



矽英科技股份有限公司 可靠度實驗室

**Gtti RA Testing Service Laboratory**

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## Reliability Test Report

**Ser. No. :** 113032501

**Company :** Vecow Co., Ltd

**Address :** 3F, No. 10, Jiankang Rd., Zhonghe Dist., New Taipei City 23586, Taiwan

**Test Sample Receive Date:** 03/25/2024

**Date Started :** 03/25/2024

**Date Finished :** 06/28/2024

**Lab. Environment :** Temp : 25 °C ± 5 °C ; Humidity : 40 %R.H. to 70 %R.H.

### Lab. Accreditation and Certificate:

TAF: Certificate # L1043-210901 (accredited under ISO/IEC 17025: 2017; CNS 17025:2018))

IECQ: Certificate # 20004039ITL (accredited under ISO/IEC 17025: 2017)

### Remark:

- 1.This report will be invalid if used in part or altered in any way.
- 2.This report refers only to the specimen(s) submitted to test, and is invalid if used otherwise.
- 3.The tested specimen(S) will only be preserved for thirty days from the date issued if not collected by the applicant.
- 4.No sampling in Gtti Lab. (Sampling to be done by Applicant via related Standard.)
- 5.Test report be done base real sample test result. Gtti Lab is not responsible for samples pre- or post- treatment neither usage of test report.
- 6.This Test Report is not responsible for Statement of Conformity.

	Name	Signature	Date
Testing Engineer	Ken Fan	<i>Ken Fan</i>	07/01/2024
Approval Signatory	Anthony Chou	<i>Anthony Chou</i>	07/01/2024
Laboratory Head	Lillian Chan	<i>Lillian Chan</i>	07/01/2024

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## **1. High Temperature & Humidity Operating Test**

### **A. Test Specification and / or standard :**

IEC 60068-2-78 2012-10-30

### **B. Test Sample and Quantity :**

Sample Name	Rugged Embedded System
Model:	ECS-4700 –PoE
Series Model:	ECS-4700 Series ; ECS-4XXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)
Spec.	1.7GHz, 24V
CPU:	13th Gen Intel® Core™ i7-1365UE@1.70
RAM:	Innodisk 32GB DDR5 4800 W/T ECC SODIMM*2
SSD:	Innodisk 2.5" SATA SSD 3TG6-P*2
M.2 :	Innodisk M.2(P80) 4TG2-P 1TB
Quantity:	1

### **C. Testing Equipment :**

TERCHY MHE-225NJ-3

Calibrate trace code : 24-04-BCC-213-03L

### **D. Test Condition and procedure :**

Test Condition:

75 °C 95% RH, 16 H

Test Procedure:




- (1) Check out samples.
- (2) Set test condition.
- (3) Starting test.
- (4) Finish testing, check out samples and prepare final report.

### **E. Result :**

Appearance: Pass, No external physical damage

Function: Pass.

## F. Test Photo :

<p><b>Pre-Test</b></p>	
<p><b>In the Equipment</b></p>	
<p><b>Post-Test</b></p>	

## **2. Low Temperature Operating Test**

### **A. Test Specification and / or standard :**

IEC 60068-2-1 2007-03-13

### **B. Test Sample and Quantity :**

Sample Name	Rugged Embedded System
Model:	ECS-4700 –PoE
Series Model:	ECS-4700 Series ; ECS-4XXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)
Spec.	1.7GHz, 24V
CPU:	13th Gen Intel® Core™ i7-1365UE@1.70
RAM:	Innodisk 32GB DDR5 4800 W/T ECC SODIMM*2
SSD:	Innodisk 2.5" SATA SSD 3TG6-P*2
M.2 :	Innodisk M.2(P80) 4TG2-P 1TB
Quantity:	1

### **C. Testing Equipment :**

TERCHY MHU-225SSa

Calibrate trace code : 24-02-BCC-155-03L

### **D. Test Condition and procedure :**

Test Condition:

-25 °C, 16 H

Test Procedure:

- (1) Check out samples.
- (2) Set test condition.
- (3) Starting test.
- (4) Finish testing, check out samples and prepare final report.




### **E. Result :**

Appearance: Pass, No external physical damage

Function: Pass.



