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TEST REPORT

Product Name . : AI Computing System
Brand Name . : Vecow
Model Name . : MIG-3000
Multiple list . : N/A

Prepared for

Applicant's company . : VECOW CO., LTD.
Applicant Address . : 3F, No. 10, Jiankang Rd., Zhonghe Dist., New Taipei City 23586, Taiwan
Telephone . : N/A
FAX . : N/A

Test Laboratory

Name . : Cal-Tech Technology Corp. -Consolidated laboratory
Address . : 1, 4F., No.331, Tanmei St., Neihu Dist.,Taipei City 114, Taiwan (R.O.C.)
Telephone . : +886-2-27965371
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Table of Contents

1. TEST OF COMPLIANCE

Test report no .	:	250108001T
Report Version .	:	Rev. 1
Applicant's company .	:	VECOW CO., LTD.
Manufacturer's company .	:	VECOW CO., LTD.
Product Name .	:	AI Computing System
Brand Name .	:	Vecow
Model Name .	:	MIG-3000
Multiple list .	:	N/A
Tested Power Supply .	:	24 Vdc
Test sample series No .	:	83610340024120001
Date of Product Receiving .	:	2025-01-10
Duration of test .	:	2025-01-10~2025-01-23
Test Standards .	:	IEC 60068-2-78: 2012 IEC 60068-2-1: 2007 IEC61373: 2010

Test program according IEC 60068-2-78, IEC 60068-2-1 and IEC 61373 performed on model MIG-3000.

Statement

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Test Engineer: Hank Hsu _____ Hank Hsu

Authorized by: Lucas Shih _____ Lucas Shih

Report Issued: 2025/02/05 YYYY/MM/DD

2. SUMMARY OF THE TEST RESULT

2.1. Test program according to Standards

Item	TEST	Standards
	Environmental conditions	
1	Low Temperature (operating)	IEC 60068-2-1
2	High Temperature (operating)	IEC 60068-2-78
3	Vibration	IEC61373
4	Shock testing conditions	IEC61373

3. GENERAL INFORMATION

3.1. Test laboratory

Name : Cal-Tech Technology Corp. -Consolidated laboratory
Address : 3F., No.331, Tanmei St., Neihu Dist.,Taipei City 114,
Telephone : +886-2-27965371
FAX : +886-2-27943091

3.2. Test Conditions

Normal Voltage : 24 Vdc
Normal Temperature : +23± 5 °C
Relative Humidity : 55%± 10 %

3.3. Standard for Methods of Measurement

The test program for the MIG-3000 is in according with the following standards:
IEC 60068-2-78:2012 Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state
IEC 60068-2-1:2007 Environmental testing - Part 2-1: Tests - Test A: Cold
IEC 61373:2010 Railway applications - Rolling stock equipment - Shock and vibration tests

3.4. Product Category

Items	Description	
Product Type	AI Computing System	
Power Type	Built-in	
Power	**Model**	**Rating**
Power Requirements	MIG-3000	9V~55VDC

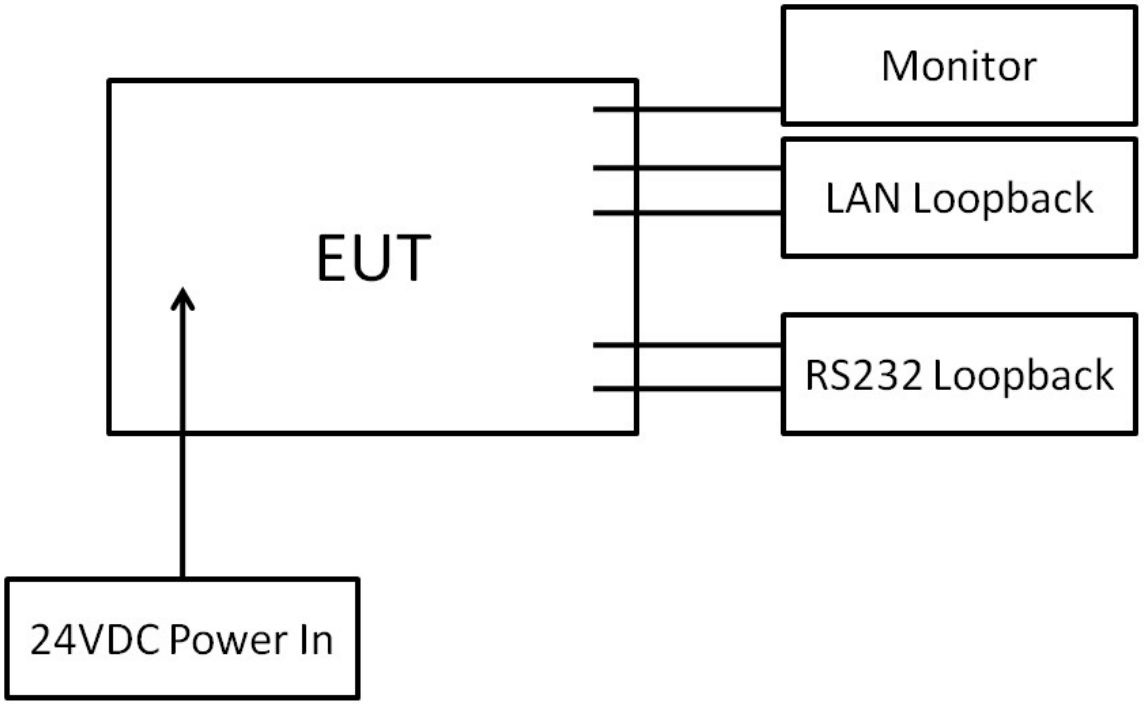
Note:
For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.5. EUT Photographs

3.6. Accessories

Support Unit	Model	Brand
Monitor	D24-20	Lenovo
Power Supply	SE-600-24	MEAN WELL
Mouse	MOBTUO	ASUS
LAN Cable	2.0 m	N/A
Power Cable	1.0 m	N/A
DP Cable	1.5 m	Shielding

3.7. TEST SETUP



4. ENVIRONMENTAL CONDITIONS

4.1. Low Temperature (operating)

Test Instruments

Item No.	NAME	MODEL NO.	SERIAL NO.	MANUFACTURER	Cal. Date	Next Cal. Date
1	Temperature and humidity Chamber	DY-800-880S	DY201804918	Ding Yao machinery	2024/8/16	2025/8/15

