

TEST REPORT

Report No.: HCN0150/2021
Page: 1 of 12
Date: December 20, 2021

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: Ultra-Compact Embedded System
Style/ Item No.: SPC-7000/ No.1
Quantity: Total 1 piece
Testing Period: Nov. 30, 2021 to Dec. 6, 2021
Note: (Client's declaration) The configuration of specimen(s) as shown below:
1. CPU: Intel core™ i7-1185G7E: 2.8 GHz
2. RAM: Innodisk 16GB DDR4 2133 ECC SODIMM
3. SSD: Innodisk 2.5" SATA 128GB 3ME4

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. High Temperature Test
2. Low Temperature Test
3. Random Vibration Test
4. Mechanical Shock Test

Test Results: - PLEASE SEE ATTACHED SHEETS -

Signed for and on behalf of
SGS TAIWAN Ltd.



Hank Chiou
Asst. Manager

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1. High Temperature Test:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	KSON	THS-D6TS-150+LN2	5654KT

Lab Environmental Conditions:

Ambient temperature: (25 ± 3) °C

Ambient humidity: (55 ± 20) % RH

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

Test Method/ Specification:

Sample Condition: Operating

Test Temperature: 70 °C

Test Humidity: 95 %RH

Test Duration: 16 hours

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

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Specimen:

Style/ Item No.: SPC-7000/ No.1

Quantity: Total 1 piece

Test Result:

Style/ Item No.	Check Item	Appearance Check (visual check)	Functional Check
SPC-7000/ No.1		No visible damage	Normal

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2. Low Temperature Test:

Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature & Humidity Chamber	KSON	THS-D6TS-150+LN2	5654KT

Lab Environmental Conditions:

Ambient temperature: (25 ± 3) °C

Ambient humidity: (55 ± 20) % RH

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

Test Method/ Specification:

Sample Condition: Operating

Test Temperature: -40 °C

Test Duration: 16 hours

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

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Specimen:

Style/ Item No.: SPC-7000/ No.1

Quantity: Total 1 piece

Test Result:

<div style="text-align: right;">Check Item</div> <div style="text-align: left;">Style/ Item No.</div>	Appearance Check (visual check)	Functional Check
SPC-7000/ No.1	No visible damage	Normal

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3. Random Vibration Test:

Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	UNHOLTZ-DICKIE	SAI60-H560BAC/2/ST	474
Controller	Dactron	LASER	7110357
Control Accelerometer	PCB	353B34	LW213529
Vibration Test System	King Design	EM-5000F2K-75N600	WR109237101
Controller	Crystal	spider	1001664
Control Accelerometer	WR	793-6	A4632

Lab Environmental Conditions:

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

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

Sample condition: Operating

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 G_{rms}

Direction: X, Y, Z axes (See photo 5 ~ 7)

Duration: 30 minutes/ axis

- Examine the appearance of specimen by visual check and perform functional check after this test.
- Functional check: Connect the specimen with rate power then execute the test program “Burn-In Test” while performing functional check.

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Specimen:

Style/ Item No.: SPC-7000/ No.1

Quantity: Total 1 piece

Test Result:

<div style="text-align: right;">Check Item</div> <div style="text-align: left;">Style/ Item No.</div>	Appearance Check (visual check)	Functional Check
SPC-7000/ No.1	No visible damage	Normal

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4. Mechanical Shock Test:

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	196437

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 request

Sample condition: Operating

Pulse shape: Half-sine

Acceleration: 50 g

Pulse duration: 11 ms

Shock 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: Connect the specimen with rate power then execute the test program "Burn-In Test" while performing functional check.

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Specimen:

Style/ Item No.: SPC-7000/ No.1







Quantity: Total 1 piece

Test Result:

<div style="text-align: center;">Check Item</div> <div style="text-align: left;">Style/ Item No.</div>	<div style="text-align: center;">Appearance Check (visual check)</div>	<div style="text-align: center;">Functional Check</div>
<div style="text-align: center;">SPC-7000/ No.1</div>	<div style="text-align: center;">No visible damage</div>	<div style="text-align: center;">Normal</div>

