 4 of 4 End of Test

+X aixs



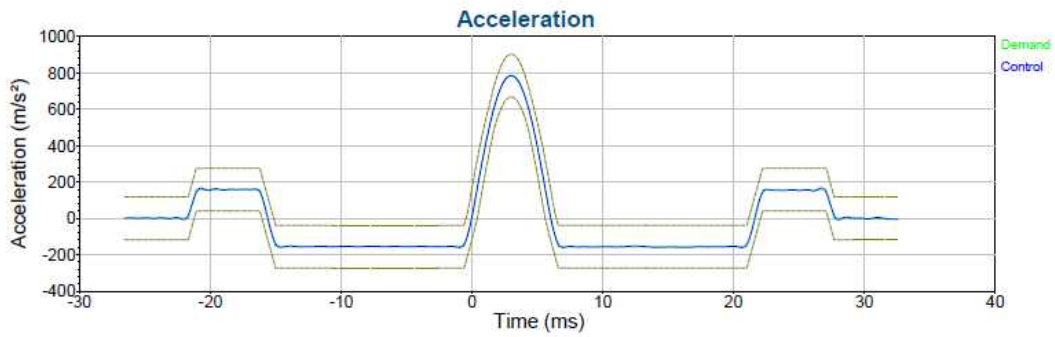
12 07, 2023 14:06:39 Level 1) 100 % Output: 2.709 Volts peak 1207 한화 포장 충격\_6ms\_80G  
Demand: 784.5 m/s<sup>2</sup>  
Control: 784.9 m/s<sup>2</sup> Pulse: 4 of 4 Running

+X aixs



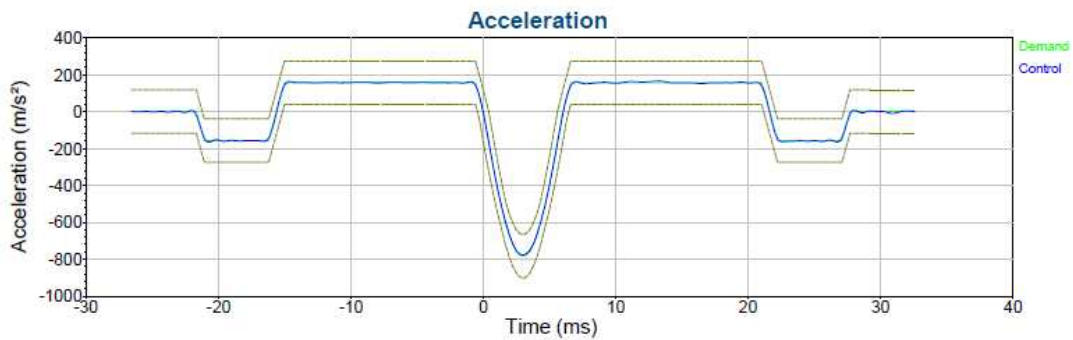
12 07, 2023 14:07:03 Level 2) 100 % Output: 2.888 Volts peak 1207 한화 포장 충격\_6ms\_80G  
Demand: 784.5 m/s<sup>2</sup>  
Control: 778.3 m/s<sup>2</sup> Pulse: 4 of 4 End of Test

-Y axis



12 07, 2023 13:44:11 Level 1) 100 % Output: 2.719 Volts peak 1207 한화 포장 충격\_6ms\_80G  
Demand: 784.5 m/s<sup>2</sup>  
Control: 783.5 m/s<sup>2</sup> Pulse: 4 of 4 Running

+Z axis



12 07, 2023 13:44:35 Level 2) 100 % Output: 2.888 Volts peak 1207 한화 포장 충격\_6ms\_80G  
Demand: 784.5 m/s<sup>2</sup>  
Control: 777.6 m/s<sup>2</sup> Pulse: 4 of 4 End of Test

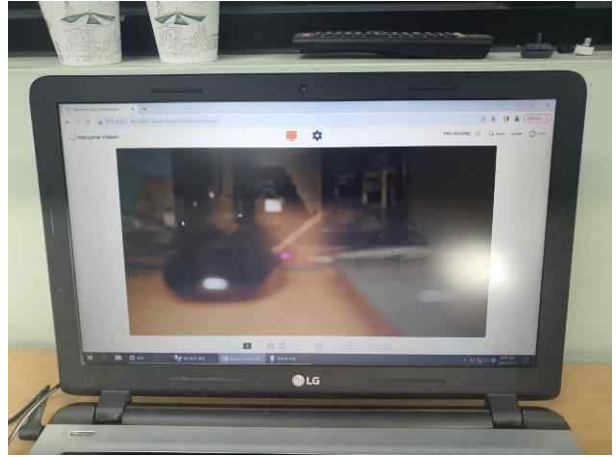
-Z axis

### 4.3 Post-Test Product Images

#### 4.3.1 Check normal operation and Product images after test



Check normal operation after test #1



Check normal operation after test #2



Front



Rear



Inside #1



Inside #2

- End -