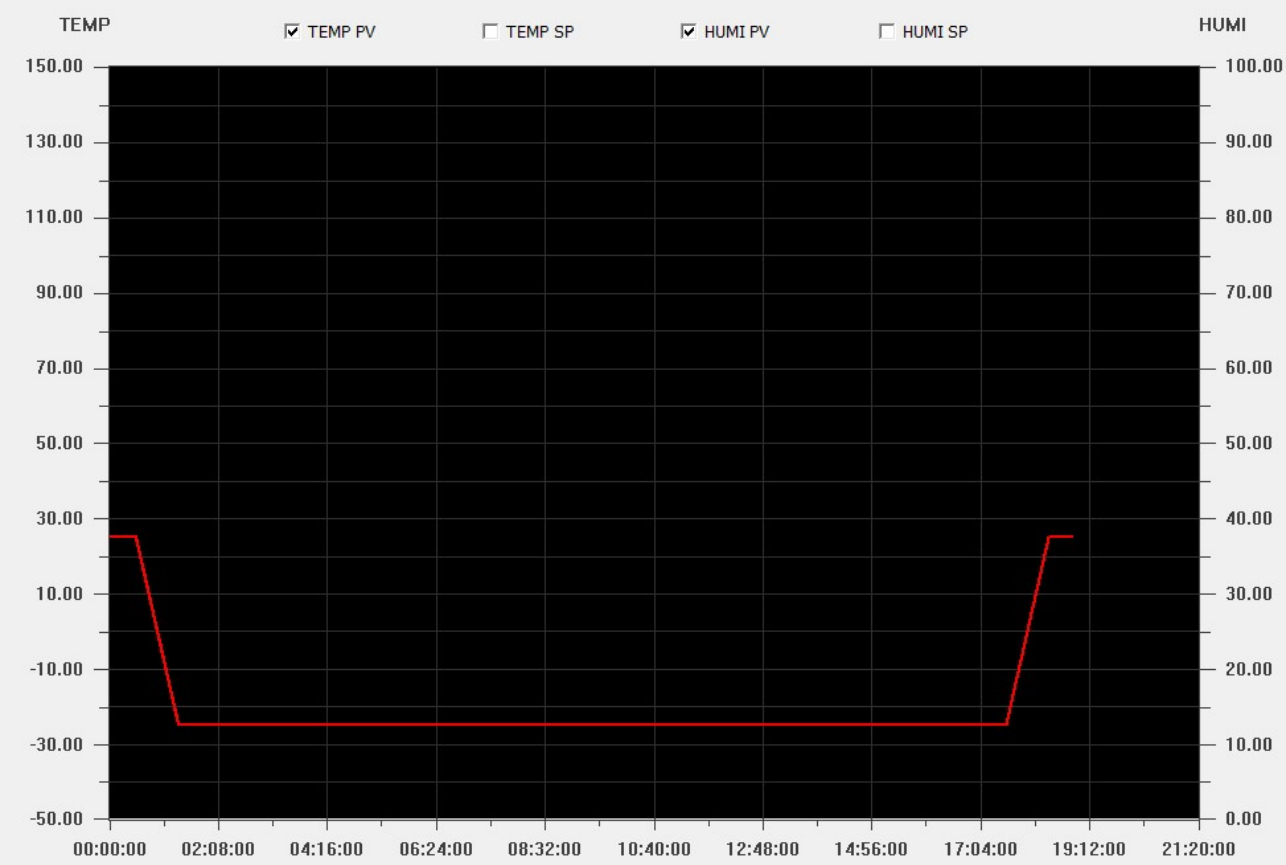
Test Procedures

According to IEC 60068-2-1

Temperature	-25°C
Duration	16 hours
Directions	CPU: Intel® Core™ i7-13700E CPU @1.90GHz RAM: innodisk DDR5 4800 32GB W/T ECC SODIMM *2 M.2: Innodisk M.2(P42) 3TE6 512GB

Test Result

Test step	Temperature (°C)	Duration	Sample status
1	25 to -25	50 min	on
2	-25	16 hour	on
3	-25 to 25	50 min	on


TEMP
TEMP PV
TEMP SP
HUMI PV
HUMI SP
HUMI
150.00
130.00
110.00
90.00
70.00
50.00
30.00
10.00
-10.00
-30.00
-50.00
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
00:00:00
02:08:00
04:16:00
06:24:00
08:32:00
10:40:00
12:48:00
14:56:00
17:04:00
19:12:00
21:20:00

4.2. High Temperature (operating)

Test Instruments

Item No.	NAME	MODEL NO.	SERIAL NO.	MANUFACTURER	Cal. Date	Next Cal. Date
1	Temperature and humidity Chamber	DY-800-880S	DY201804918	Ding Yao machinery	2024/8/16	2025/8/15

Test Procedures

According to IEC 60068-2-78

Temperature	60°C
Humidity	95%
Duration	16 hours
Directions	CPU: Intel® Core™ i7-13700E CPU @1.90GHz RAM: innodisk DDR5 4800 32GB W/T ECC SODIMM *2 M.2: Innodisk M.2(P42) 3TE6 512GB

Test Result

Test step	Temperature (°C)	Humidity (%)	Duration	Sample status
1	25 to 60	60% to 95%	35 min	on
2	60	95%	16 hour	on
6	60 to 25	95% to 60%	35 min	on


TEMP
TEMP PV
TEMP SP
HUMI PV
HUMI SP
HUMI
150.00
130.00
110.00
90.00
70.00
50.00
30.00
10.00
-10.00
-30.00
-50.00
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
00:00:00
02:08:00
04:16:00
06:24:00
08:32:00
10:40:00
12:48:00
14:56:00
17:04:00
19:12:00
21:20:00

4.3. Vibration

Test Instruments

Item No.	NAME	MODEL NO.	SERIAL NO.	MANUFACTURER	Cal. Date	Next Cal. Date
1	Electrodynamics Type Vibration Tester	EV210H0808VCS5X-2	L2101004	LABTONE	2024/3/20	2025/3/19
2	Accelerometer	353B33	70244	PCB	2024/10/20	2026/10/19

Test Requirement

According to IEC 61373

Duration: 30 min/axis

Vertical RMS：5 Hz ~150 Hz ：Acceleration：0.44 m/s^2

Transverse RMS：5 Hz ~150 Hz ：Acceleration：0.68 m/s^2

Longitudinal RMS：5 Hz ~150 Hz ：Acceleration：0.99 m/s^2

Test Procedures

According to IEC 61373

Test Specification

Functional check, functional test was performed during the test to confirm that no damage or deterioration occurred. The function of EUT was normal after Vibration.

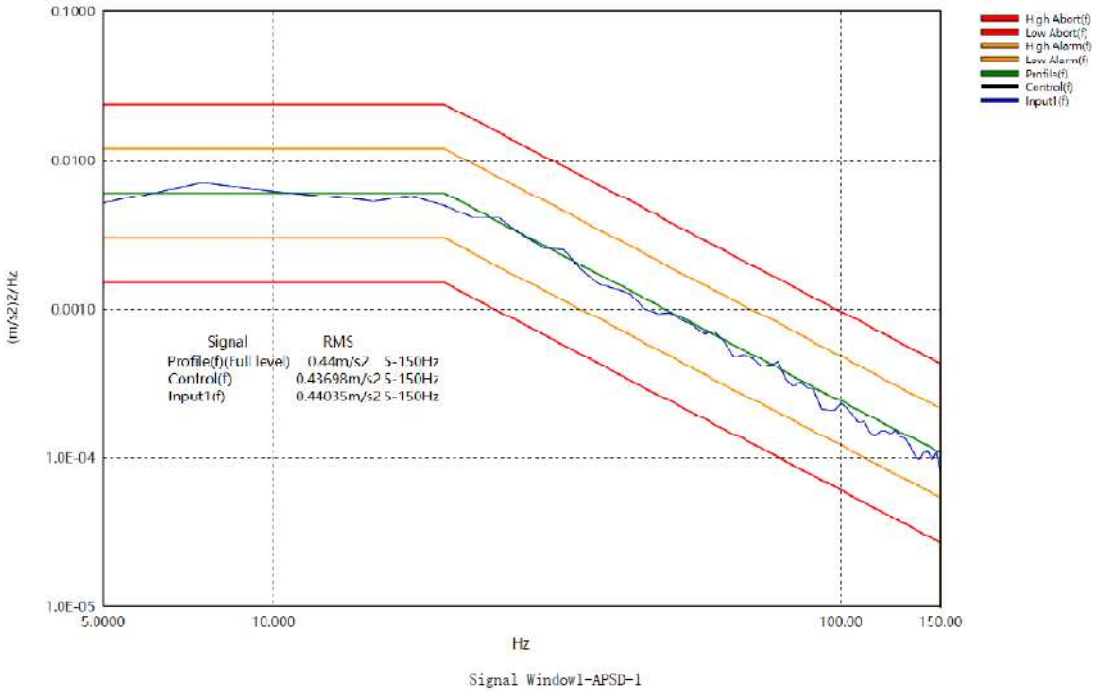
Directions:

CPU: Intel® Core™ i7-13700E CPU @1.90GHz

GPU: NVIDIA GeForce RTX 3090

RAM: innodisk DDR5 4800 32GB W/T ECC SODIMM *2

M.2: Innodisk M.2(P42) 3TE6 512GB



Signal Window1-APSD-1

Test Information

Current Level	100 %	Lines	800
Control RMS	0.436981 m/s2	Demand RMS	0.44 m/s2
Frame Time	0.4 s	Frequency Space	2.5 Hz
Current Level Time	00:30:00	Remaining Time	00:00:00
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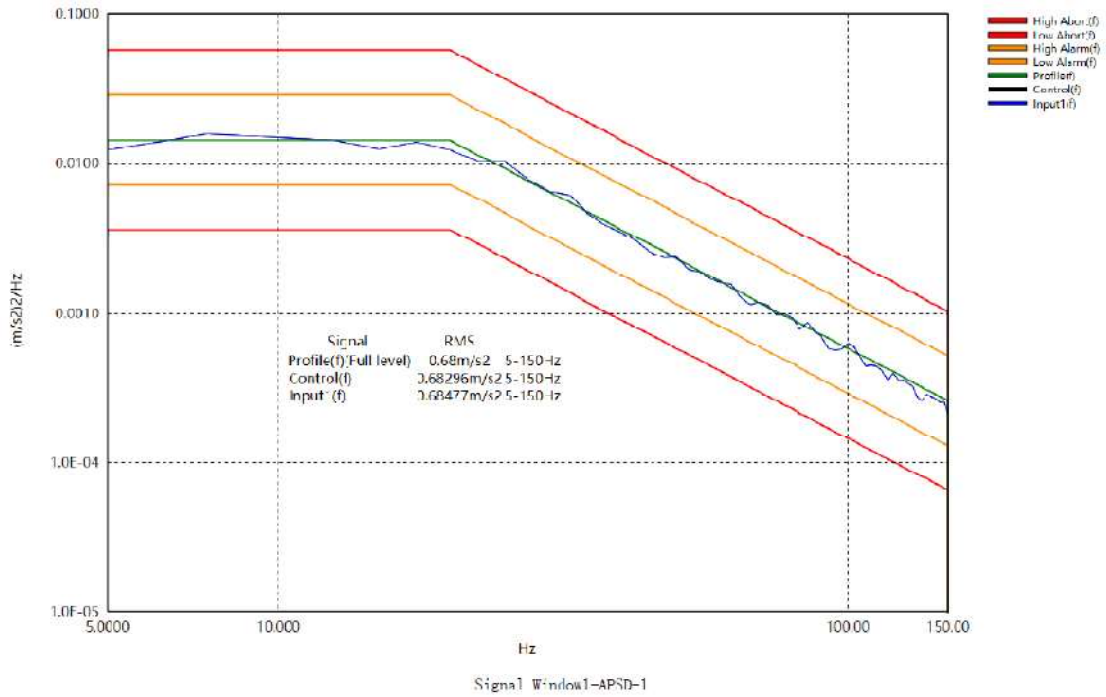
X axis



Signal Window1-APSD-1

Test Information

Current Level	100 %	Lines	800
Control RMS	0.682956 m/s2	Demand RMS	0.680001 m/s2
Frame Time	0.4 s	Frequency Space	2.5 Hz
Current Level Time	00:30:00	Remaining Time	00:00:00
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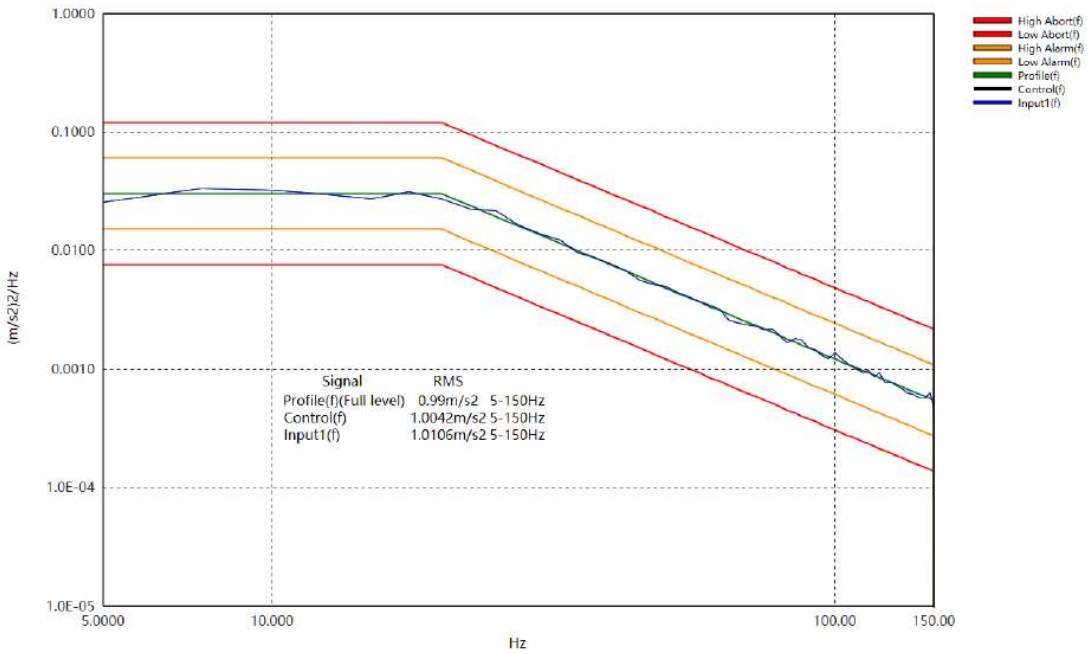
Y axis



Signal Window1-APSD-1

Test Information

Current Level	100 %	Lines	800
Control RMS	1.00424 m/s2	Demand RMS	0.990006 m/s2
Frame Time	0.4 s	Frequency Space	2.5 Hz
Current Level Time	00:30:00	Remaining Time	00:00:00
Data was saved as a file at time		2025-01-10-16:06:25	

Z axis

4.4. Shock testing conditions

Test Instruments

Item No.	NAME	MODEL NO.	SERIAL NO.	MANUFACTURER	Cal. Date	Next Cal. Date
1	Electrodynamics Type Vibration Tester	EV210H0808VCS5X-2	L2101004	LABTONE	2024/10/7	2025/10/6
2	Accelerometer	353B33	70244	PCB	2024/10/20	2026/10/19

Test Requirement

According to IEC 61373

Duration: 30ms

Vertical Movement: 30 m/s²

Transverse Movement : 30 m/s²

Longitudinal Movement : 50 m/s²

Test Procedures

According to IEC 61373

Test Specification

Functional check, functional test was performed during the test to confirm that no damage or deterioration occurred. The function of EUT was normal after shock testing conditions.

