

Test Report

High Temperature (operating)
Low Temperature (operating)
Vibration
Shock

Applicant
Vecow Co., Ltd

Product name
Expandable AI Computing System

Model name
TGS-1000

Test Report

Report No..... :	TWK25060710-001
Project Reference No. :	SO25030127 ~ SO25030132
Tested by (+ signature). :	Andrew Yang <i>Andrew Yang</i>
Approved by (+ signature)..... :	Simon Lu <i>Simon Lu</i>
Date of issue	2025/06/23
Total number of pages	36

Applicant's name	Vecow Co., Ltd
Address	3F, No. 10, Jiankang Rd., Zhonghe Dist., New Taipei City 23586, Taiwan

Testing Laboratory Name	AnTek Certification Inc.
Laboratory Address	7F, No. 351, Yangguang St. Taipei 11491 Taiwan
Testing Location	No. 21, Gongjian Rd. Keelung City 20647 Taiwan

Test specification

Standard..... :	(As requested by the applicant, for details please refer to attached pages.)
Test procedure	Same as above
Date of receipt of test item	2025/03/10
Date (s) of performance of test.. :	2025/03/10

The report relates only to the object tested.

Test item description	
Item name	Expandable AI Computing System
Model name	TGS-1000
Quantity	2
Test result	See test conducted.

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High Temperature (operating) Test

Tested Sample:

Sample quantity: 2 units

Sample no	Remark
1	without GPU
2	with GPU

Test Equipment:

Equipment	Constant temperature and humidity testing machine
Manufacturer	KSON
Model Number	THS-G7T-150
Date of Calibration	Feb. 11, 2025

Equipment	Temperature Test Chamber
Manufacturer	ESPEC
Model Number	SML-21
Date of Calibration	Mar. 20, 2025

Laboratory Ambiance Condition:

Temperature	15 ~ 35 °C
Humidity	25 ~ 75 %RH
Air Pressure	86 ~ 106 kPa

Reference Document:

The test was performed with reference to IEC 60068-2-78:2012 test Cab.

Test Condition:

Test 1

- Tested sample: sample 1
- Operation test: Input electrical power to operate during the test.
- Test condition:

Test step	Temperature (°C)	Humidity (%RH)	Duration (hour)
1	25	50	0.16
2	25 to 55	50 to 95	0.38
3	55	95	16
4	55 to 25	95 to 50	0.38
5	25	50	0.5

Test 2

- Tested sample: sample 2
- Operation test: Input electrical power to operate during the test.
- Test condition:

Test step	Temperature (°C)	Humidity (%RH)	Duration (hour)
1	25	50	0.16
2	25 to 45	50 to 95	0.38
3	45	95	16
4	45 to 25	95 to 50	0.38
5	25	50	0.5

Test Procedure:

- Check the sample's appearance before the test.
- Install the sample on testing table and set up testing condition.
- After testing, take off sample from table and put it in the storage area.
- Observe the sample and record for any visible change after testing.

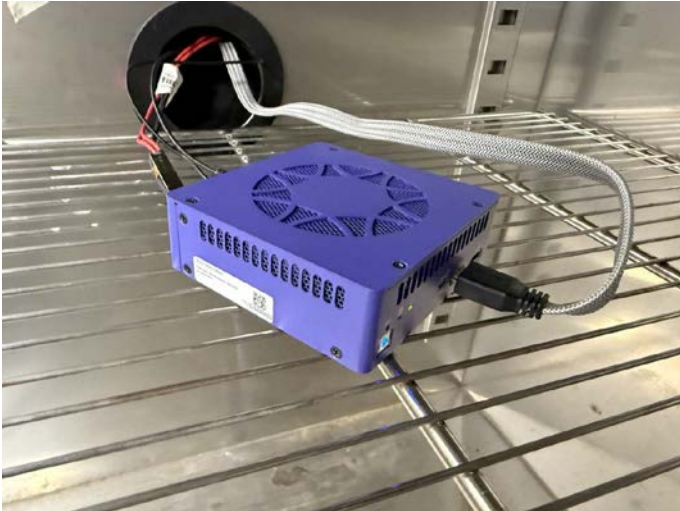
Test Summary:

No visible damage was found on sample appearance after the test.

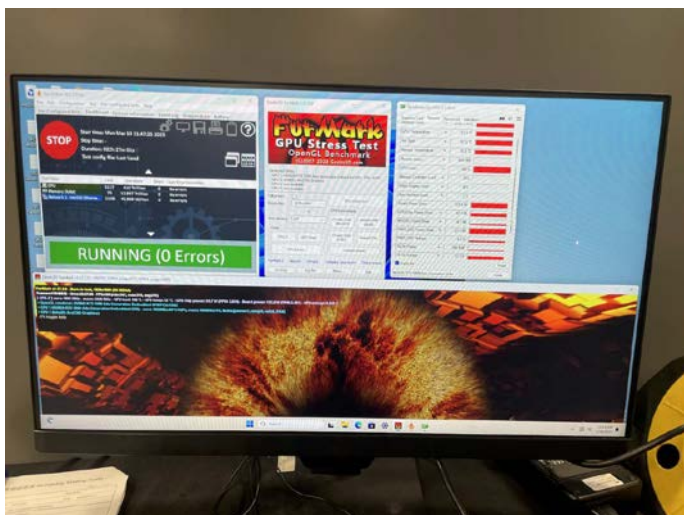
Test Photos:

Sample photo before the test:

Test 1



Test 2

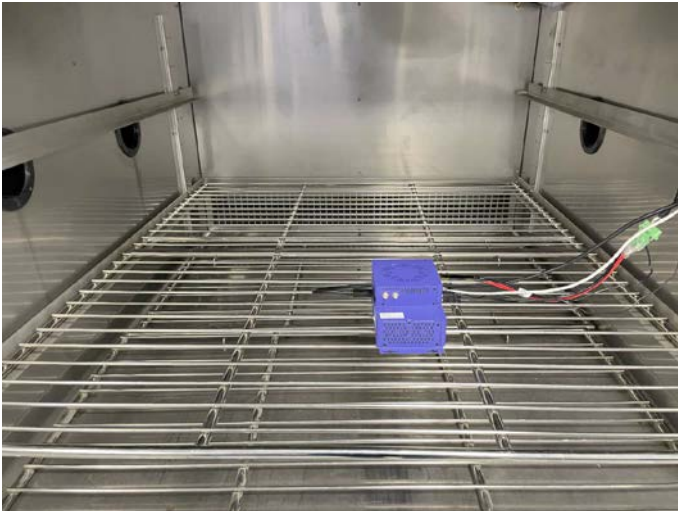


Setup photo:

Test 1

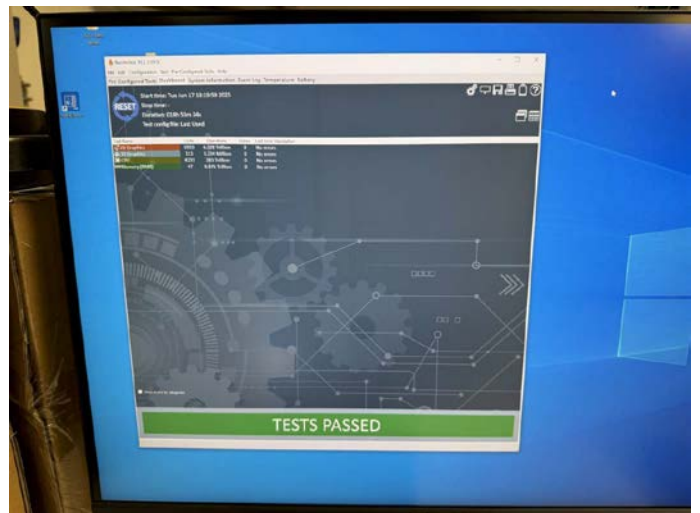
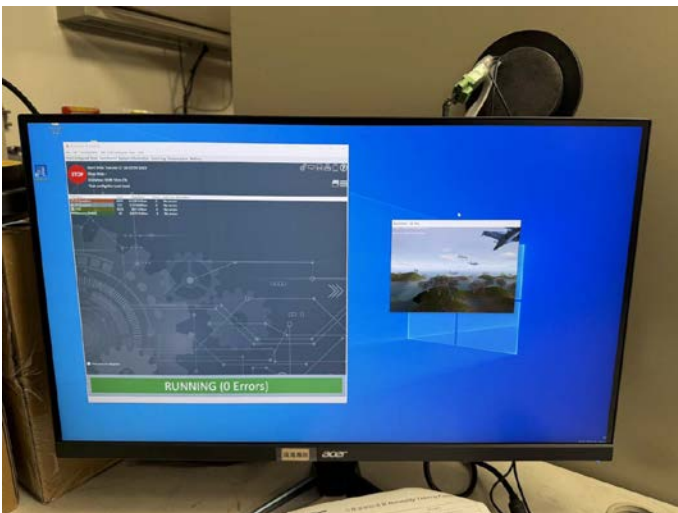
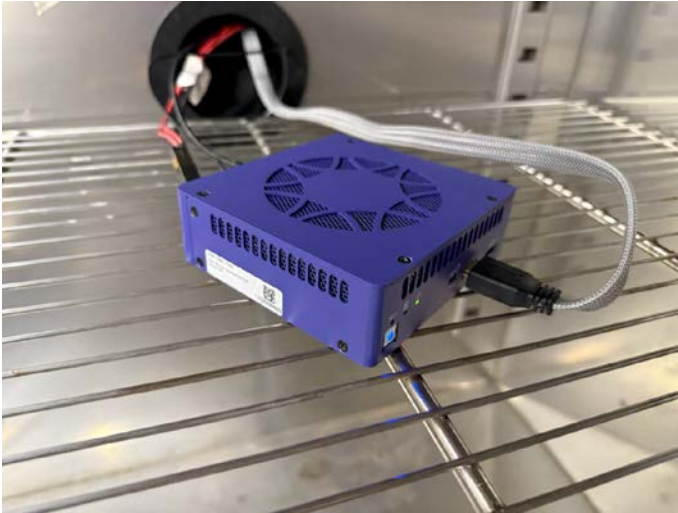


