

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-2025-02420
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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. 04, 2025

2. Manufacturer

- Name : Hanwha Vision Co., Ltd

3. Use of Report :

For submission to customer

4. Test sample / Model :

NETWORK CAMERA / TNP-A9430RW

5. Date(s) of test :

Aug. 25, 2025

6. Test Standard (Method) used :

NEMA TS 2-2021 2.2.4

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.

	Tested by Name: HyungUk Jeon (Signature) 	Technical Manager Name: HoHyun Lee (Signature) 
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Remark. This report is not related to KOLAS accreditation and relevant regulation.

Sep. 04, 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
NETWORK CAMERA	TNP-A9430RW	1 EA	–

2.2 Model description

Basic Model	TNP-A9430RW
Series model	TNP-A7430RW, TNP-A6550RW, TNP-A9430RWB, TNP-A7430RWB, TNP-A6550RWB
Model differences	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in SW.

2.3 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



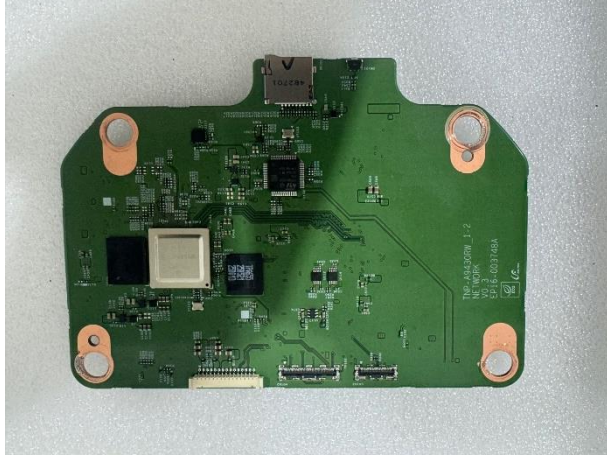
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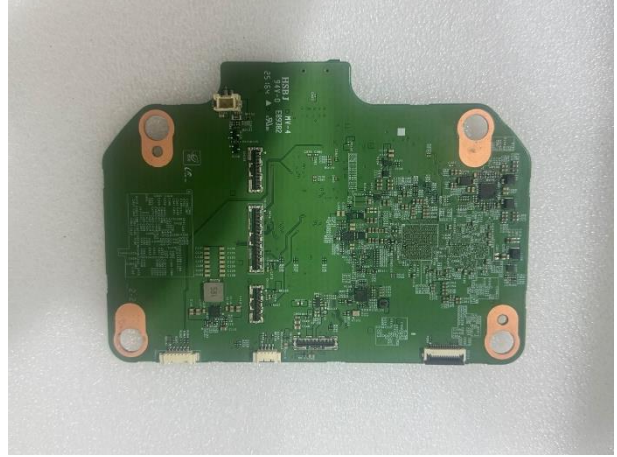
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2.4 Pre-test product images

2.4.1 Test sample



Front



Rear



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2.5 Testing equipment images

2.5.1 Test equipment



VIBRATION TESTING SYSTEM



8703A250M5

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3. Shock Test [NEMA TS 2-2021 2.2.4]

