

TEST REPORT

Report No.: HC30107/2024

Page: 1 of 12

Date: May 30, 2024

VECOW CO., LTD.
3F., NO.10, JIANKANG RD., ZHONGHE DIST.,
NEW TAIPEI CITY, TAIWAN

The following merchandise was submitted and identified by the vendor as:

Product Description: Rugged Embedded System

Style/ Item No.: RES-5000/ No.1, No.2

Quantity: Total 2 pieces

Testing Period: Apr. 2, 2024 to May 22, 2024

Note: (Client's declaration) The configuration of specimen(s) as shown below:

1. CPU: 11th Gen Intel Core i7-1185G7E @2.8GHz
2. RAM: Innodisk 32GB DDR4 3200 W/T SODIMM
3. SSD: Innodisk 2.5" SSD 3TE7 512GB
4. M.2: Innodisk M.2(P42) 3TE6 512GB

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required: (According to client's test specification, please see following sheets in detail.)

1. Damp Heat, Steady State Test
2. Low Temperature Test – Operating
3. Vibration Test – Operating
4. Mechanical Shock Test – Operating

Test Results: - PLEASE SEE ATTACHED SHEETS -

Signed for and on behalf of
SGS TAIWAN Ltd.



Alex Chen
Asst. Supervisor

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TEST REPORT

Report No.: HC30107/2024

Page: 2 of 12

1. Damp Heat, Steady State Test:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-1000-60-CP-AR-H	MAA1810-001

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{RH}$

Test Location: No.33, Wu Chyuan Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:Test method: IEC 60068-2-78 Edition 2.0: 2012 and client's requestSample condition: OperatingTest temperature: 75°CTest humidity: 95 % RHTest duration: 16 hours

- Examine the appearance of specimen by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen then execute the test program "Burn-In Test" while performing functional check.

TEST REPORT

Report No.: HC30107/2024

Page: 3 of 12

Specimen:

Style/ Item No.: RES-5000/ No.1

Quantity: Total 1 piece

Test Result:

Check Item Style/ Item No.	Appearance Check (visual check)	Functional Check
RES-5000/ No.1	No visible damage	Normal

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TEST REPORT

Report No.: HC30107/2024

Page: 4 of 12

2. Low Temperature Test - Operating:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	GIANT FORCE	GTH-1000-60-CP-AR-H	MAA1810-001

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{RH}$

Test Location: No.33, Wu Chyuan Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:Test method: IEC 60068-2-1 Edition 6.0: 2007 and client's requestSample condition: OperatingTest temperature: -40°CTest duration: 16 hours

- Examine the appearance of specimen by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen then execute the test program "Burn-In Test" while performing functional check.

TEST REPORT

Report No.: HC30107/2024

Page: 5 of 12

Specimen:

Style/ Item No.: RES-5000/ No.1

Quantity: Total 1 piece

Test Result:

Check Item Style/ Item No.	Appearance Check (visual check)	Functional Check
RES-5000/ No.1	No visible damage	Normal

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TEST REPORT

Report No.: HC30107/2024

Page: 6 of 12

3. Vibration Test – Operating:

Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test	UNHOLTZ-DICKIE	SAI60-H560BAC/2/ST	474
Controller	Dactron	LASER	7110357
Control Accelerometer	PCB	353B34	LW213529

Lab Environmental Conditions:

Ambient temperature: $(25 \pm 3) \text{ }^\circ\text{C}$

Ambient humidity: $(55 \pm 20) \text{ \% RH}$

Test Location:

No. 31, Wu Chyuan Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan

Test Method/ Specification:

Test Method: IEC 60068-2-64 Edition 2.1: 2019 and client's request

Wave form: Random

Frequency: (5 ~ 500) Hz

Frequency (Hz)	Left Slope (dB/Oct.)	PSD (g^2/Hz)	Right Slope (dB/Oct.)
5	-	0.05	0
500	0	0.05	-

⇒ equivalent to 5.0 grms

Direction: X, Y, Z axes (as show in photo 5 ~ 7)

Test duration: 30 minutes/ axis

- Sample condition: Operating
- Examine the appearance of specimen by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen then execute the test program “Burn-In Test” while performing functional check.

TEST REPORT

Report No.: HC30107/2024

Page: 7 of 12

Specimen:

Style/ Item No.: RES-5000/ No.2

Quantity: Total 1 piece

Test Result:

Check Item Style/ Item No.	Appearance Check (visual check)	Functional Check
RES-5000/ No.2	No visible damage	Normal

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TEST REPORT

Report No.: HC30107/2024

Page: 8 of 12

4. Mechanical Shock Test – Operating:

Test Equipment:

Name	Brand	Model	Serial No.
Shock Test System	LANSMONT	95-115D	M17656
Data Acquisition & Analysis System	LANSMONT	TP4 8A-CH SML	1115-001
ICP Accelerometer	PCB	353M288	190563

Lab Environmental Conditions:Ambient temperature: $(25 \pm 3) ^\circ\text{C}$ Ambient humidity: $(55 \pm 20) \% \text{RH}$ Test Location:

No.33, Wu Chyuan Road, New Taipei Industrial Park, WuKu District,
New Taipei City, Taiwan.