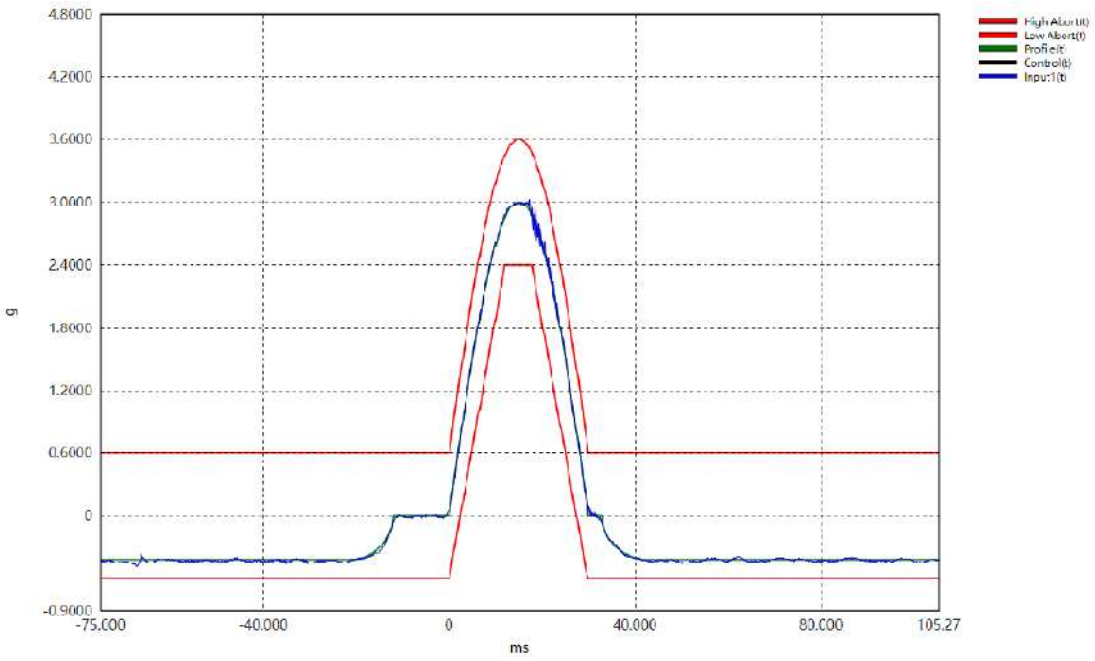
Directions:

CPU: Intel® Core™ i7-13700E CPU @1.90GHz

GPU: NVIDIA GeForce RTX 3090

RAM: innodisk DDR5 4800 32GB W/T ECC SODIMM *2

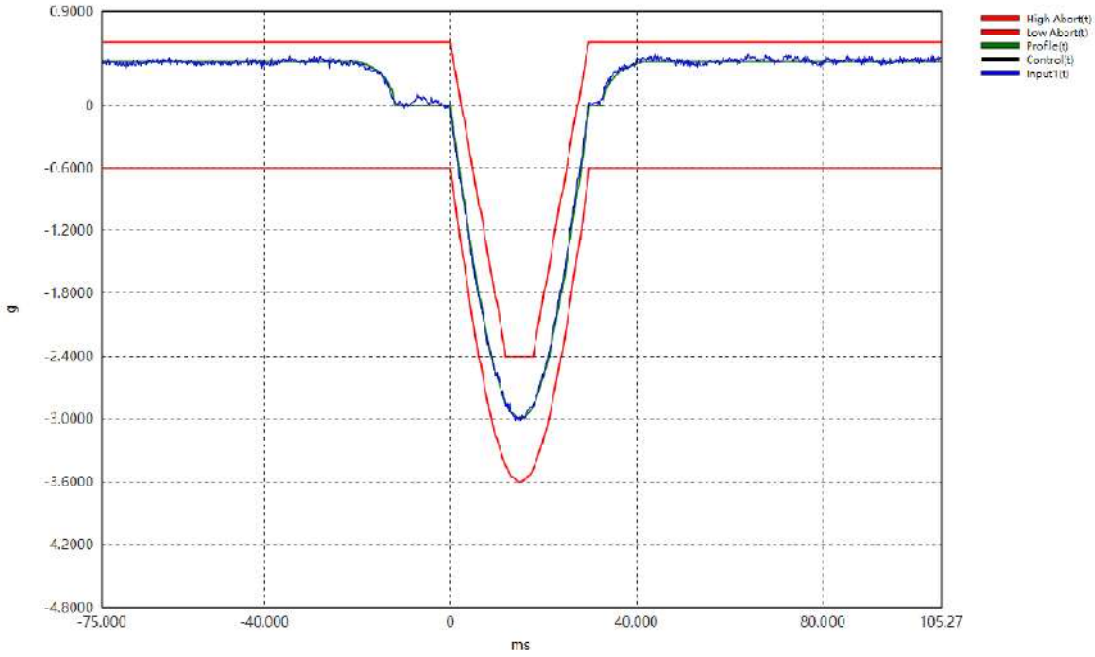
M.2: Innodisk M.2(P42) 3TE6 512GB



Signal Window1-Time Signal-1

Shock Type	Half Sine	Amplitude	3 g	Pulse Duration	30 ms
Current Level	100 %	Demand Peak	3 g	Control Peak	3.03245 g
Block Size	4096	Frame Time	800 ms	dT	0.195313 ms
Current Level Pulses	3	Output Pulses	19	Remain Pulses	0
Data was saved as a file at time			2025-01-10-13:55:42		