3.1 Test date and environmental conditions

3.1.1 Test date: Aug. 25, 2025

3.1.2 Measured Environmental Conditions

Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	24.8	45.2	89.9

3.2 Test conditions and methods

3.2.1 Sample status: unpackaged / not in operation

3.2.2 Applied waveform: Half sine

3.2.3 Acceleration(G): 10 G

3.2.4 Nominal duration (ms): 11

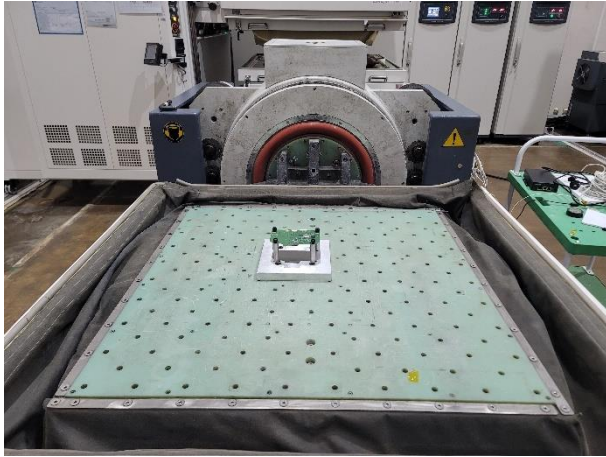
3.2.5 Applicable axis : $\pm X$, Y, Z

3.2.6 Number of impacts: 1 per direction (total 6)

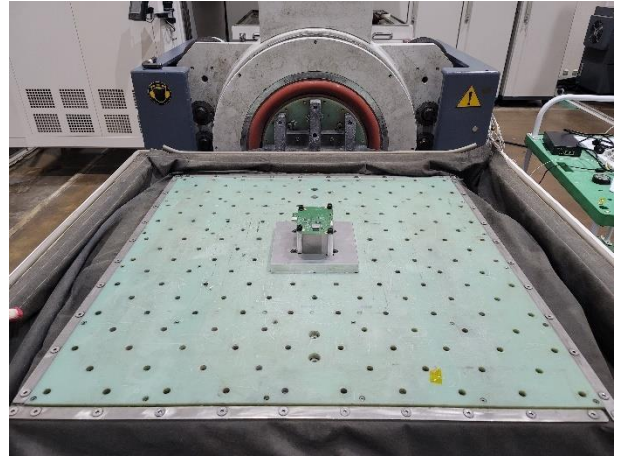
