



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. : 113121703

Company : Vecow Co., Ltd

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

Test Sample Receive Date: 12/17/2024

Test Start Date : 12/17/2024

Test Completion Date: 12/26/2024

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

Lab. Accreditation and Certificate:

TAF: Certificate # L1043-240703 (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>	12/30/2024
Approval Signatory	Anthony Chou	<i>Anthony Chou</i>	12/30/2024
Laboratory Head	Lillian Chan	<i>Lillian Chan</i>	12/30/2024

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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:	ABP-4000
Series Model:	ABP-4000 Series ABP-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 GHz
RAM:	VMD4NIS-32G00C Vecow 32GB DDR4 3200 W/T SODIMM*2
M.2 :	DEM28-C12DD1KWAQF-H03 Innodisk M.2(P80) 3TE6 512GB
Quantity:	1

C. Testing Equipment :

TERCHY MHE-225NJ

Calibrate trace code : 24-04-BCC-213-02L

D. Test Condition and procedure :

Test Condition:

70 °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>Pre-Test</p>	
<p>In the Equipment</p>	
<p>Post-Test</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:	ABP-4000
Series Model:	ABP-4000 Series ABP-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 GHz
RAM:	VMD4NIS-32G00C Vecow 32GB DDR4 3200 W/T SODIMM*2
M.2 :	DEM28-C12DD1KWAQF-H03 Innodisk M.2(P80) 3TE6 512GB
Quantity:	1

C. Testing Equipment :

TERCHY MHE-225NJ

Calibrate trace code : 24-04-BCC-213-02L

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 :

Pre-Test	
In the Equipment	
Post-Test	

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:	ABP-4000
Series Model:	ABP-4000 Series ABP-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 GHz
RAM:	VMD4NIS-32G00C Vecow 32GB DDR4 3200 W/T SODIMM*2
M.2 :	DEM28-C12DD1KWAQF-H03 Innodisk M.2(P80) 3TE6 512GB
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.

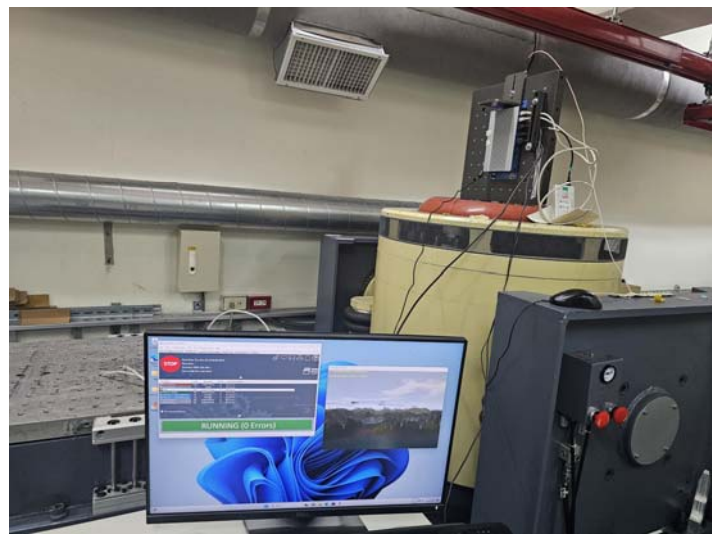
E. Result :

Appearance: Pass, No external physical damage

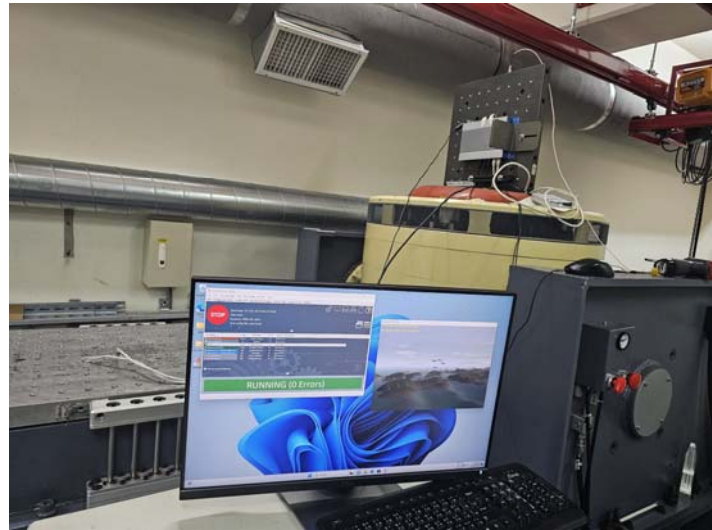
Function: Pass.