+X axis



Signal Window1-Time Signal-1

Shock Type	Half Sine	Amplitude	3 g	Pulse Duration	30 ms
Current Level	100 %	Demand Peak	3 g	Control Peak	3.0191 g
Block Size	4096	Frame Time	800 ms	dT	0.195313 ms
Current Level Pulses	3	Output Pulses	19	Remain Pulses	0
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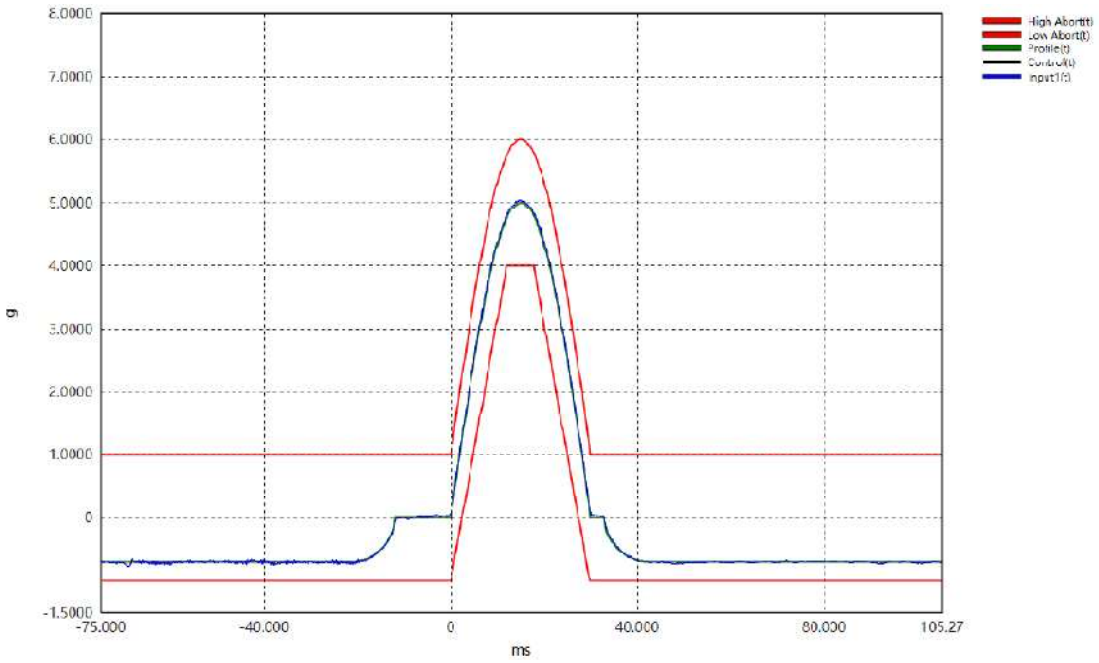
-X axis



Signal Window1-Time Signa.-1

Shock Type	Half Sine	Amplitude	5 g	Pulse Duration	30 ms
Current Level	100 %	Demand Peak	5 g	Control Peak	5.05875 g
Block Size	4096	Frame Time	800 ms	dT	0.195313 ms
Current Level Pulses	3	Output Pulses	19	Remain Pulses	0
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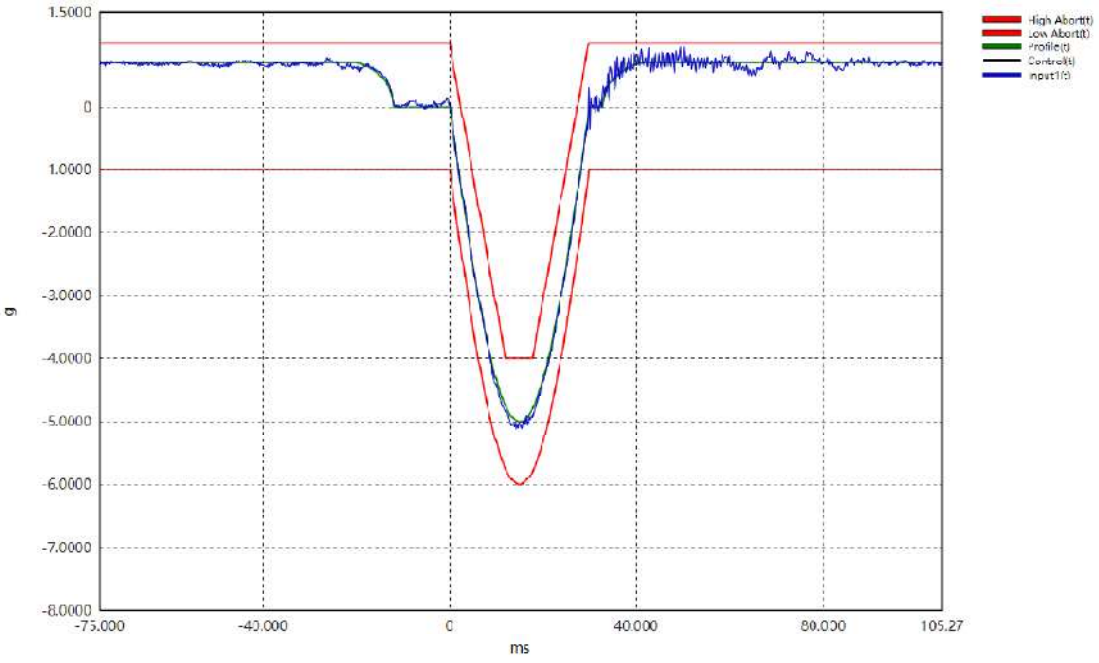
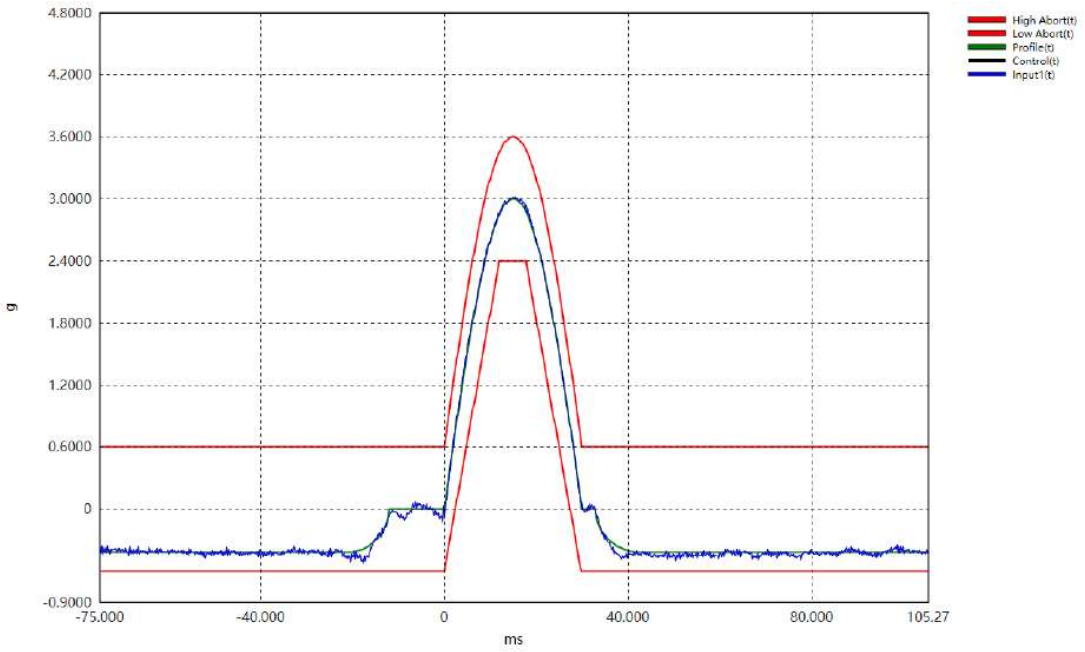
+Y axis



Signal Window1-Time Signal-1

Shock Type	Half Sine	Amplitude	5 g	Pulse Duration	30 ms
Current Level	100 %	Demand Peak	5 g	Control Peak	5.12463 g
Block Size	4096	Frame Time	800 ms	dT	0.195313 ms
Current Level Pulses	3	Output Pulses	19	Remain Pulses	0
Data was saved as a file at time			2025-01-10-13:48:41		