3.2.7 Evaluation items: Check for mechanical damage before and after testing

3.3 Testing images

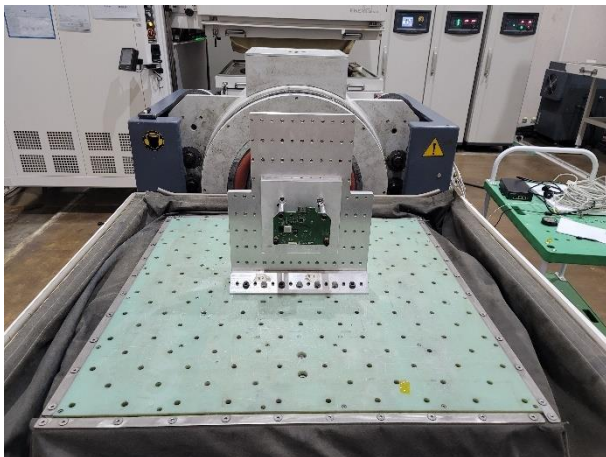
3.3.1 Evidence of test setting (NEMA TS 2-2021 2.2.4)



X axis



Y axis



Z axis

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3.4 Test Result

3.4.1 Test result table

Evaluation Criteria		Test Results	Comment
Shock Test	Before	Normal	
	After	Normal	



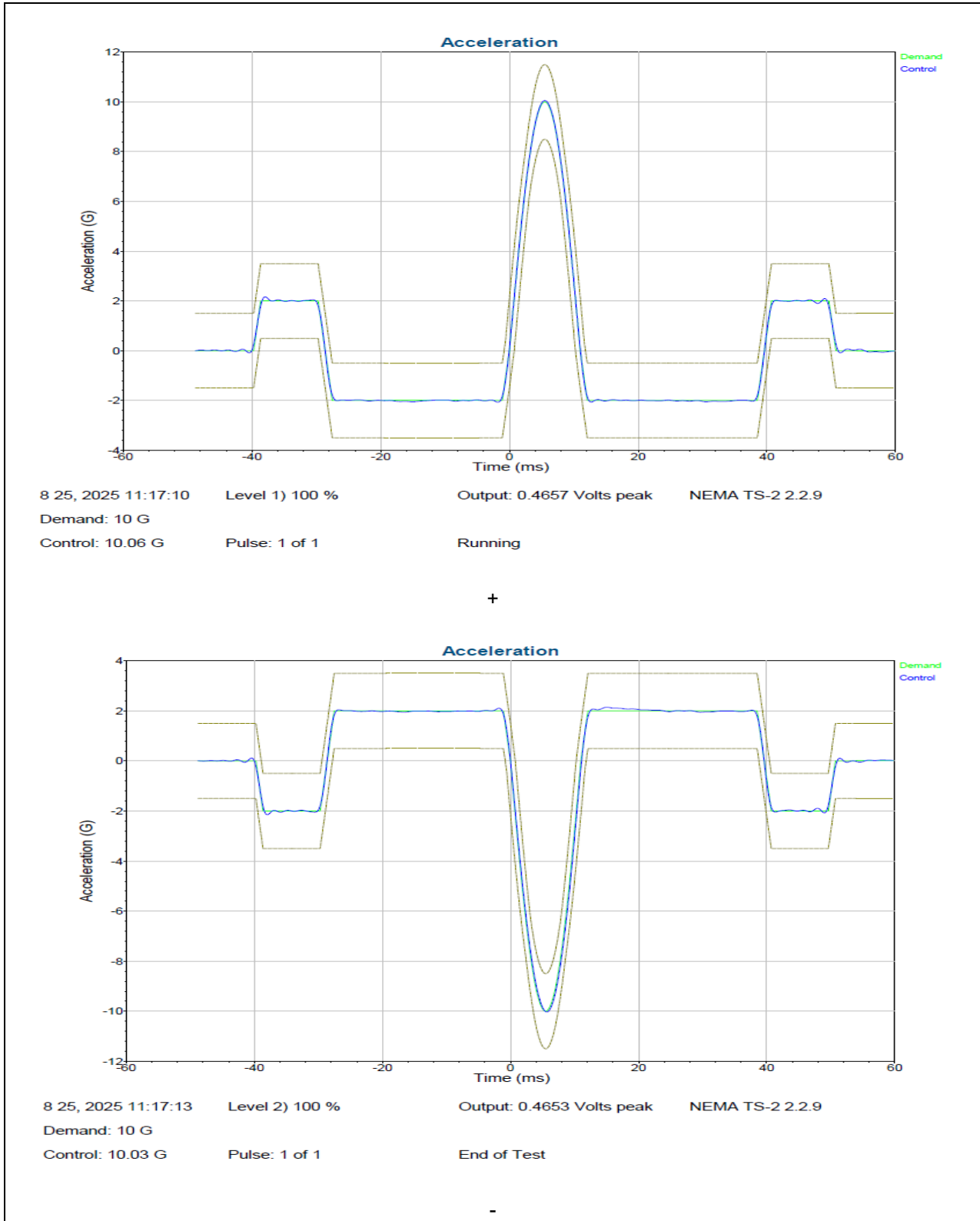
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3.5 Test Data

