

Report No.: HC60131/2015

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July 1, 2015 Date:

VECOW CO., LTD. 12 F, NO. 111, ZHONGCHENG RD., TUCHENG DIST., NEW TAIPEI CITY, TAIWAN, R.O.C.

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

Product Description: **Ultra-Compact Embedded System** 

Style/ Item No.: SPC-2845/ No.1 Vecow Co., Ltd. Manufacturer/ Vendor:

**Country of Origin:** Taiwan Total 1 set **Quantity:** 

**Testing Period:** Jun. 22, 2015 to Jun. 30, 2015

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

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

- High Temperature/ Humidity 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.

Winson Tseng Asst. Manager

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### 1. High Temperature/ Humidity Test:

#### Test Equipment:

Name	Brand	Model	Serial No.
Programmable Temperature and Humidity Chamber	KSON	THS-D6TS-150+LN2	A0347

#### **Lab Environmental Conditions:**

Ambient temperature:  $(25 \pm 3)$  °C

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

### Test Method/ Specification:

Sample Condition: Operating (Execute test program "Burn-In")

Test temperature: 85°C

Test humidity: 95%RH Test duration: 16 hours

- Examine the appearance of specimen(s) by visual check and perform functional check after this test
- Functional check: Connect the specimen with rated power then turn on the power of specimen. Execute the test program "BurnIn Test" while perform functional check.

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Specimen:

Style/ Item No.: SPC-2845/ No.1

Quantity: Total 1 set

### Test Result:

Check Item Style/ Item No.	Appearance check (Visual check)	Functional check
SPC-2845/ No.1	No visible damage	Normal

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## 2. Low Temperature Test:

## **Test Equipment:**

Name	Brand	Model	Serial No.
Programmable Temperature and Humidity Chamber	KSON	THS-D6TS-150+LN2	A0347

#### **Lab Environmental Conditions:**

Ambient temperature:  $(25 \pm 3)$  °C

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

### Test Method/ Specification:

Sample Condition: Operating (Execute test program "Burn-In")

Test temperature: -40°C

Test duration: 16 hours

- Examine the appearance of specimen(s) by visual check and perform functional check after this test
- Functional check: Connect the specimen with rated power then turn on the power of specimen. Execute the test program "BurnIn Test" while perform functional check.

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Specimen:

Style/ Item No.: SPC-2845/ No.1

Quantity: Total 1 set

### Test Result:

Check Item Style/ Item No.	Appearance check (Visual check)	Functional check
SPC-2845/ No.1	No visible damage	Normal

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## 3. Random Vibration Test:

#### Test Equipment:

Name	Brand	Model	Serial No.
Vibration Tester	King Design	EM-800F2K-50N120	RU104080389
Controller	Dactron	COMET 200	10539718
Control Accelerometer	PCB	353B34	139174

#### Lab Environmental Conditions:

Ambient temperature: (25 ± 3) °C

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

#### Test Method/ Specification:

Operating (Execute the test program "BurnIn Test") Sample condition:

Wave form: Random

Frequency:  $(5 \sim 500) \text{ Hz}$ 

Frequency (Hz)	Left Slope (dB/Oct.)	$\frac{\text{PSD}}{((\text{m/s}^2)^2/\text{Hz})}$	Right Slope (dB/Oct.)
5		1.95	3.98
10	3.98	4.87	0
500	0	4.87	-
$\implies$ equivalent to 49 (m/s <sup>2</sup> )rms			

Direction: X, Y, Z axes (see photo  $5 \sim 7$ )

Duration: 30 minutes/axis

Examine the appearance of specimen(s) by visual check and perform functional check after this test

Functional check: Connect the specimen with rated power then turn on the power of specimen. Execute the test program "BurnIn Test" while perform functional check.

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Specimen:

Style/ Item No.: SPC-2845/ No.1

Quantity: Total 1 set

### Test Result:

Check Item Style/ Item No.	Appearance check (Visual check)	Functional check
SPC-2845/ No.1	No visible damage	Normal

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### 4. Mechanical Shock Test:

#### **Test Equipment:**

Name	Brand	Model	Serial No.
Shock Testing System	LANSMONT	65-81 TTSII	M-13418
Data Acquisition and Analysis System	LANSMONT	103570-2-В	0503-73
ICP Accelerometer	PCB	353B14	79712

#### Lab Environmental Conditions:

Ambient temperature: (25 ± 3) °C

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

### Test Method/ Specification:

Specimen Condition: Operating (Execute the test program "BurnIn Test")

Pulse shape: Half-sine Acceleration: <u>50 G</u> Velocity Change: 11 ms

6 faces ( $\pm X$ ,  $\pm Y$ ,  $\pm Z$  axes, see photo 8 ~ 13) Shock direction:

No. of shock: 3 shocks/ face (total 18 shocks)

Examine the appearance of specimen(s) by visual check and perform functional check after this test

Functional check: Connect the specimen with rated power then turn on the power of specimen. Execute the test program "BurnIn Test" while perform functional check.

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Specimen:

Style/ Item No.: SPC-2845/ No.1

Quantity: Total 1 set

### Test Result:

Check Item Style/ Item No.	Appearance check (Visual check)	Functional check
SPC-2845/ No.1	No visible damage	Normal

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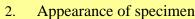
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### **Test Photos:**



Appearance of specimen

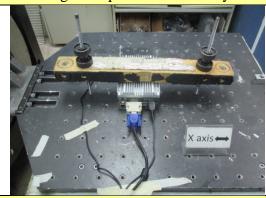






High Temperature/ Humidity Test

Low Temperature Test





5. Random Vibration Test: X axis Random Vibration Test: Y axis

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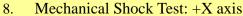
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### **Test Photos--Continued:**



+ X axis

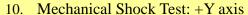
Random Vibration Test: Z axis

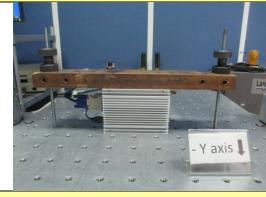






Mechanical Shock Test: -X axis







Mechanical Shock Test: -Y axis 11.

Mechanical Shock Test: +Z axis 12.

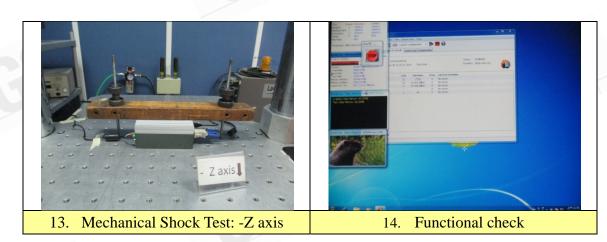
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