## F. Test Photo :

<p><b>Pre-Test</b></p>	
<p><b>In the Equipment</b></p>	
<p><b>Post-Test</b></p>	

### **3. Mechanical Shock Test**

#### **A. Test Specification and / or standard :**

IEC 60068-2-27 2008-02-27

#### **B. Test Sample and Quantity :**

Sample Name	Rugged Embedded System
Model:	ECS-4700 –PoE
Series Model:	ECS-4700 Series ; ECS-4XXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)
Spec.	1.7GHz, 24V
CPU:	13th Gen Intel® Core™ i7-1365UE @1.70
RAM:	Innodisk 32GB DDR5 4800 W/T ECC SODIMM*2
SSD:	Innodisk 2.5" SATA SSD 3TG6-P*2
M.2 :	Innodisk M.2(P80) 4TG2-P 1TB
Quantity:	1

#### **C. Testing Equipment :**

Vibsource VS-5000VH-101

Calibrate trace code : VS-CV-1130312-01

#### **D. Test Condition and procedure :**

Test Condition:

Pulse shape: Half-sine

Acceleration: 50g

Pulse duration: 11ms

Shock duration: 6 faces( $\pm X, \pm Y, \pm Z$  axes)

NO. of shock: 3 shocks/axis(total 18 shocks)

Test Procedure:

- (1) Check out samples.
- (2) Set test condition.
- (3) Starting test.
- (4) Finish testing, check out samples and prepare final report.

#### **E. Result :**

Appearance: Pass, No external physical damage

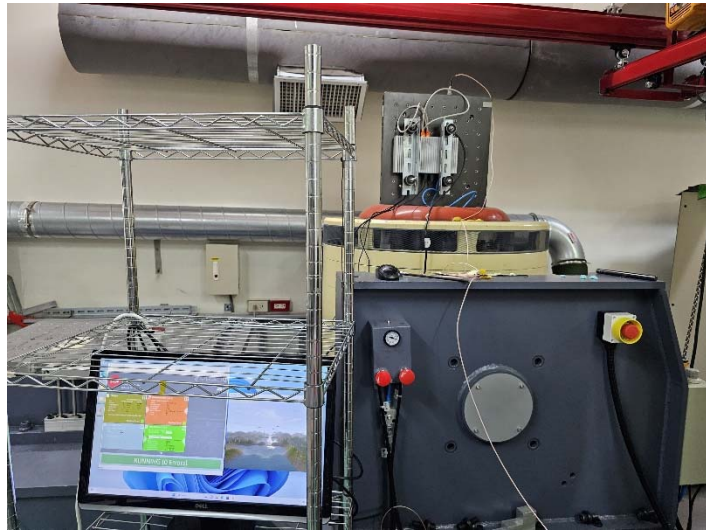
Function: Pass.