3.5.1 Data X Axis



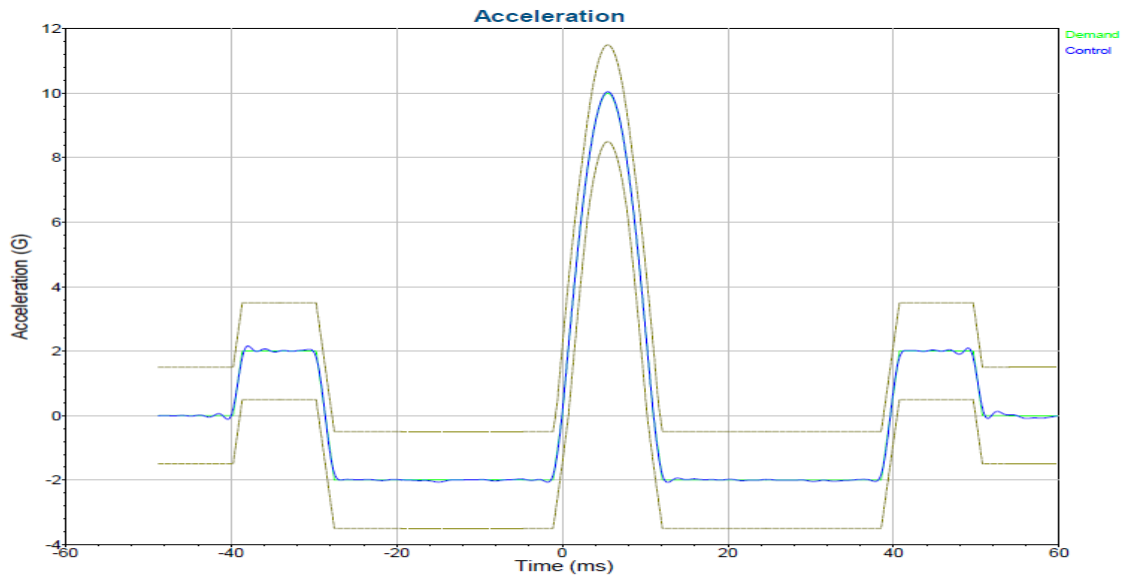


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3.5.2 Data Y Axis



8 25, 2025 11:19:36

Level 1) 100 %

Output: 0.4641 Volts peak

NEMA TS-2 2.2.9

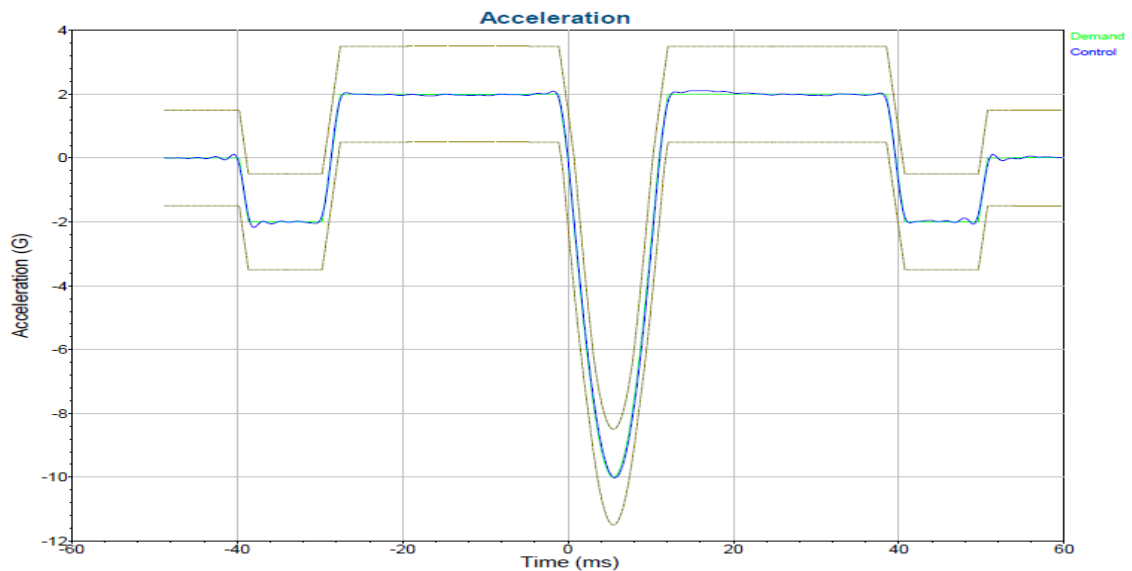
Demand: 10 G

Control: 10.05 G

Pulse: 1 of 1

Running

+



8 25, 2025 11:19:39

Level 2) 100 %

Output: 0.4638 Volts peak

NEMA TS-2 2.2.9

Demand: 10 G

Control: 10.02 G

Pulse: 1 of 1

End of Test

-

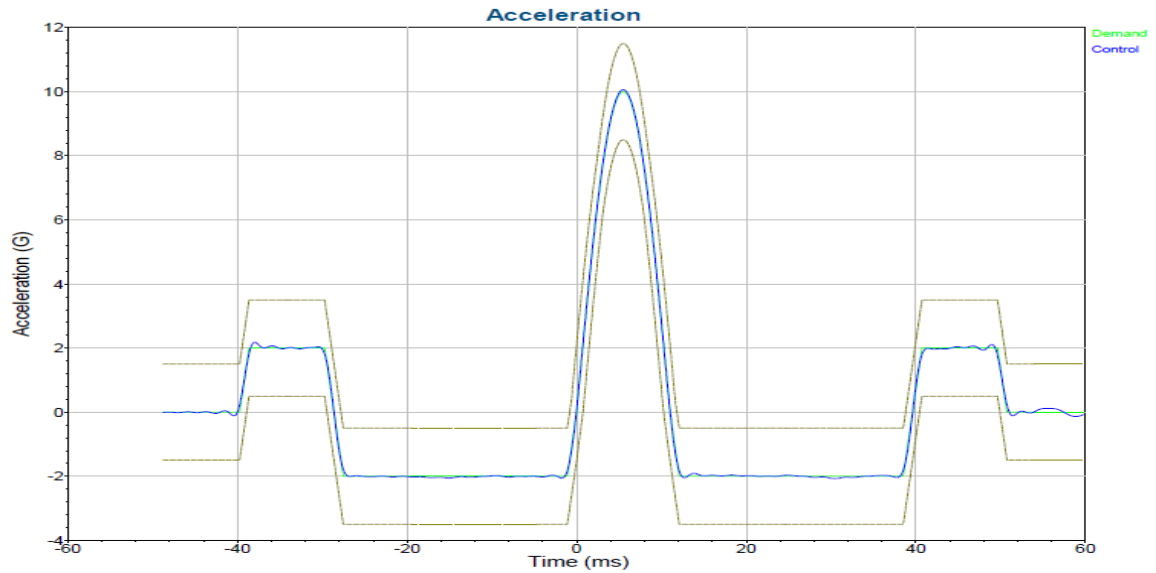


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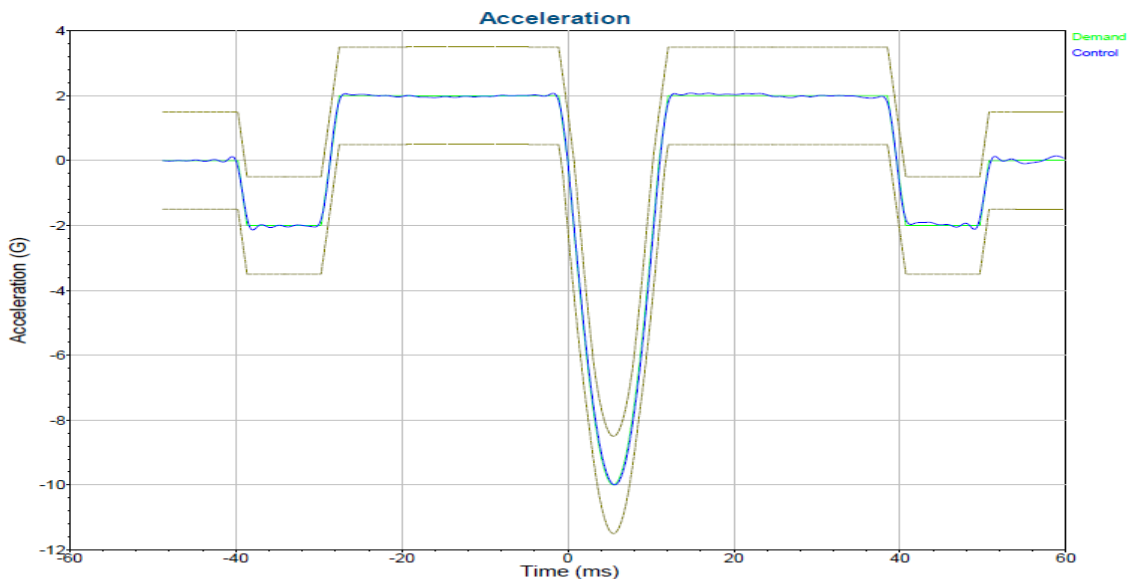