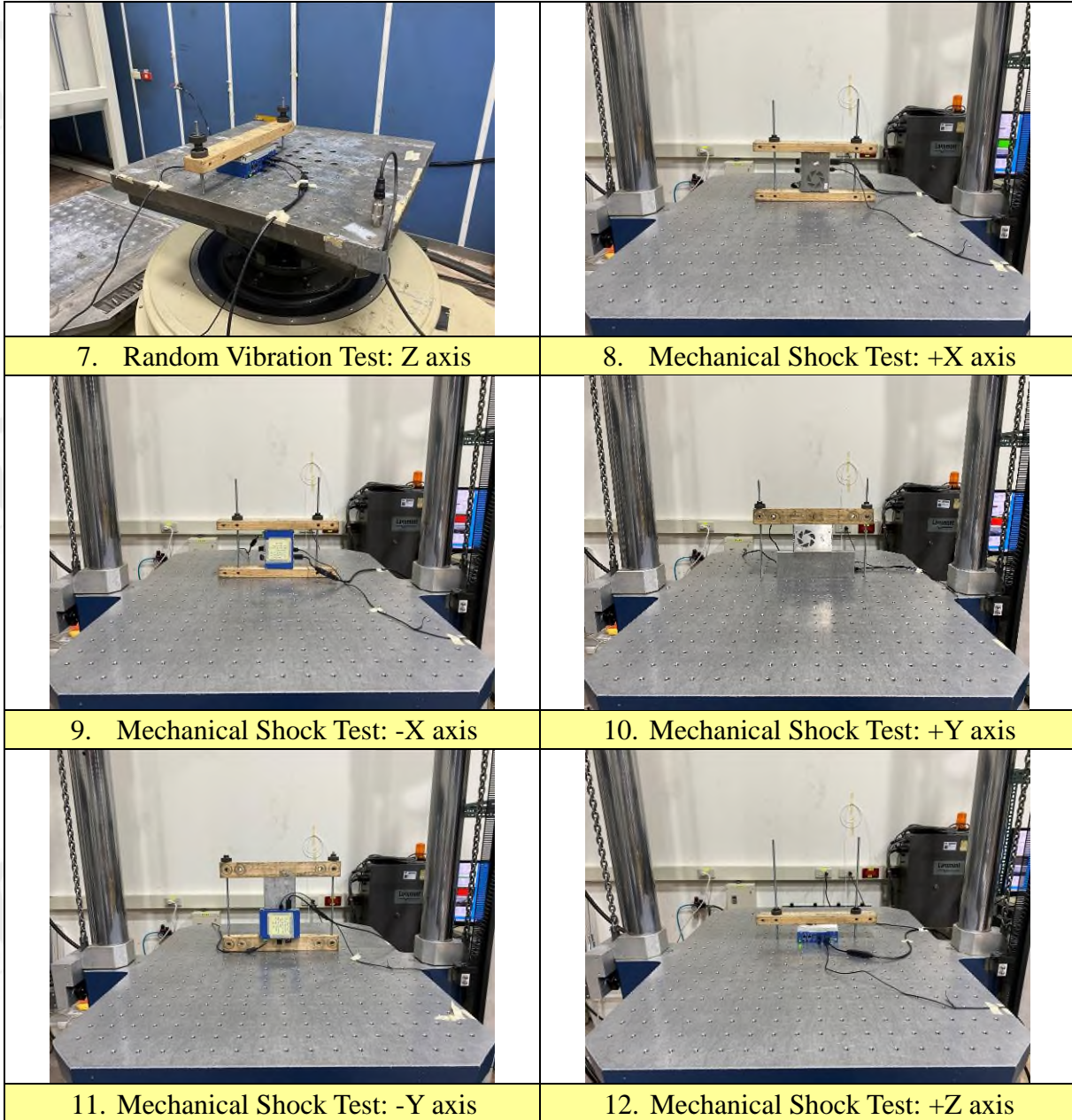
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Test Photos:

	
<p>1. Appearance of specimen</p>	<p>2. Appearance of specimen</p>
	
<p>3. High Temperature Test/ Low Temperature Test</p>	<p>4. High Temperature Test/ Low Temperature Test</p>
	
<p>5. Random Vibration Test: X axis</p>	<p>6. Random Vibration Test: Y axis</p>

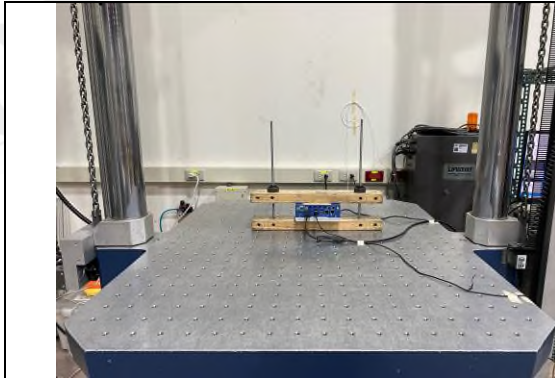
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Test Photos-- Continued:

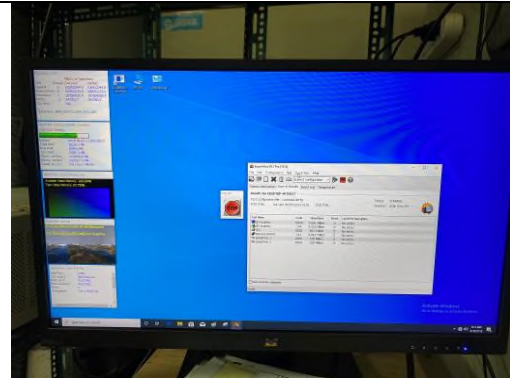


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Test Photos--Continued:



13. Mechanical Shock Test: -Z axis



14. Functional check

— — — The End of Test Report — — —

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