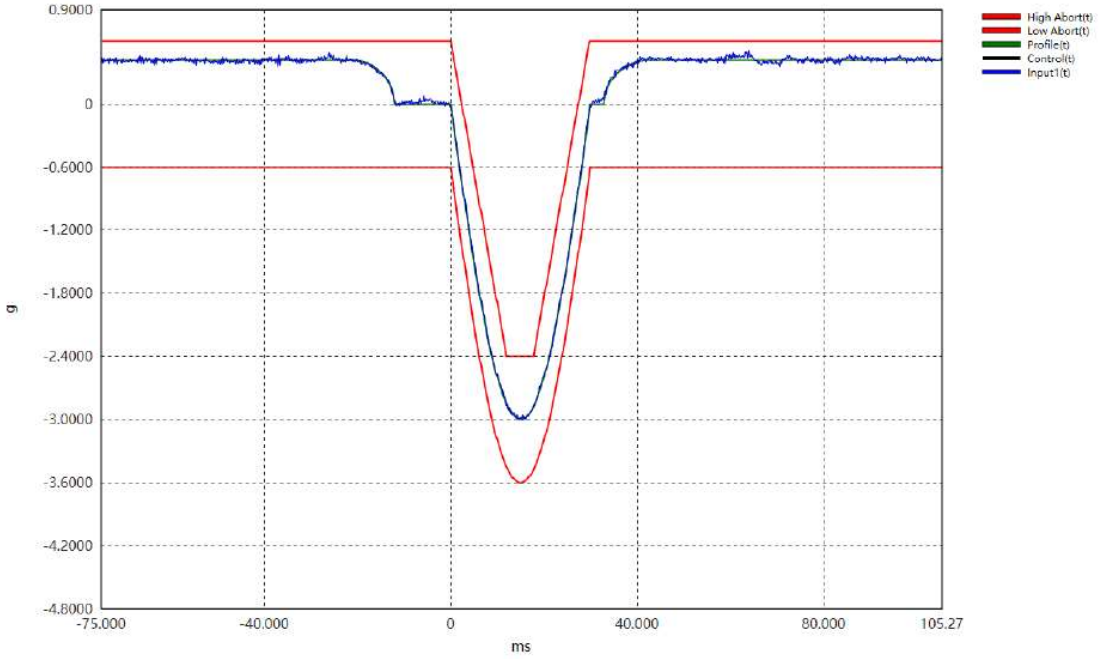
-Y axis



Signal Window1-Time Signal-1

Shock Type	Half Sine	Amplitude	3 g	Pulse Duration	30 ms
Current Level	100 %	Demand Peak	3 g	Control Peak	3.01938 g
Block Size	4096	Frame Time	800 ms	dT	0.195313 ms
Current Level Pulses	3	Output Pulses	19	Remain Pulses	0
Data was saved as a file at time			2025-01-10-15:16:40		

+Z axis



Signal Window1-Time Signal-1

Shock Type	Half Sine	Amplitude	3 g	Pulse Duration	30 ms
Current Level	100 %	Demand Peak	3 g	Control Peak	3.0016 g
Block Size	4096	Frame Time	800 ms	dT	0.195313 ms
Current Level Pulses	3	Output Pulses	19	Remain Pulses	0
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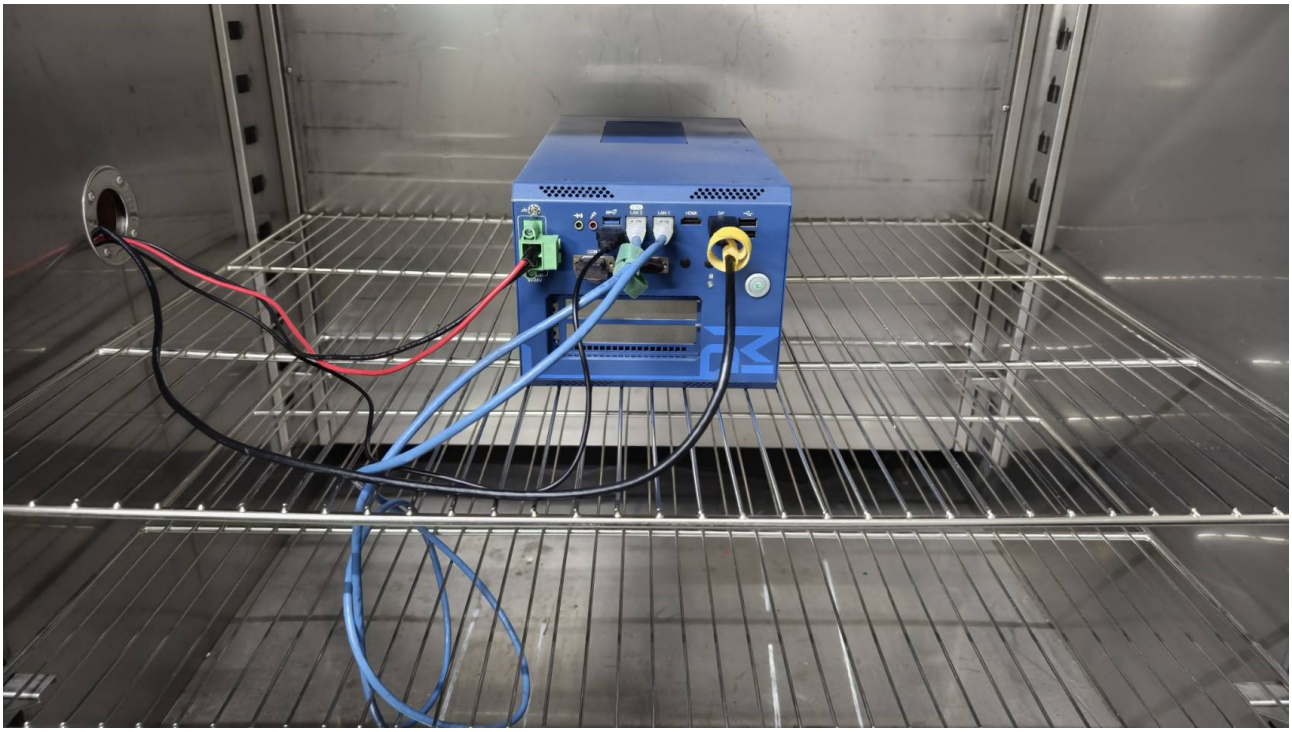
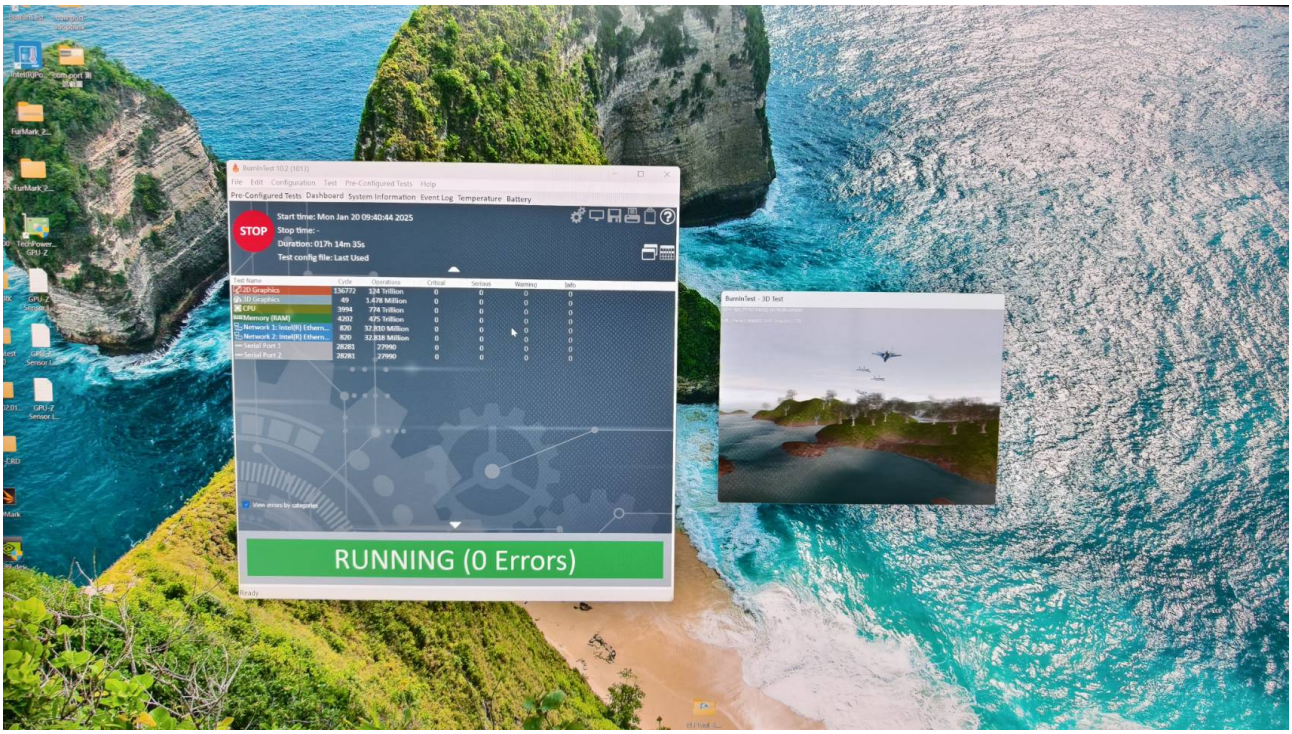
-Z axis