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3.5.3 Data Z Axis



8 25, 2025 11:27:53 Level 1) 100 % Output: 0.4702 Volts peak NEMA TS-2 2.2.9
Demand: 10 G
Control: 10.06 G Pulse: 1 of 1 Running

+

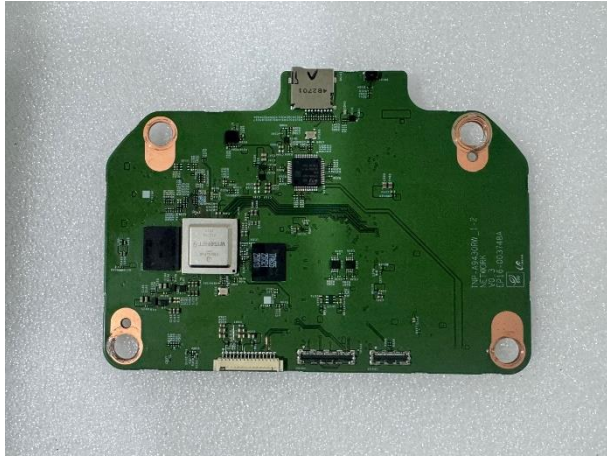


8 25, 2025 11:27:56 Level 2) 100 % Output: 0.4688 Volts peak NEMA TS-2 2.2.9
Demand: 10 G
Control: 9.999 G Pulse: 1 of 1 End of Test

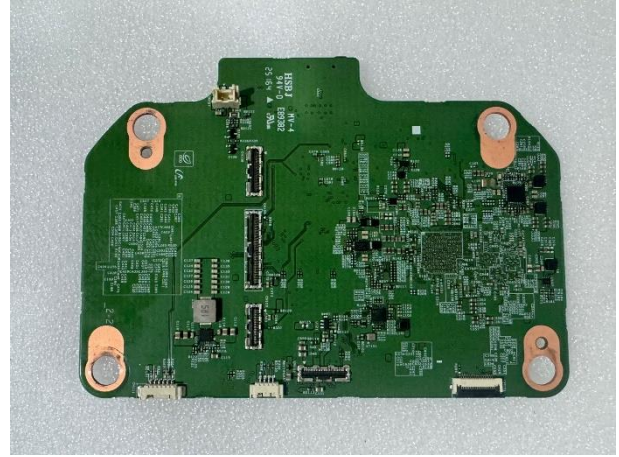
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3.6 Post-test product images

3.6.1 Test sample



Front



Rear

- End -