Test 2

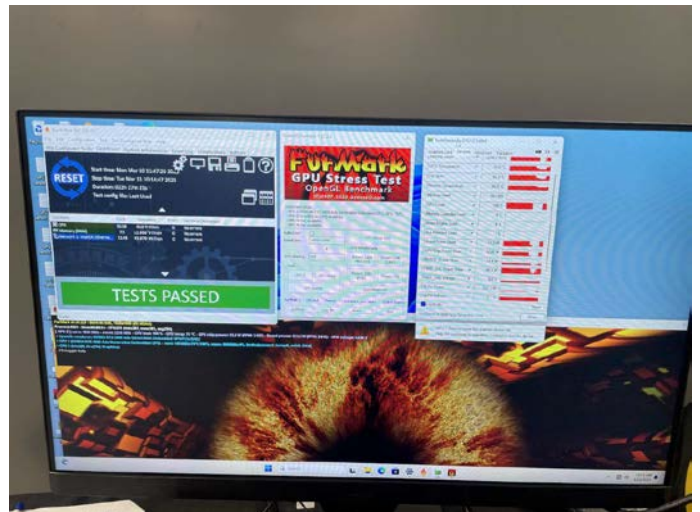
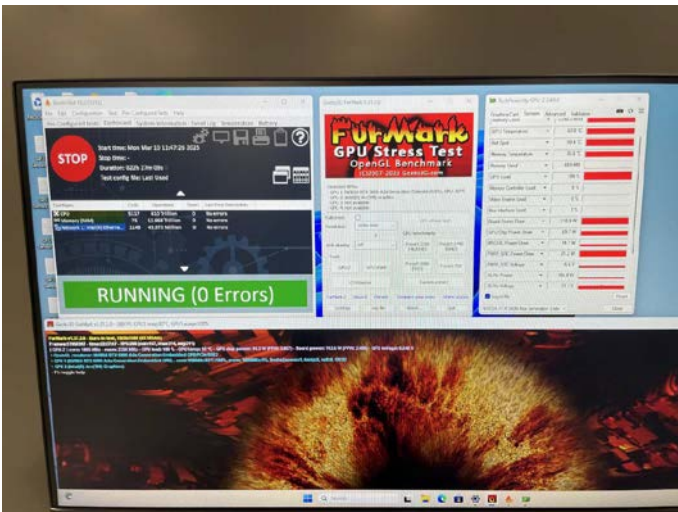
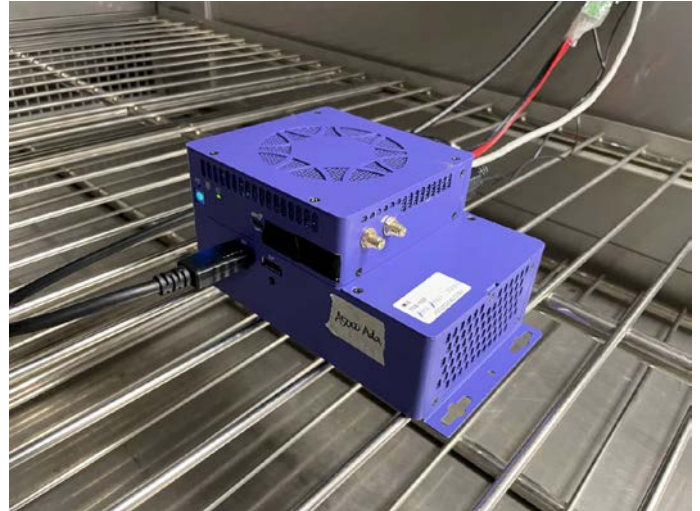


Sample photo after the test:

Test 1

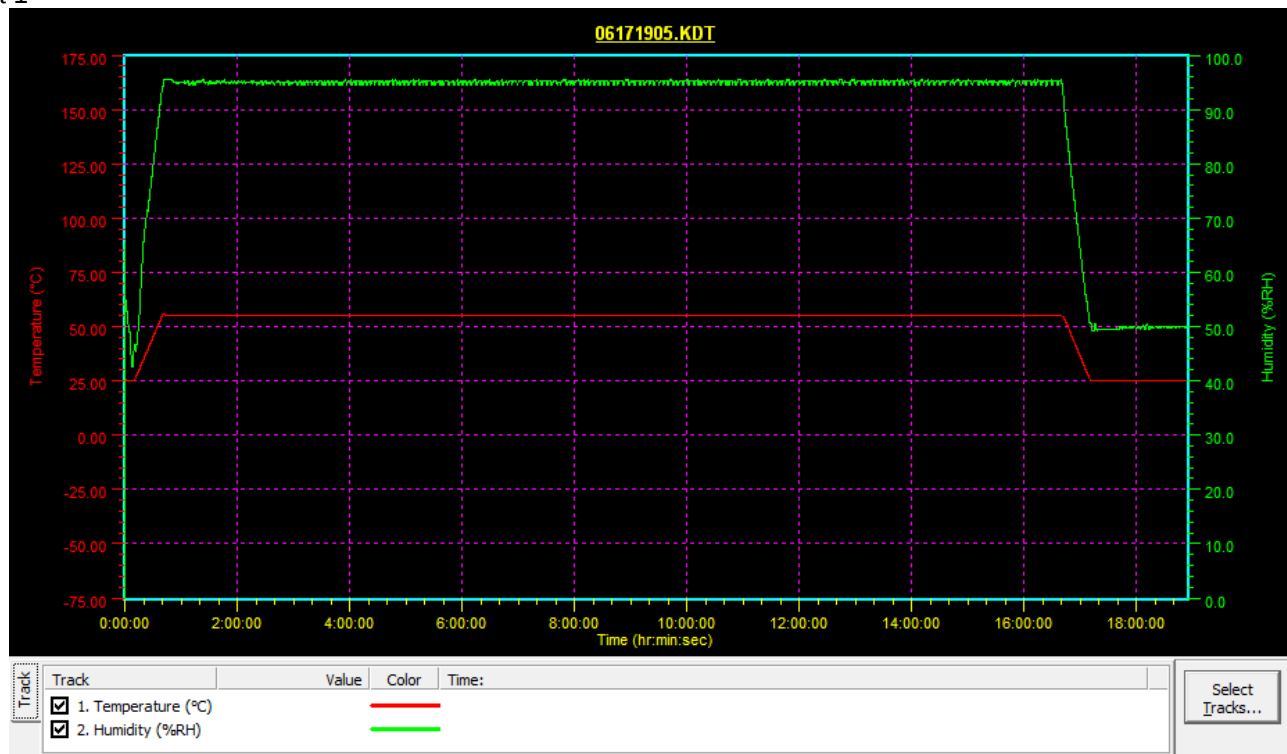


Test 2

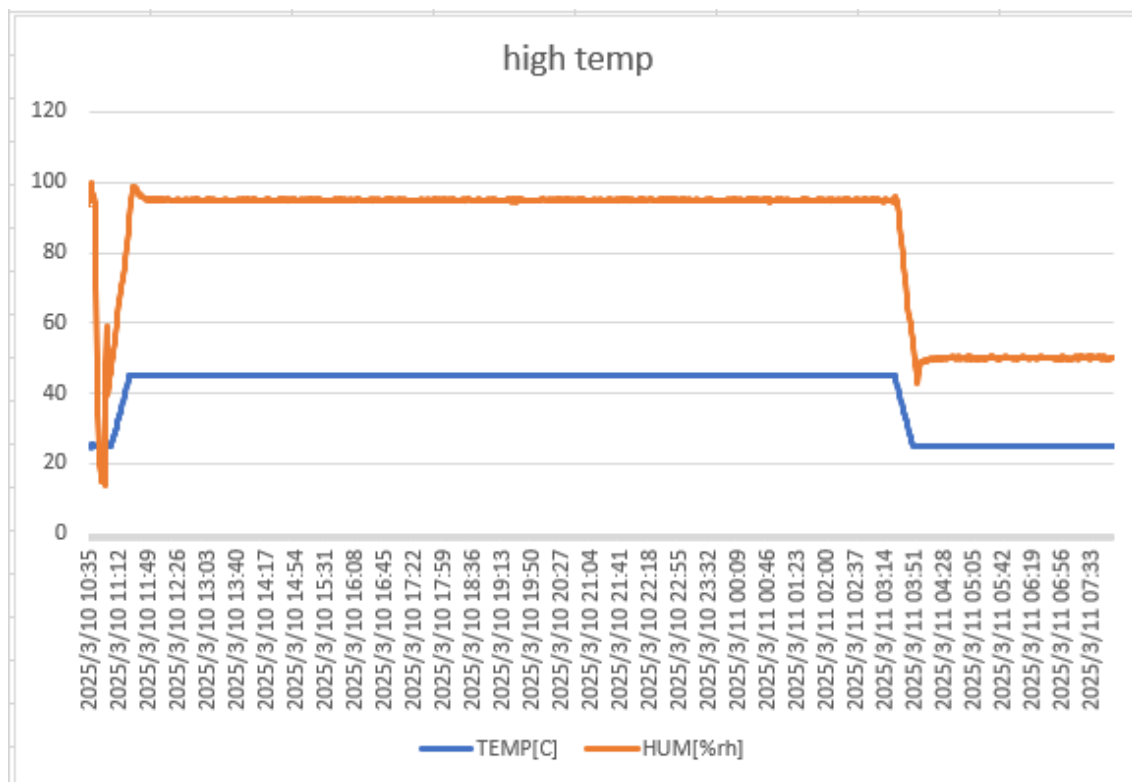


Test Profile:

Test 1



Test 2



Low Temperature (operating) Test

Tested Sample:

Sample quantity: 2 units

Sample no	Remark
1	without GPU
2	with GPU

Test Equipment:

Equipment	Constant temperature and humidity testing machine
Manufacturer	KSON
Model Number	THS-G7T-150
Date of Calibration	Feb. 11, 2025

Equipment	Temperature Test Chamber
Manufacturer	ESPEC
Model Number	SML-21
Date of Calibration	Mar. 20, 2025

Laboratory Ambiance Condition:

Temperature	15 ~ 35 °C
Humidity	25 ~ 75 %RH
Air Pressure	86 ~ 106 kPa

Reference Document:

The test was performed with reference to IEC 60068-2-1:2007 test A.

Test Condition:

Test 1

- Tested sample: sample 1
- Operation test: Input electrical power to operate during the test.
- Test condition:

Test step	Temperature (°C)	Duration (hour)
1	25	0.16
2	25 to 0	0.41
3	0	16
4	0 to 25	0.41
5	25	0.5

Test 2

- Tested sample: sample 2
- Operation test: Input electrical power to operate during the test.
- Test condition:

Test step	Temperature (°C)	Duration (hour)
1	25	0.16
2	25 to 0	0.41
3	0	16
4	0 to 25	0.41
5	25	0.5

Test Procedure:

- Check the sample's appearance before the test.
- Install the sample on testing table and set up testing condition.
- After testing, take off sample from table and put it in the storage area.
- Observe the sample and record for any visible change after testing.

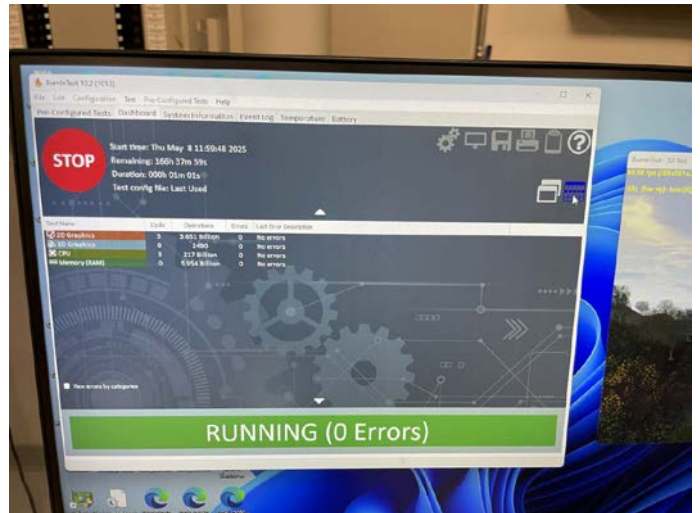
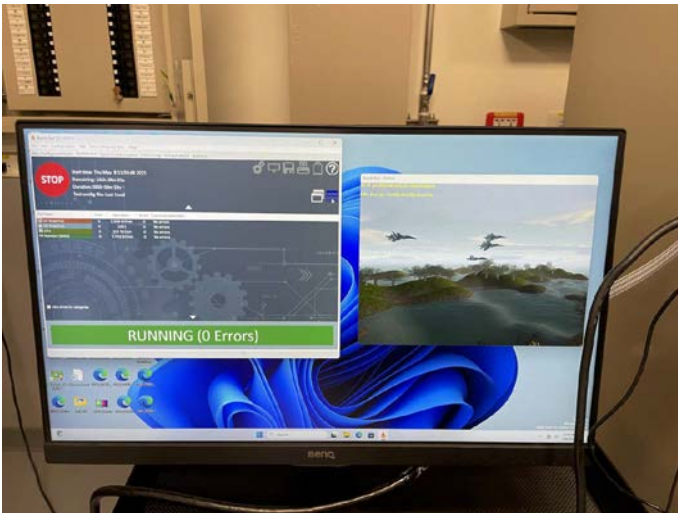
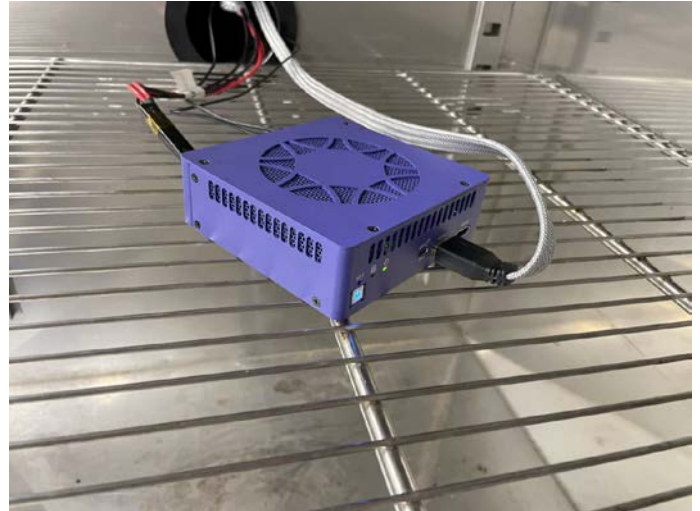
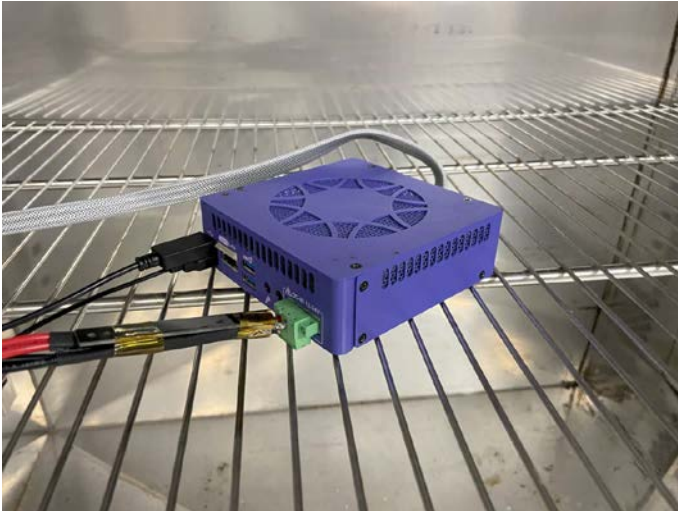
Test Summary:

- No visible damage was found on sample appearance after the test.
- The function was normal after the test.