Test Method/ Specification:Test method: IEC 60068-2-27 Edition 4.0: 2008 and client's requestSample condition: OperatingPulse shape: Half-sineAcceleration: 50 gPulse duration: 11 msShock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes, see photo 8 ~ 13)No. of shock: 3 shocks/ axis (total 18 shocks)

- Examine the appearance of specimen by visual check and perform functional check after this test.
- Functional check: Turn on the power of specimen then execute the test program "Burn-In Test" while performing functional check.

TEST REPORT

Report No.: HC30107/2024

Page: 9 of 12

Specimen:

Style/ Item No.: RES-5000/ No.2





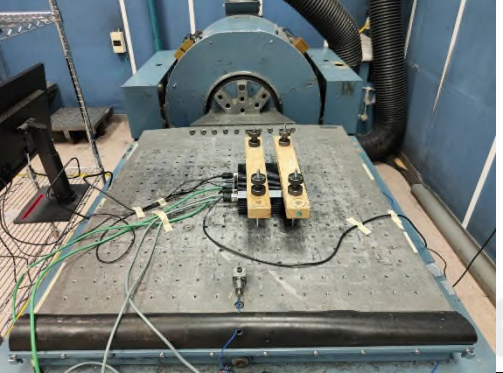
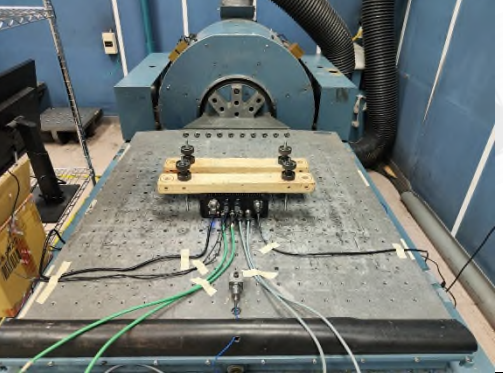
Quantity: Total 1 piece

Test Result:

Check Item Style/ Item No.	Appearance Check (visual check)	Functional Check
RES-5000/ No.2	No visible damage	Normal

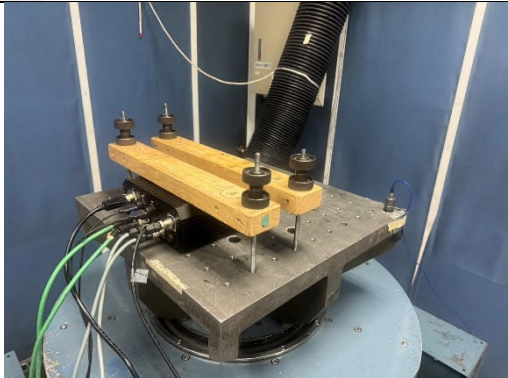
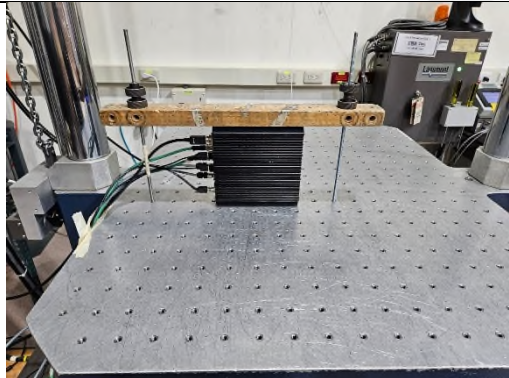
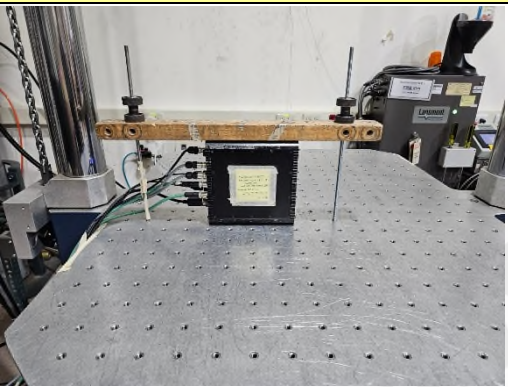
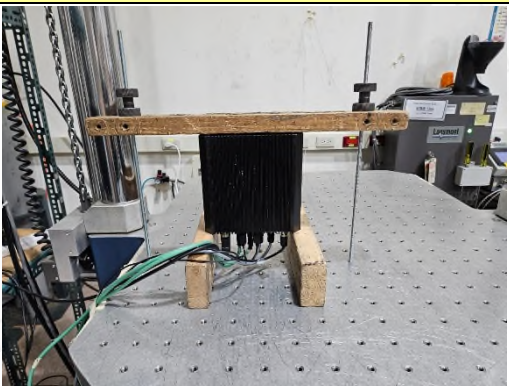
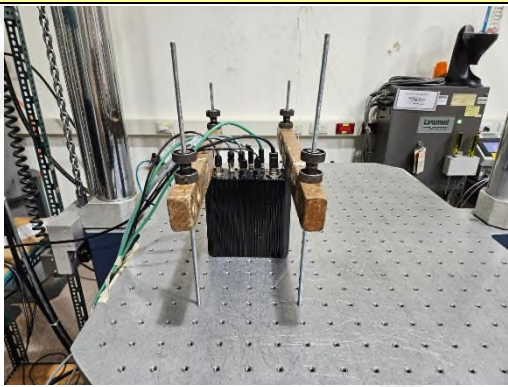
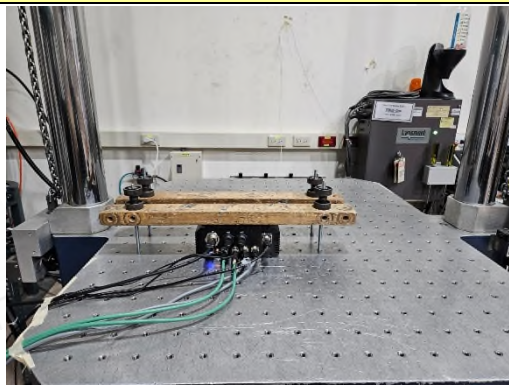
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Test Photos:

	
<p>1. Appearance of specimen</p>	<p>2. Appearance of specimen</p>
	
<p>3. Damp Heat, Steady State Test/ Low Temperature Test – Operating</p>	<p>4. Damp Heat, Steady State Test/ Low Temperature Test – Operating</p>
	
<p>5. Vibration Test – Operating: X axis</p>	<p>6. Vibration Test – Operating: Y axis</p>

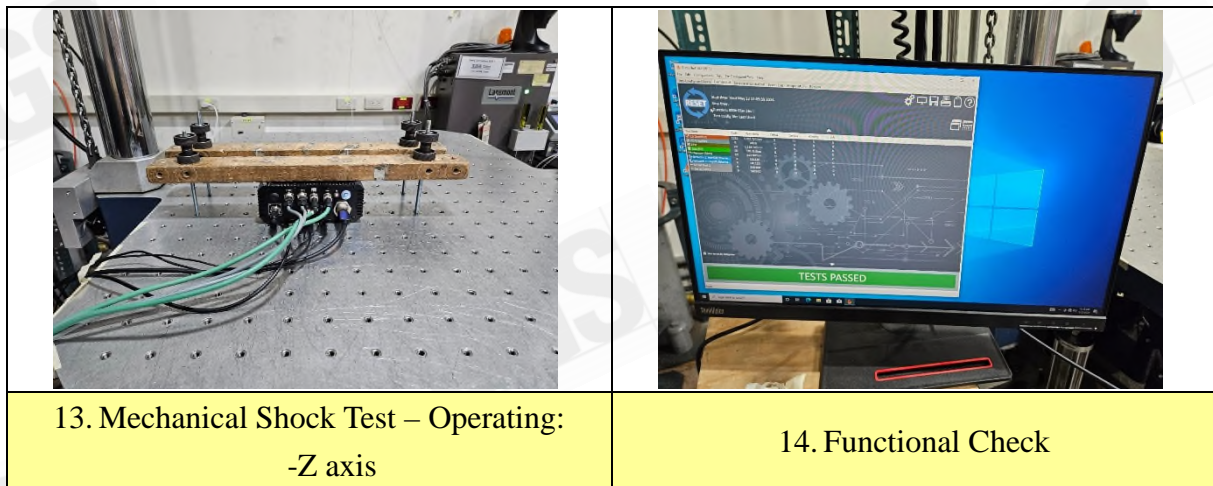
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Test Photos--Continued:

	
<p>7. Vibration Test – Operating: Z axis</p>	<p>8. Mechanical Shock Test – Operating: +X axis</p>
	
<p>9. Mechanical Shock Test – Operating: -X axis</p>	<p>10. Mechanical Shock Test – Operating: +Y axis</p>
	
<p>11. Mechanical Shock Test – Operating: -Y axis</p>	<p>12. Mechanical Shock Test – Operating: +Z axis</p>

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Test Photos--Continued:



— — — The End of Test Report — — —

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