**F. Test Photo :**

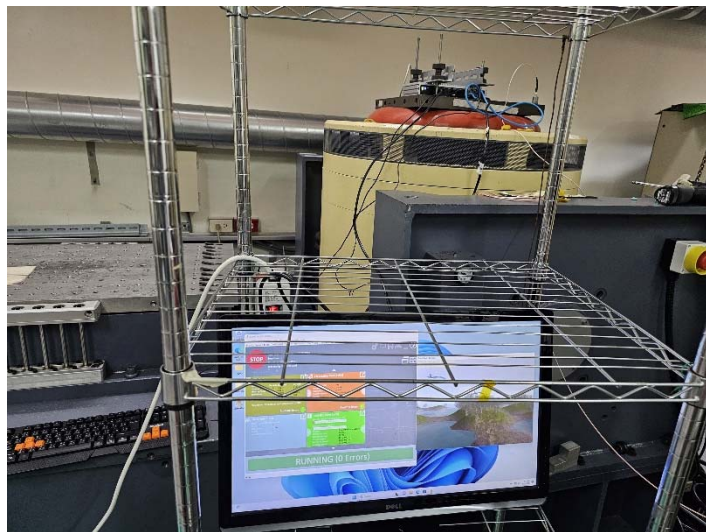
**Transverse  
X +/- axis**



**Longitudinal  
Y +/- axis**



**Vertical  
Z +/- axis**

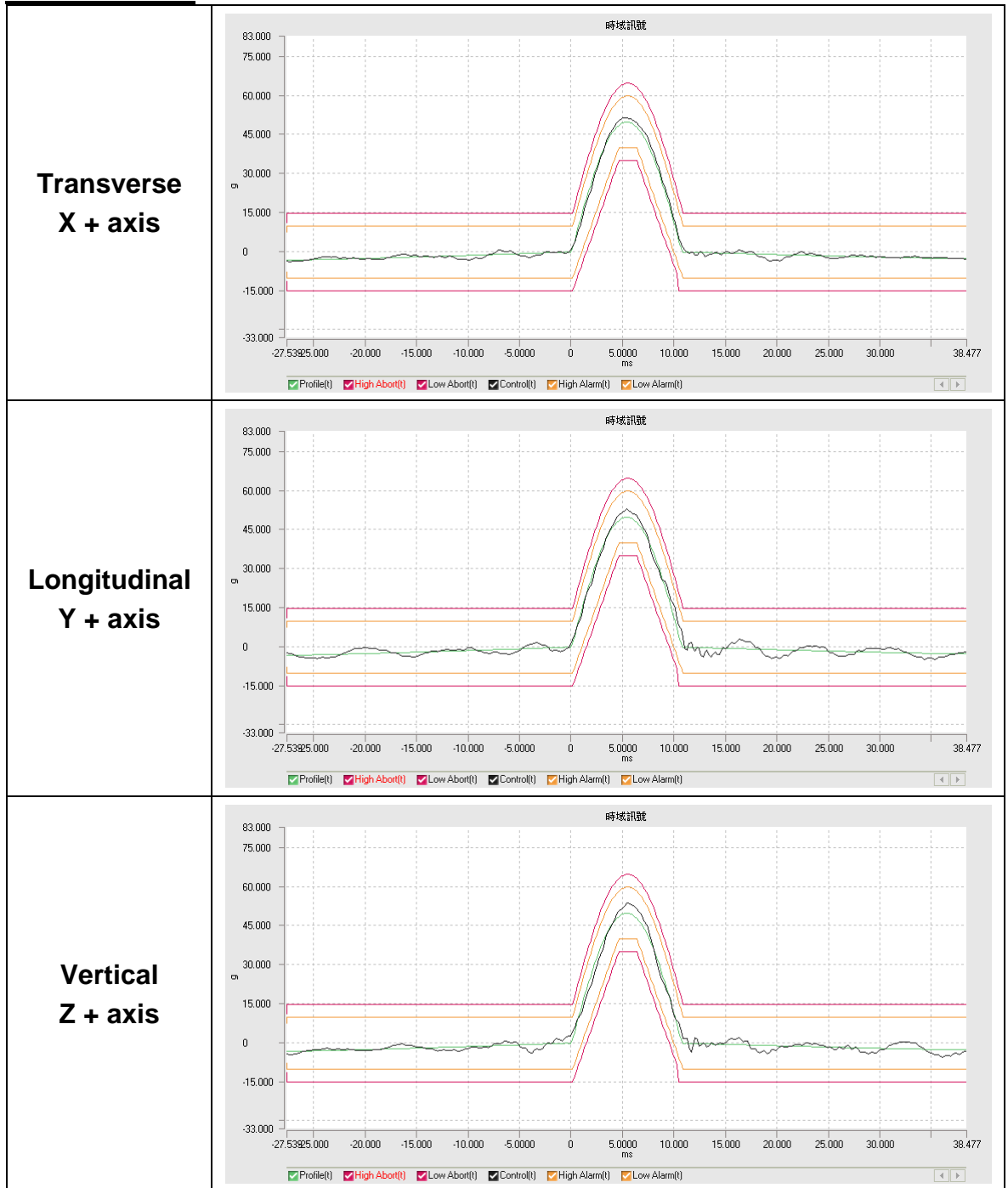


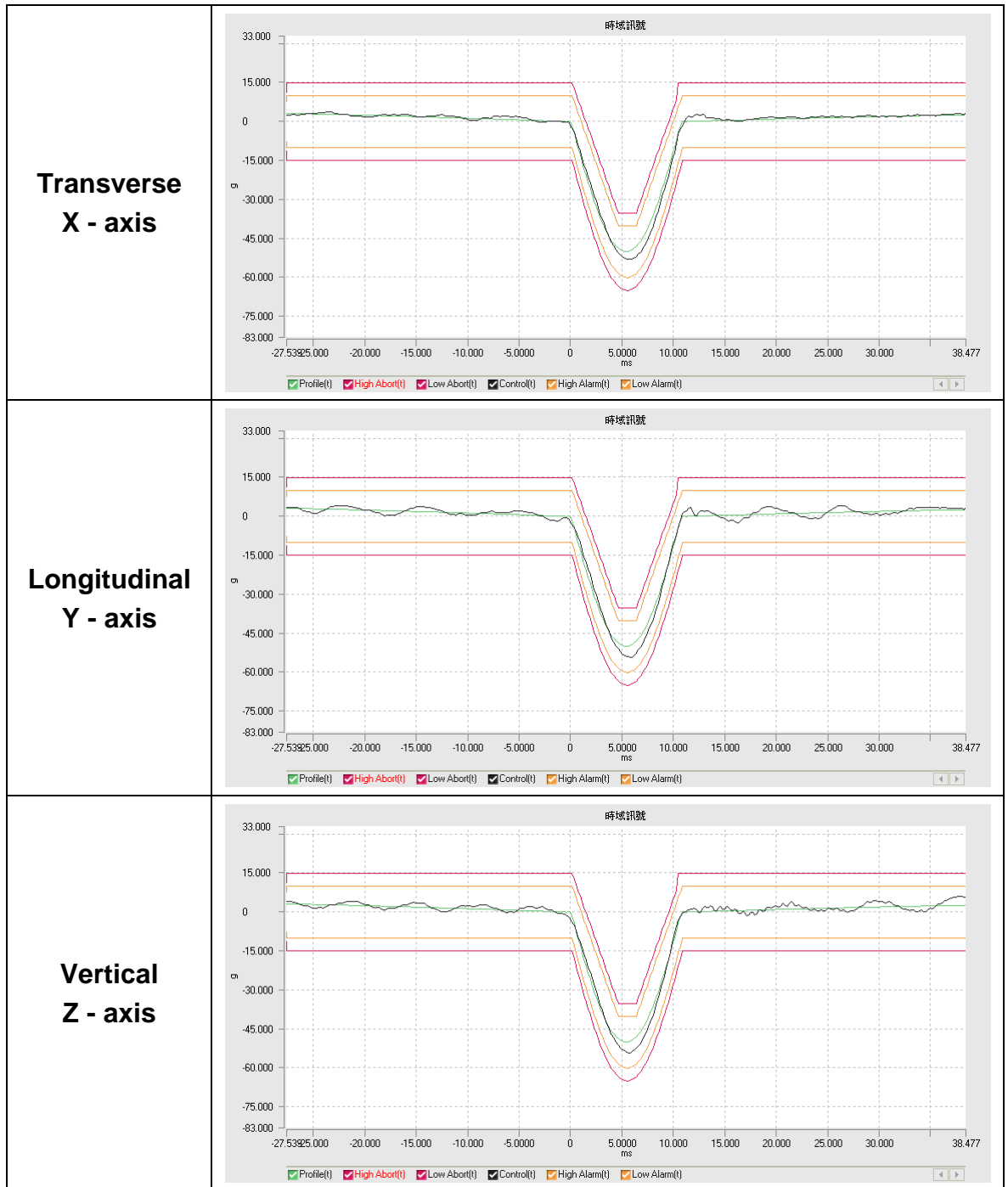


## Post Test



### G. Test Profile :





## 4. Random Vibration Test

### A. Test Specification and / or standard :

IEC 60068-2-64 2008-04-29

### B. Test Sample and Quantity :

Sample Name	Rugged Embedded System
Model:	ECS-4700 –PoE
Series Model:	ECS-4700 Series ; ECS-4XXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)
Spec.	1.7GHz, 24V
CPU:	13th Gen Intel® Core™ i7-1365UE @1.70
RAM:	Innodisk 32GB DDR5 4800 W/T ECC SODIMM*2
SSD:	Innodisk 2.5" SATA SSD 3TG6-P*2
M.2 :	Innodisk M.2(P80) 4TG2-P 1TB
Quantity:	1

### C. Testing Equipment :

Vibsource VS-5000VH-101

Calibrate trace code : VS-CV-1130312-01

### D. Test Condition and procedure :

Test Condition:

Wave form: Random

Frequency: (5~500)Hz

Frequency (Hz)	Left Slope (dB/Oct.)	PSD (g <sup>2</sup> /Hz)	Right Slope (dB/Oct.)
5	- .	0.05	0
500	0	0.05	-
⇔ equivalent to 5.0 g <sub>rms</sub>			

Direction: X,Y,Z axes

Test duration: 30 minutes/ axis.