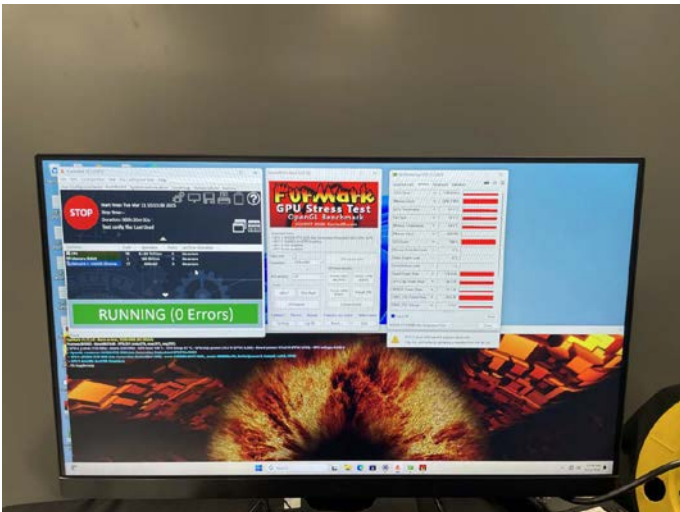
Test Photos:

Sample photo before the test:

Test 1



Test 2



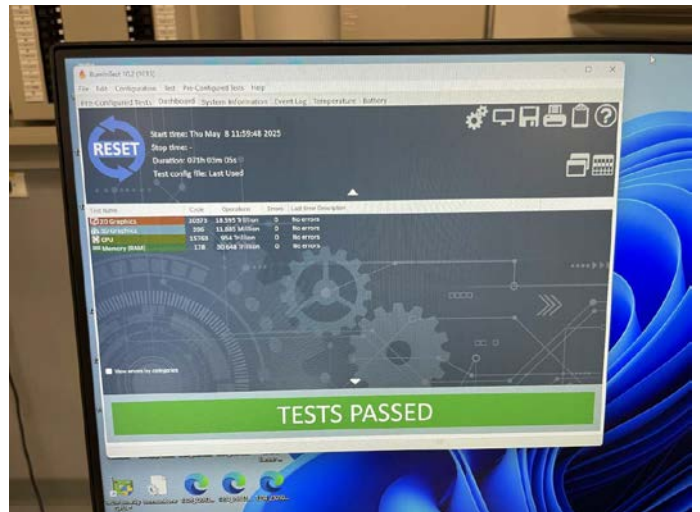
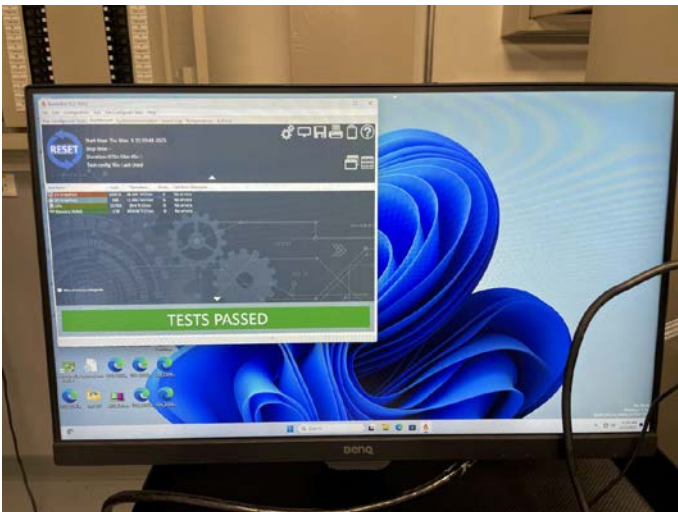
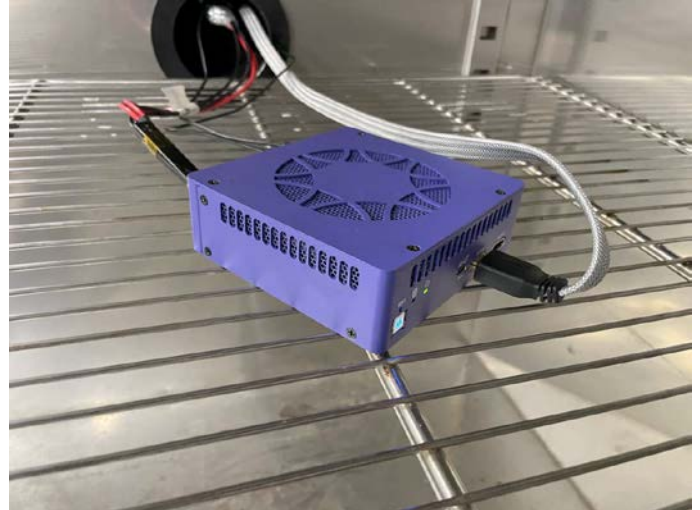
Setup photo:
Test 1