F. Test Photo :

**Transverse
X +/- axis**



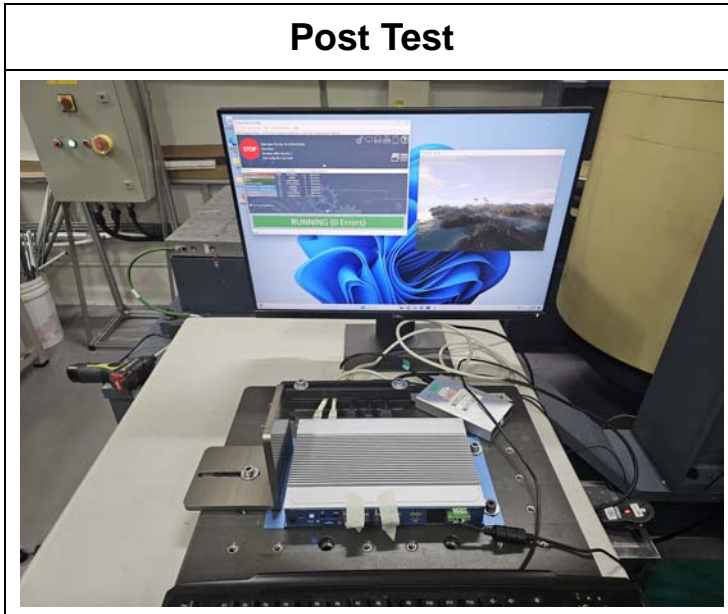
**Longitudinal
Y +/- axis**



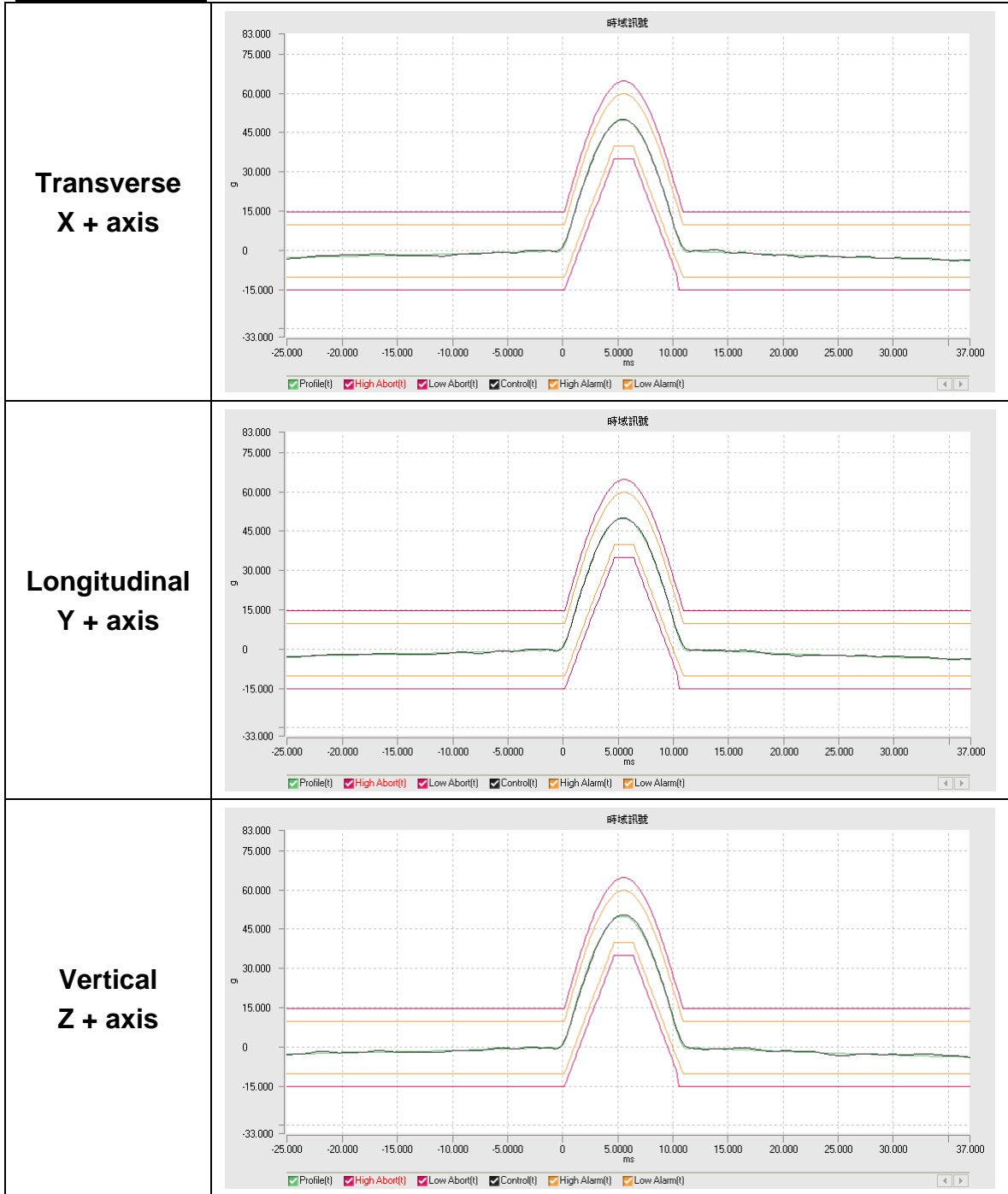
**Vertical
Z +/- axis**

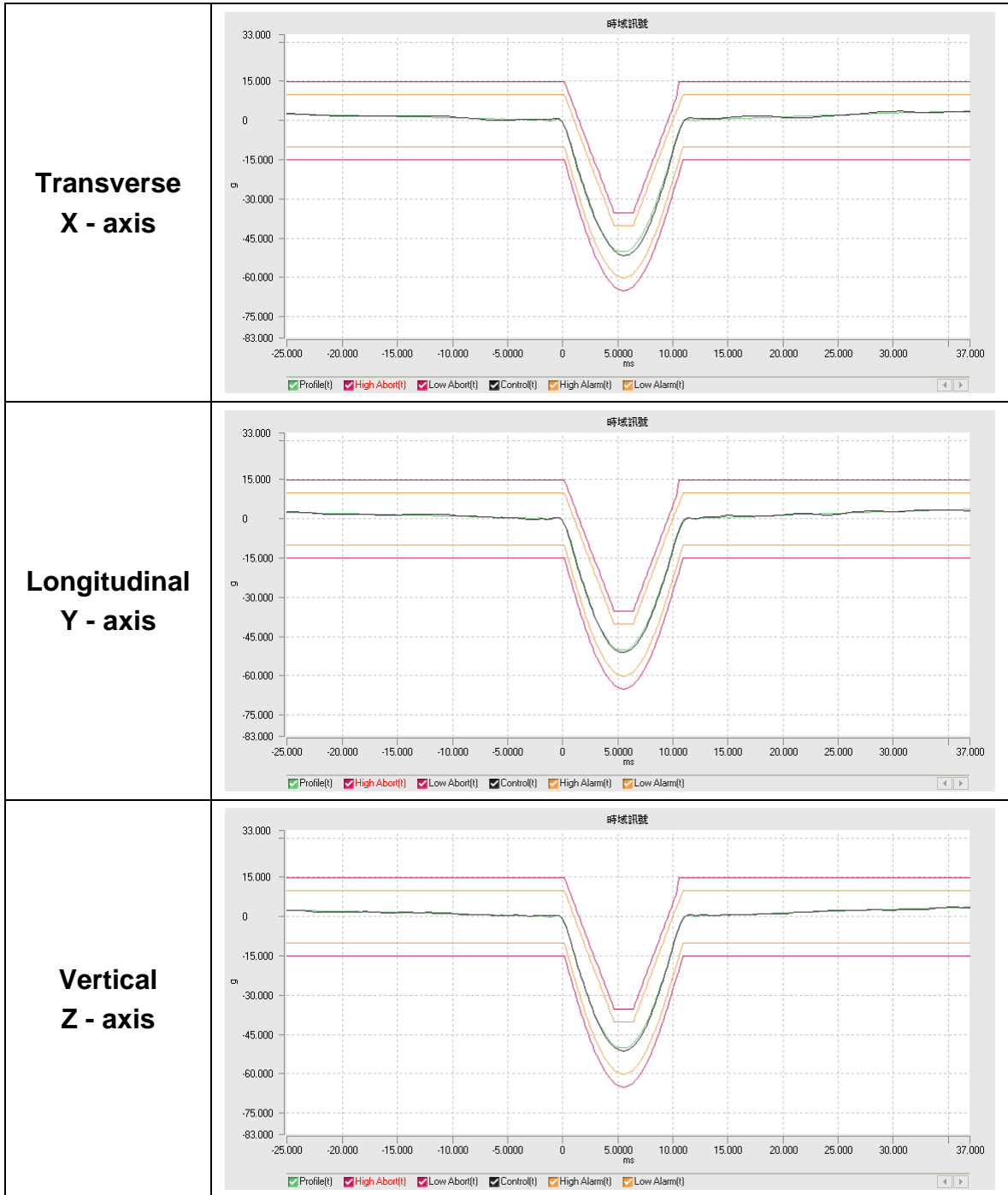


Post Test