Test Procedure:

- (1) Check out samples.
- (2) Place the test samples on the vibration table in its orientation and configuration.
- (3) Set test conditions and start to test.
- (4) Finish testing, check out samples and prepare final report.

### E. Result :

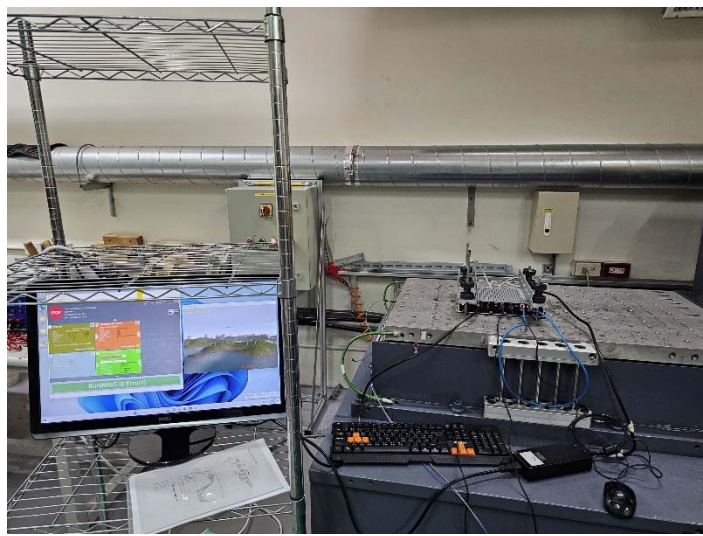
Appearance: Pass, No external physical damage

Function: Pass.

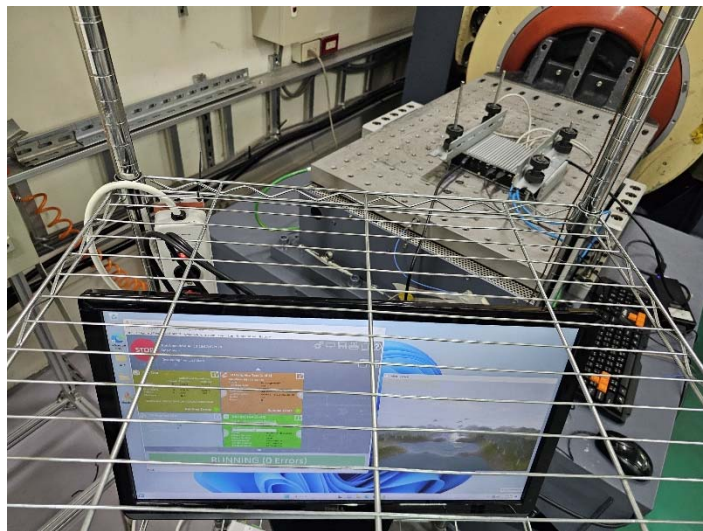


**F. Test Photo :**

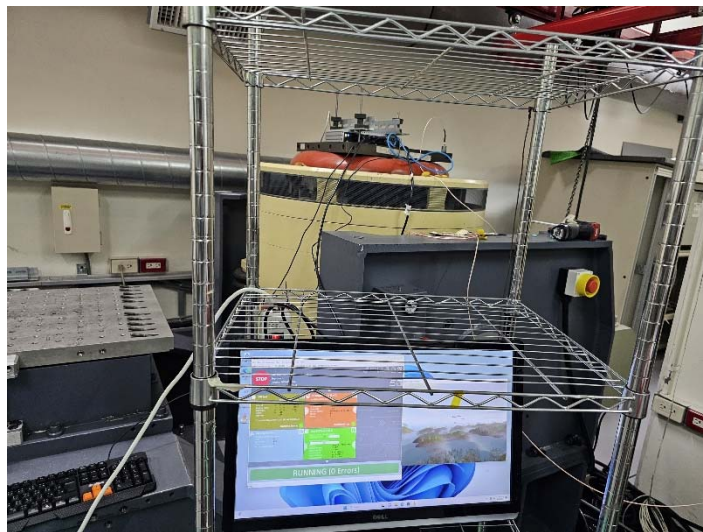
**Transverse  
X axis**



**Longitudinal  
Y axis**



**Vertical  
Z axis**



## Post Test



## G. Test Profile :