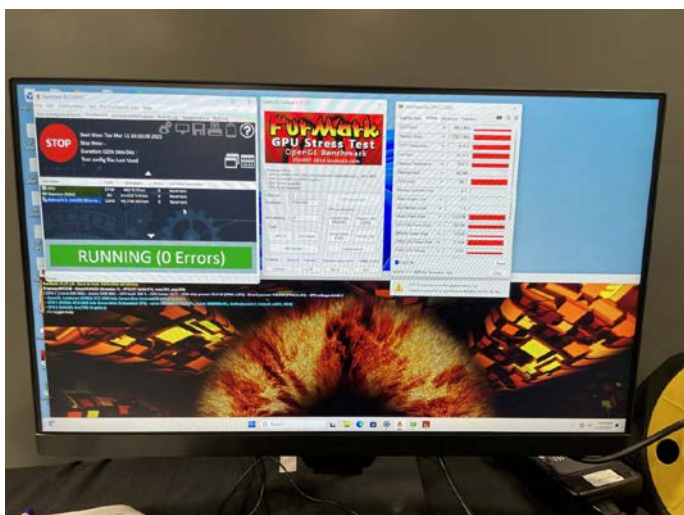
Test 2



Sample photo after the test:
Test 1

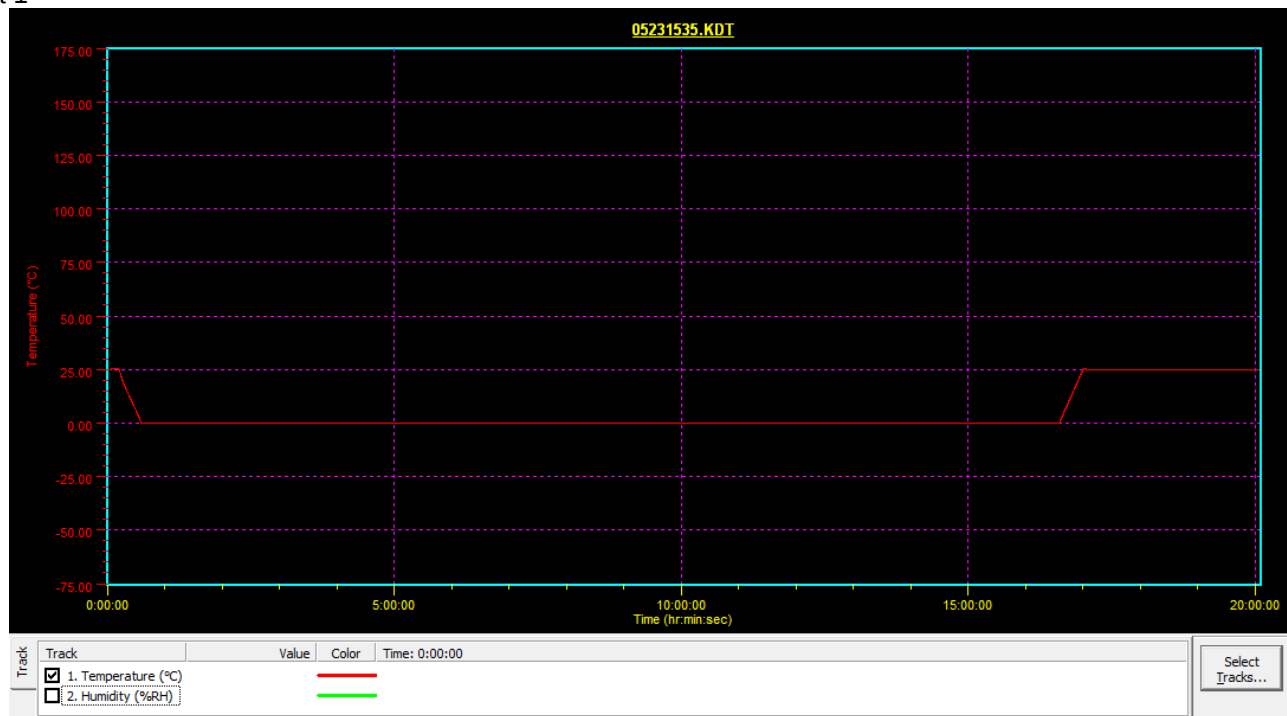


Test 2

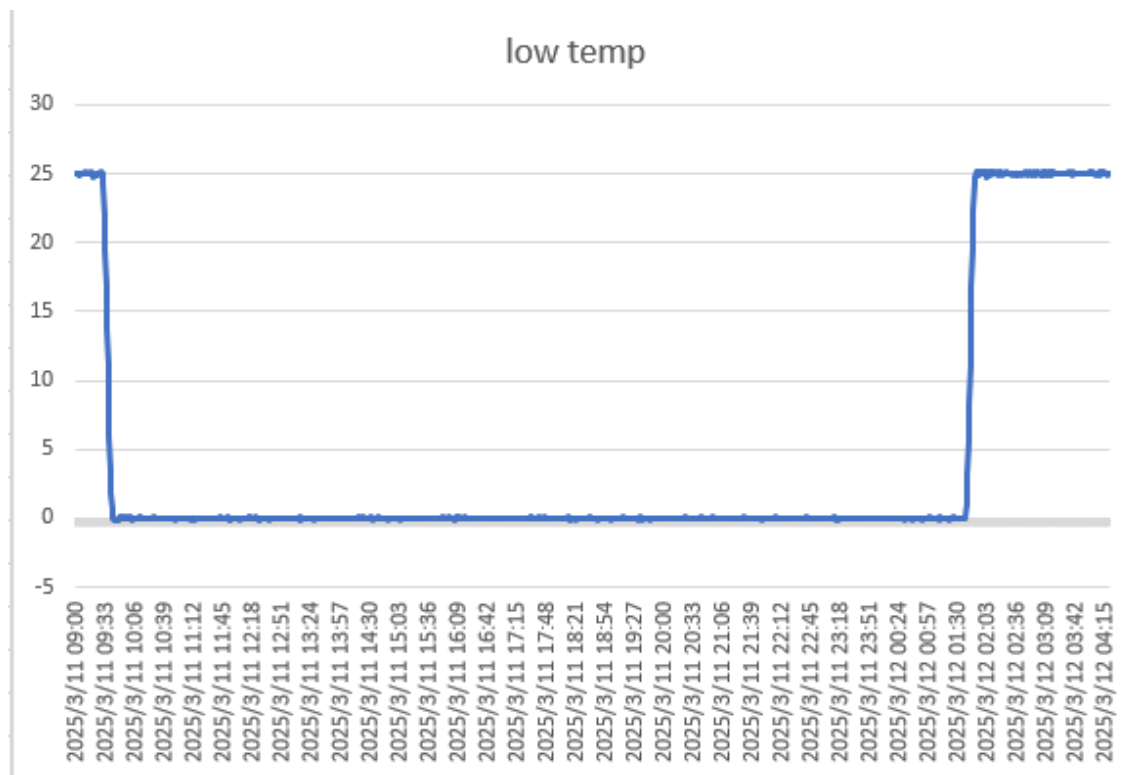


Test Profile:

Test 1



Test 2



Vibration Test

Tested Sample:

Sample quantity: 1 unit

Sample no	Remark
2	with GPU

Test Equipment:

Equipment	Vibration Shaker
Manufacturer	Shinken
Model Number	G-0230NS
Date of Calibration	Apr. 18, 2024

Laboratory Ambiance Condition:

Temperature	15 ~ 35 °C
Humidity	25 ~ 75 %RH
Air Pressure	86 ~ 106 kPa

Reference Document:

The test was performed with reference to MIL-STD-810H method 514.8, Procedure I, Category 4.

Test Condition:

- Pulse Shape: Random wave
- Operating: Input electrical power to operate during the test.
- Acceleration: 0.76 Grms for x axis, 0.21 Grms for y axis and 1.08 Grms for z axis
- Duration: 1 hour/axis
- Direction: X, Y and Z axes
- Spectrum:
X axis

Frequency (Hz)	PSD (G^2/Hz)
5	0.0065
20	0.0065
120	0.0002
121	0.003
200	0.003
240	0.0015
340	0.00003
500	0.00015

Y axis

Frequency (Hz)	PSD (G^2/Hz)
5	0.00013
10	0.00013
20	0.00065
30	0.00065
78	0.00002
79	0.00019
120	0.00019
500	0.00001

Z axis

Frequency (Hz)	PSD (G^2/Hz)
5	0.015
40	0.015
500	0.00015

Test Procedure:

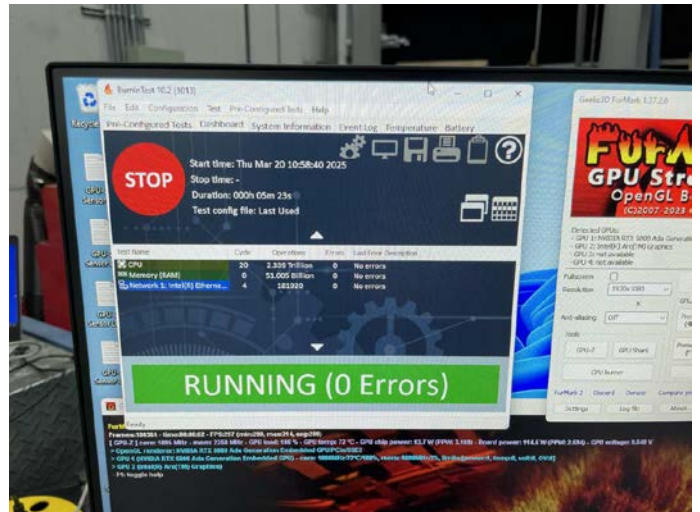
- Check the sample's appearance before the test.
- Install the sample on testing table and set up testing condition.
- After testing, take off sample from table and put it in the storage area.
- Observe the sample and record for any visible change after testing.

Test Summary:

- No visible damage was found on sample appearance after the test.
- The function was normal after the test.

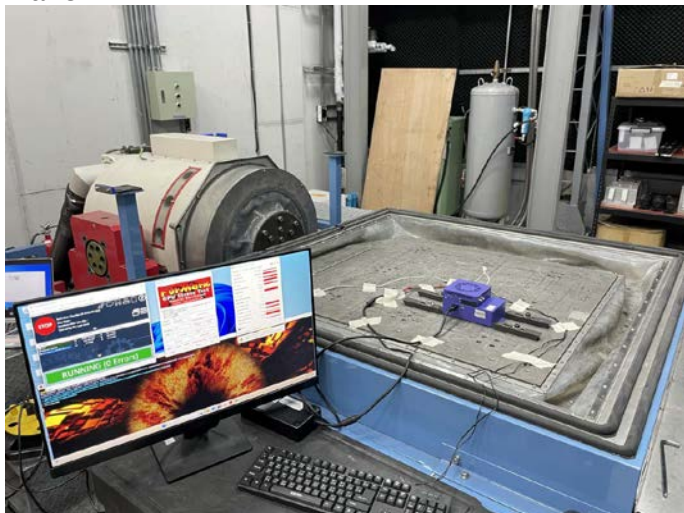
Test Photos:

Sample photo before the test:



Setup photo:

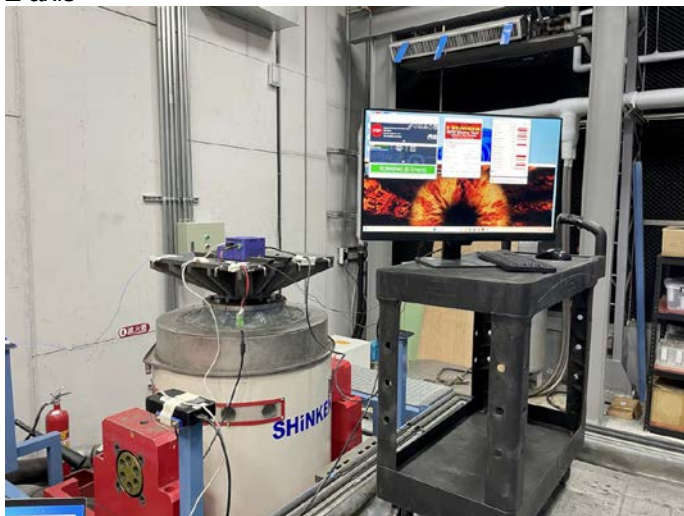
X axis



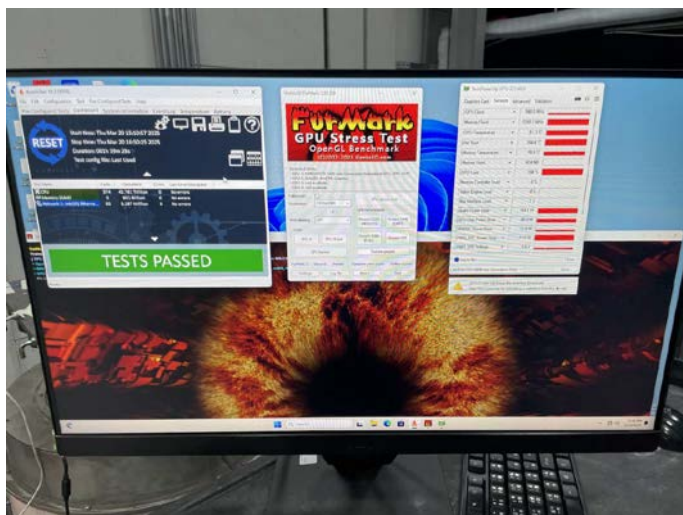
Y axis



Z axis

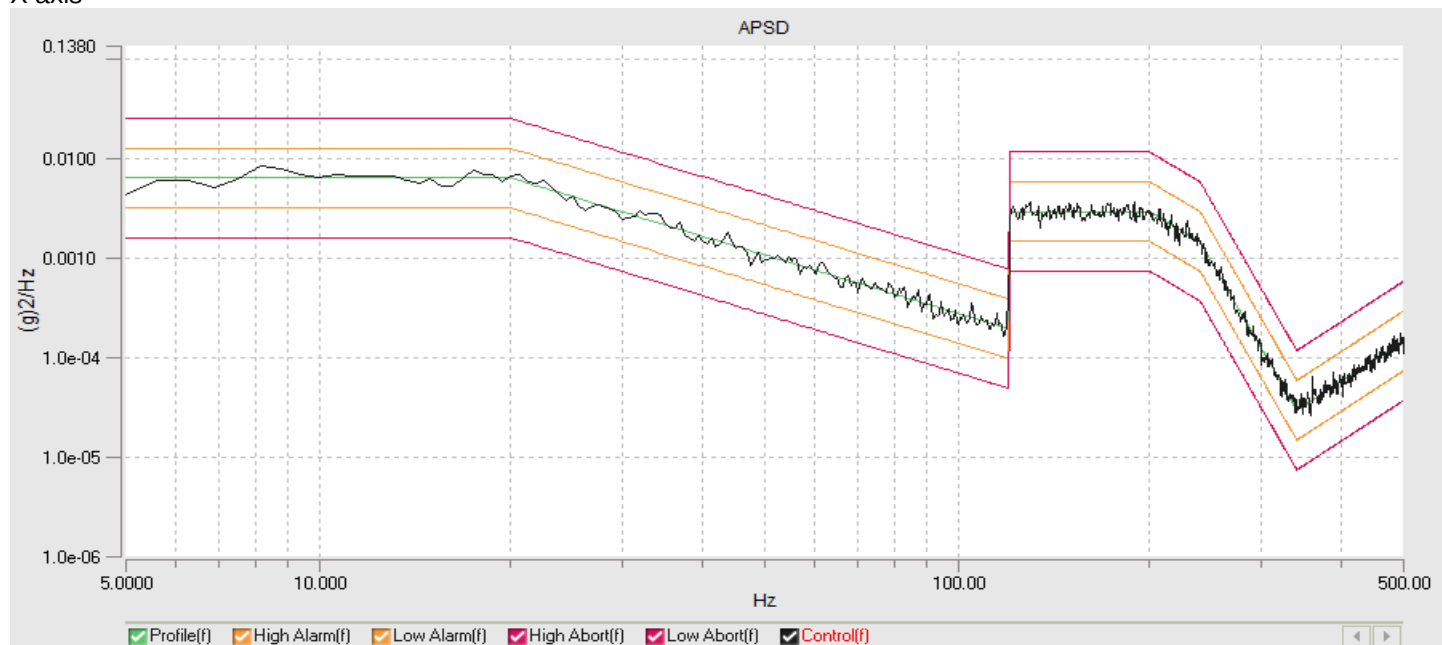


Sample photo after the test:



Test Profile:

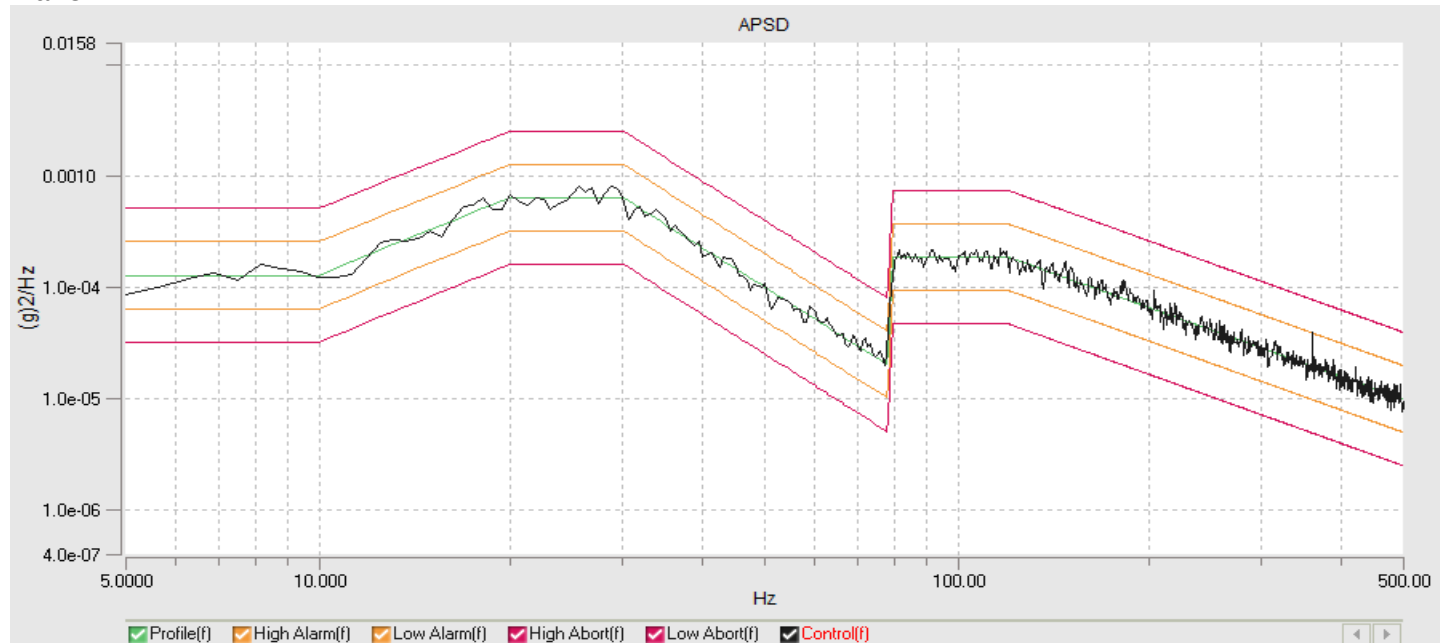
X axis



DEMAND RMS: 0.762 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-20 AM 10:11:12

CURRENT LEVEL TIME: 01:00:00
2025-3-20 AM 11:13:06
END TIME: 2025-3-20 AM 11:13:01

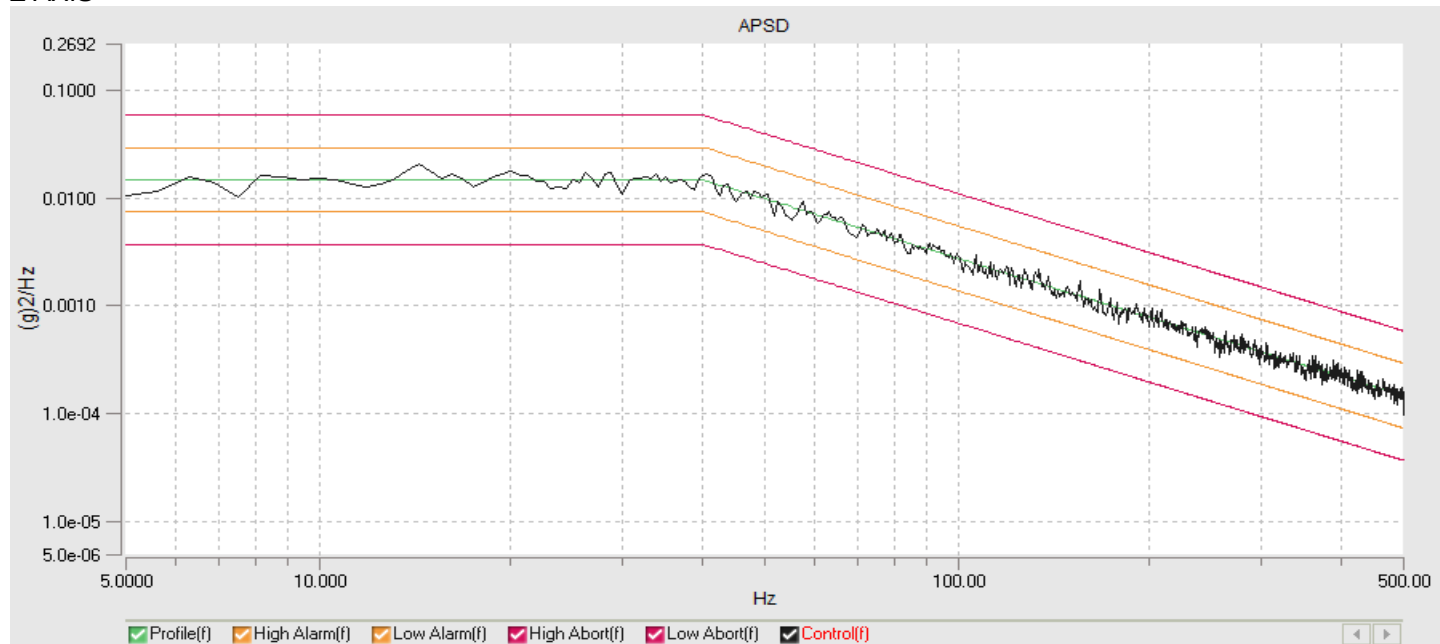
Y axis



DEMAND RMS: 0.205 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-20 AM 11:21:22