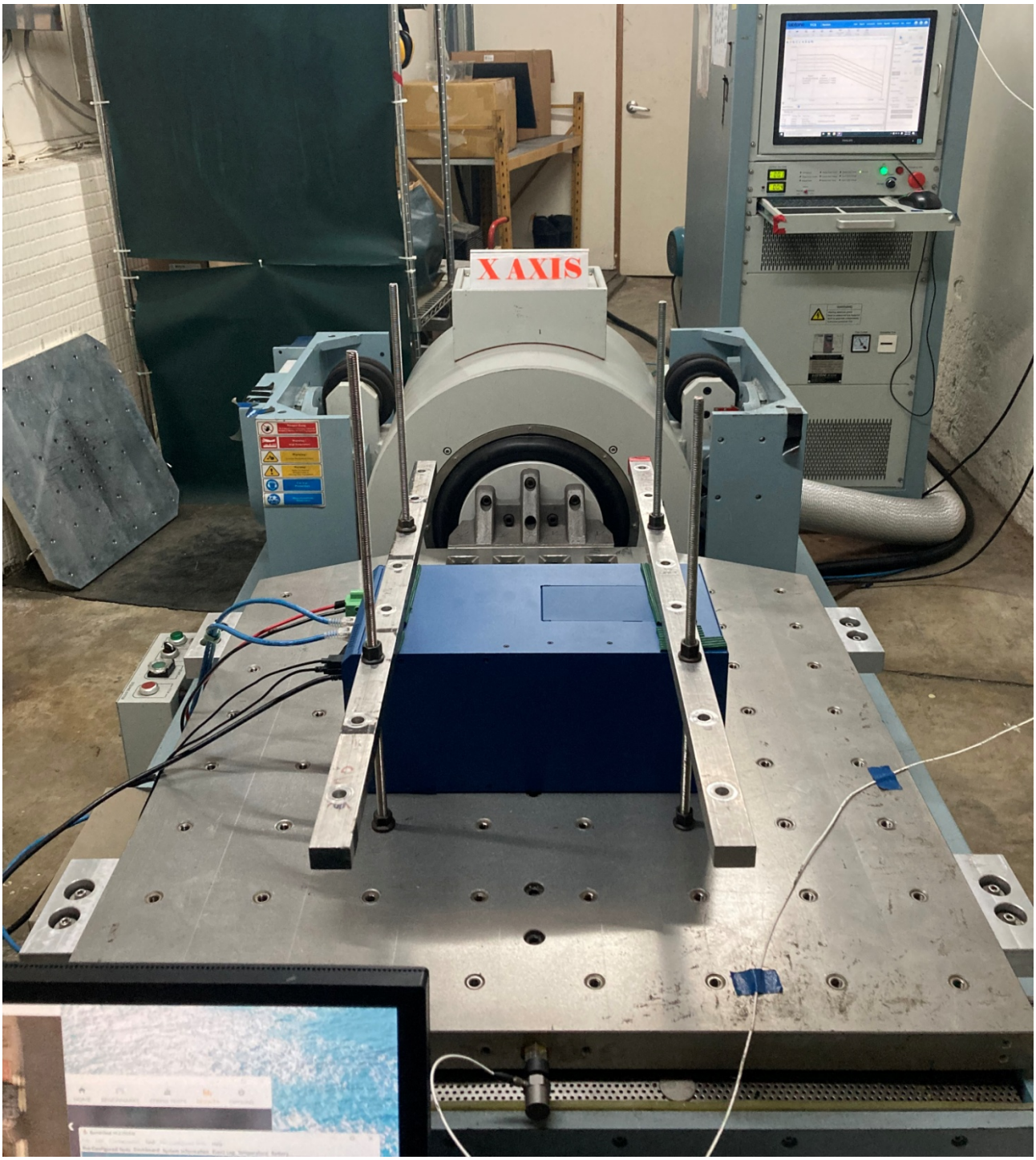
5. PHOTOGRAPHS OF TEST CONFIGURATION

5.1. Environmental conditions

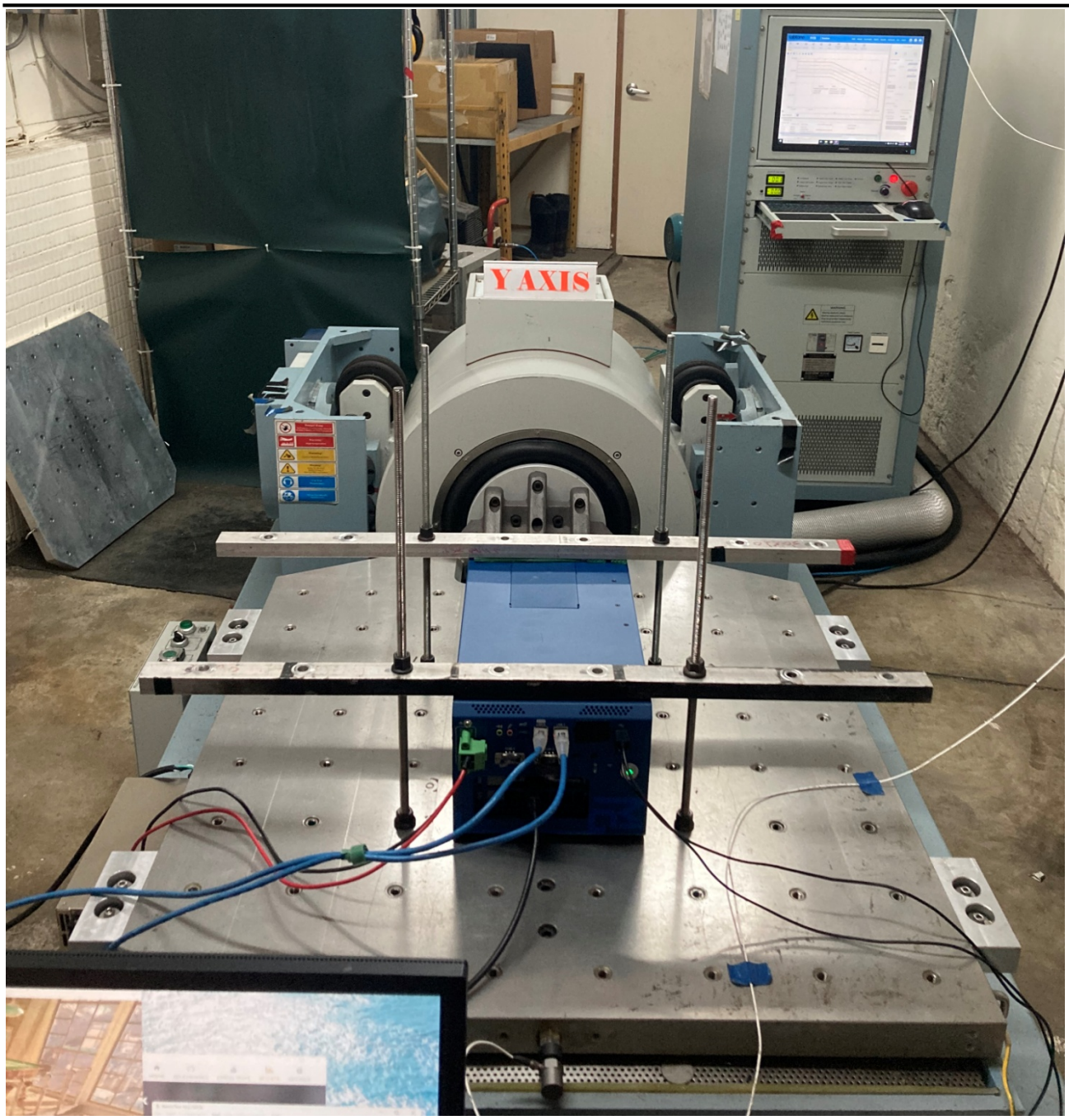




5.2. Vibration / Shock

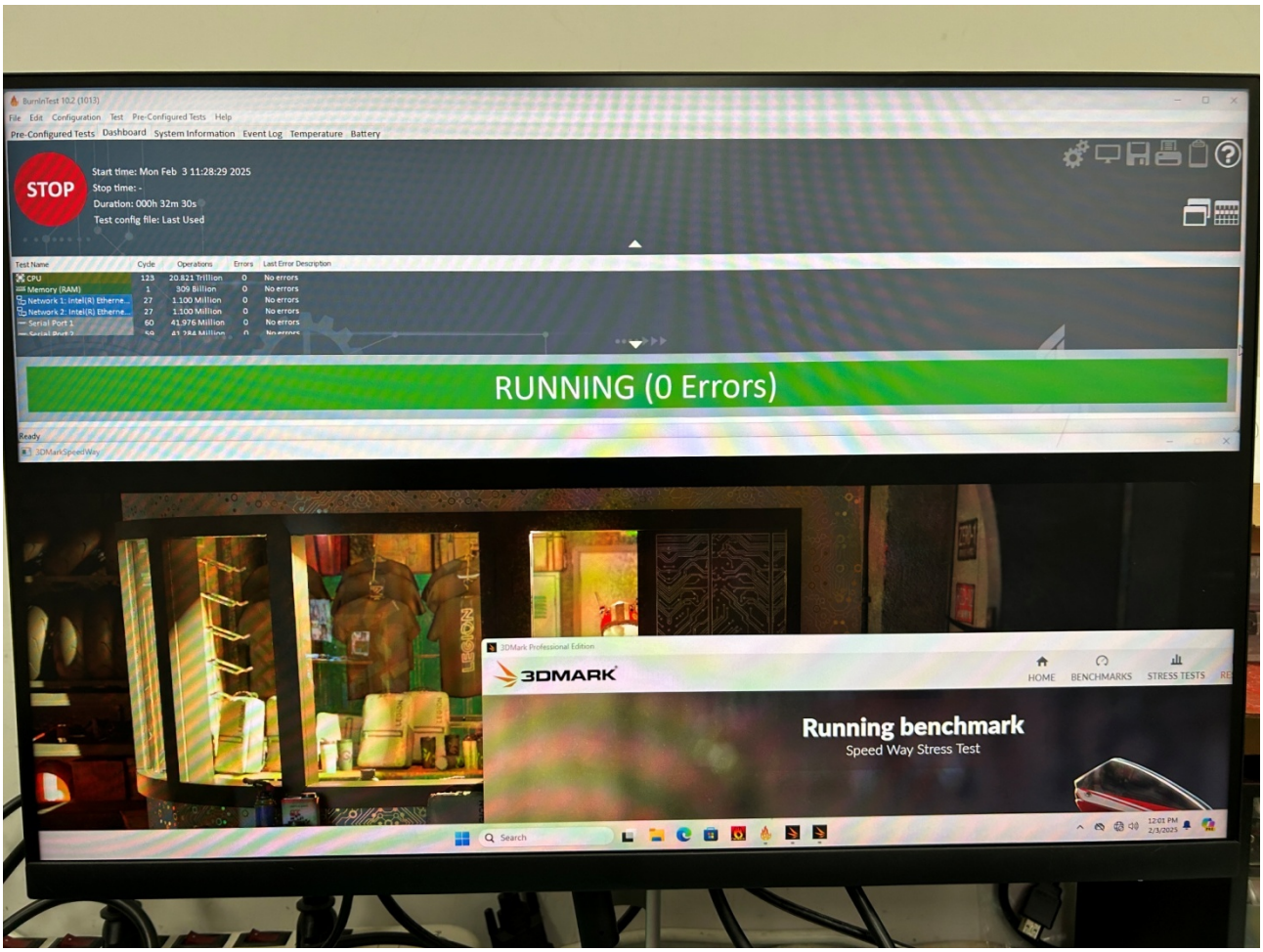


X +/- axis



Y +/- axis

Z +/- axis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Stop time: -
Duration: 000h 32m 30s
Test config file: Last Used
RUNNING (0 Errors)
3DMARK
HOME
BENCHMARKS
STRESS TESTS
Running benchmark
Speed Way Stress Test