CURRENT LEVEL TIME: 01:00:00
2025-3-20 PM 12:22:39
END TIME: 2025-3-20 PM 12:22:34

Z AXIS



DEMAND RMS: 1.078 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-20 PM 02:11:57

CURRENT LEVEL TIME: 01:00:00
2025-3-20 PM 03:13:37
END TIME: 2025-3-20 PM 03:13:33

Mechanical Shock Test

Tested Sample:

Sample quantity: 1 unit

Sample no	Remark
2	with GPU

Test Equipment:

Equipment	Vibration Shaker
Manufacturer	Shinken
Model Number	G-0230NS
Date of Calibration	May. 14, 2025

Laboratory Ambiance Condition:

Temperature	15 ~ 35 °C
Humidity	25 ~ 75 %RH
Air Pressure	86 ~ 106 kPa

Reference Document:

The test was performed with reference to MIL-STD-810H method 516.8, Procedure I.

Test Condition:

- Operating: Input electrical power to operate during the test.
- Pulse shape: Sawtooth wave
- Acceleration: 20 G
- Pulse duration: 11 ms
- Test face:

Test axis	Shock Times
+Z axis	3
-Z axis	3
+Y axis	3
-Y axis	3
+X axis	3
-X axis	3

Test Procedure:

- Check the sample's appearance before the test.
- Install the sample on testing table and set up testing condition.
- After testing, take off sample from table and put it in the storage area.
- Observe the sample and record for any visible change after testing.

Test Summary:

- No visible damage was found on sample appearance after the test.
- The function was normal after the test.

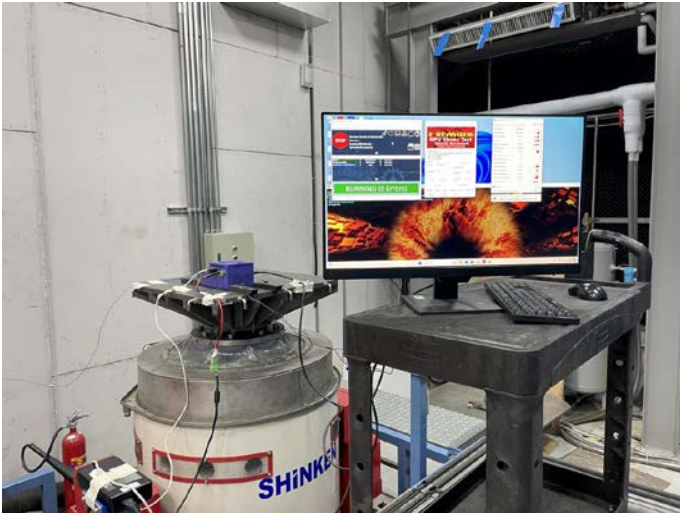
Test Photos:

Sample photo before the test:

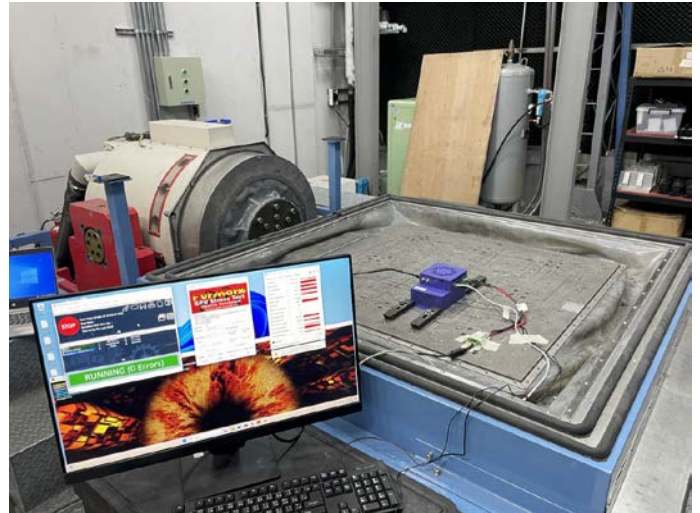


Setup photo:

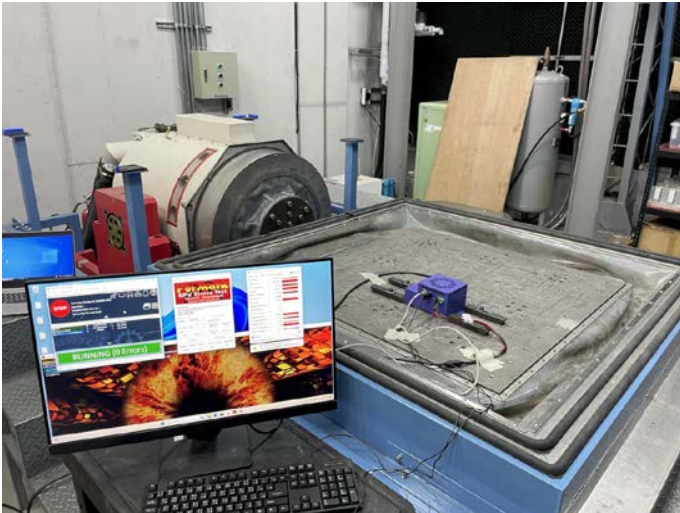
$\pm Z$ axis



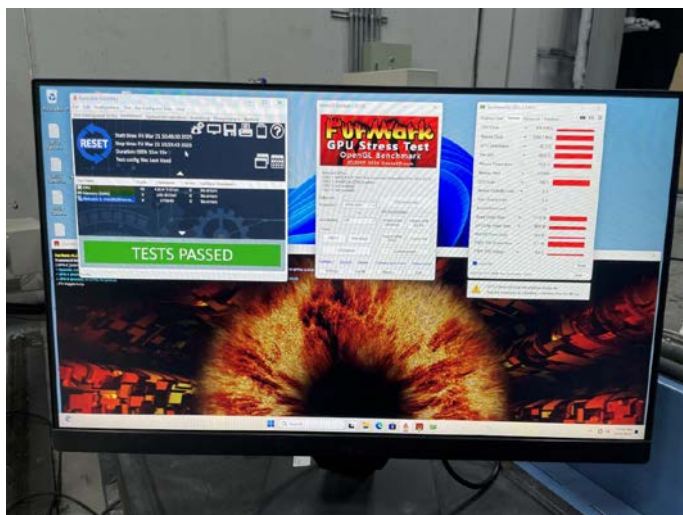
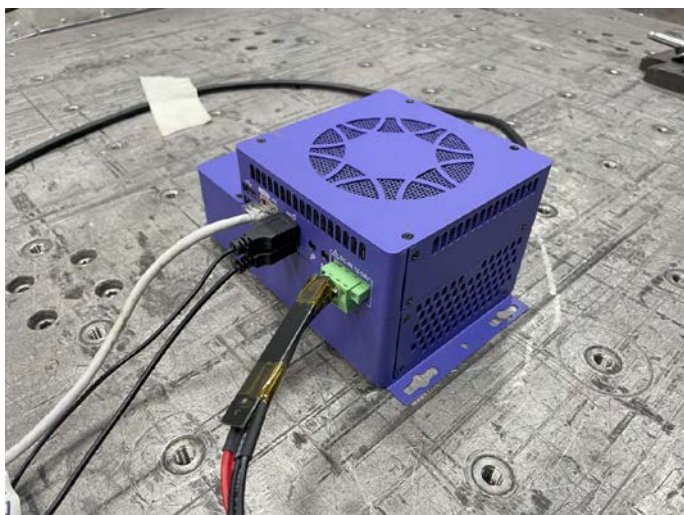
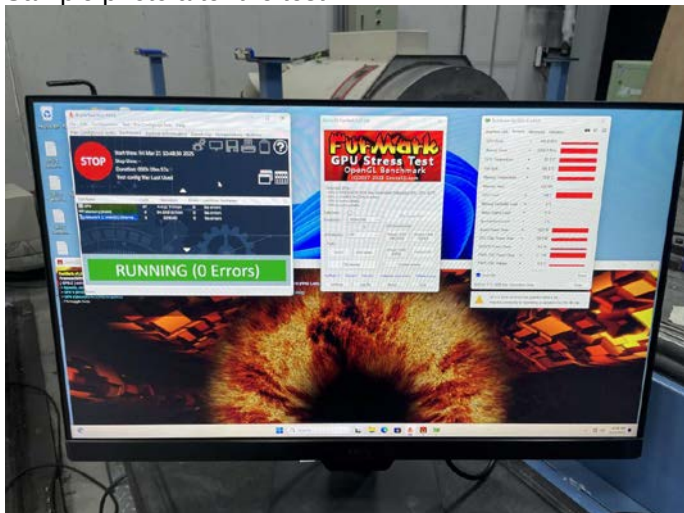
$\pm Y$ axis



$\pm X$ axis



Sample photo after the test:



Test Profile:

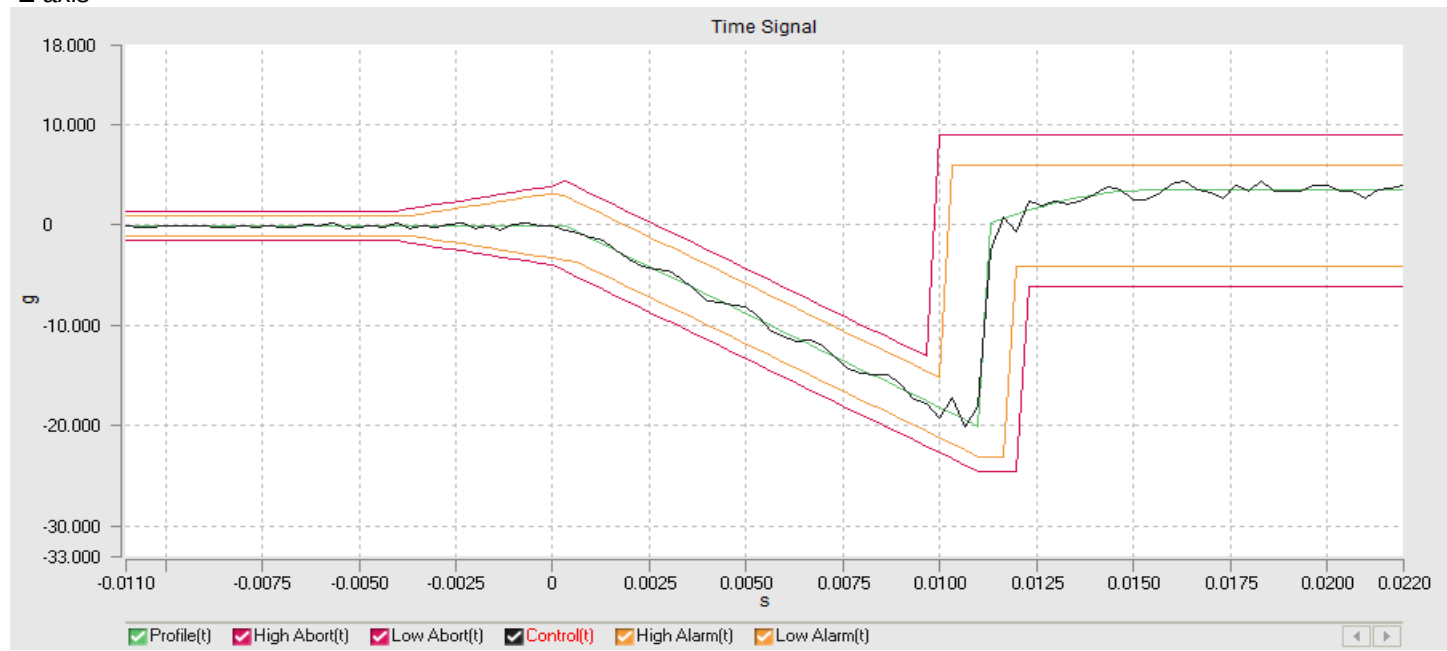
+Z axis



SHOCK TYPE: FINAL PEAK SAW TOOTH
DEMAND PEAK: 20.000 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-20 PM 03:52:04
END TIME: 2025-3-20 PM 03:53:02

PULSE DURATION: 11 MS
CURRENT PULSES: 3
2025-3-20 PM 03:53:07

-Z axis



SHOCK TYPE: FINAL PEAK SAW TOOTH
DEMAND PEAK: 20.000 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-20 PM 03:53:53
END TIME: 2025-3-20 PM 03:54:44

PULSE DURATION: 11 MS
CURRENT PULSES: 3
2025-3-20 PM 03:54:49

+Y axis



SHOCK TYPE: FINAL PEAK SAW TOOTH
DEMAND PEAK: 20.000 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-21 AM 09:48:18
END TIME: 2025-3-21 AM 09:49:41

PULSE DURATION: 11 MS
CURRENT PULSES: 3
2025-3-21 AM 09:49:46

-Y axis



SHOCK TYPE: FINAL PEAK SAW TOOTH
DEMAND PEAK: 20.000 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-21 AM 09:50:30
END TIME: 2025-3-21 AM 09:51:18

PULSE DURATION: 11 MS
CURRENT PULSES: 3
2025-3-21 AM 09:51:23

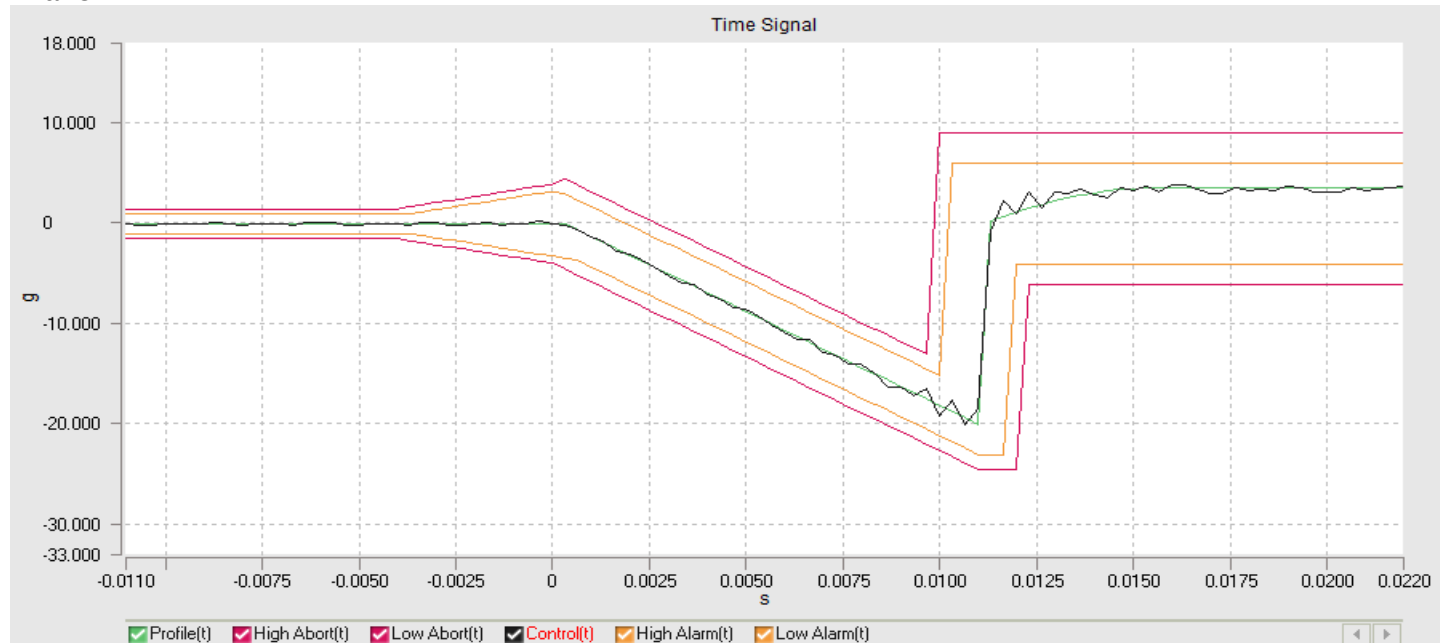
+X axis



SHOCK TYPE: FINAL PEAK SAW TOOTH
DEMAND PEAK: 20.000 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-21 AM 09:55:03
END TIME: 2025-3-21 AM 09:55:51

PULSE DURATION: 11 MS
CURRENT PULSES: 3
2025-3-21 AM 09:55:56

-X axis



SHOCK TYPE: FINAL PEAK SAW TOOTH
DEMAND PEAK: 20.000 G
DATA WAS SAVED AS A FILE AT TIME:
BEGIN TIME: 2025-3-21 AM 09:56:15
END TIME: 2025-3-21 AM 09:57:02

PULSE DURATION: 11 MS
CURRENT PULSES: 3
2025-3-21 AM 09:57:07

--- END OF REPORT ---