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:	ABP-4000
Series Model:	ABP-4000 Series ABP-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 GHz
RAM:	VMD4NIS-32G00C Vecow 32GB DDR4 3200 W/T SODIMM*2
M.2 :	DEM28-C12DD1KWAQF-H03 Innodisk M.2(P80) 3TE6 512GB
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 ² /Hz)	Right Slope (dB/Oct.)
5	- .	0.05	0
500	0	0.05	-

⇔ equivalent to 5.0 g_{rms}

Direction: X,Y,Z axes

Test duration: 30 minutes/ axis.

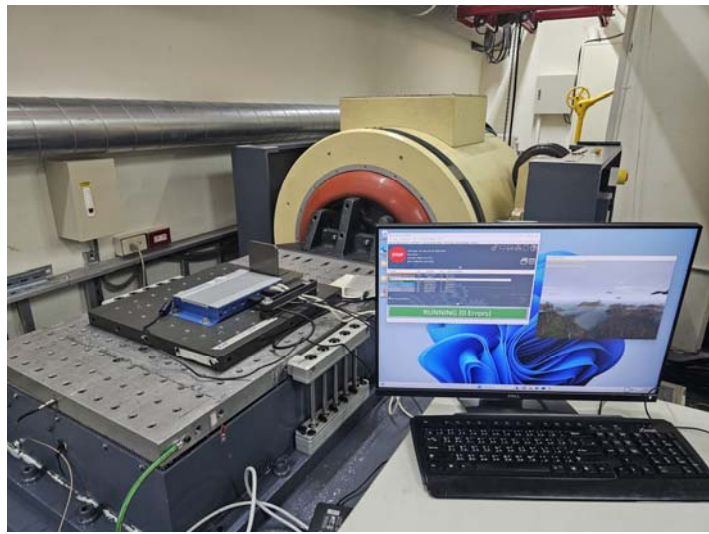
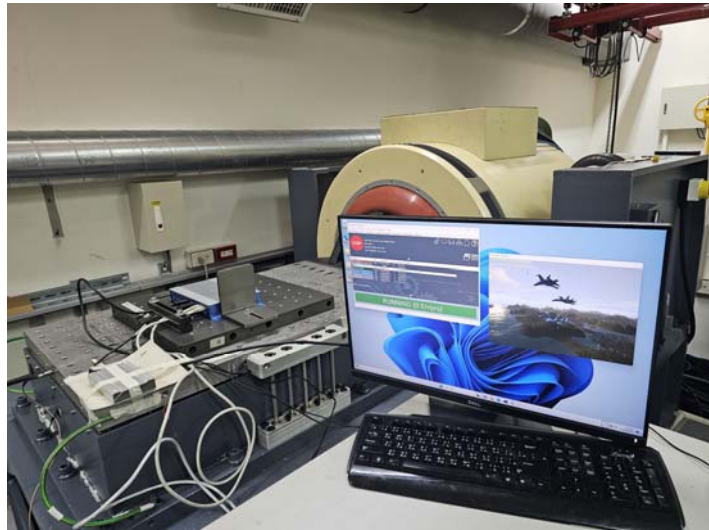
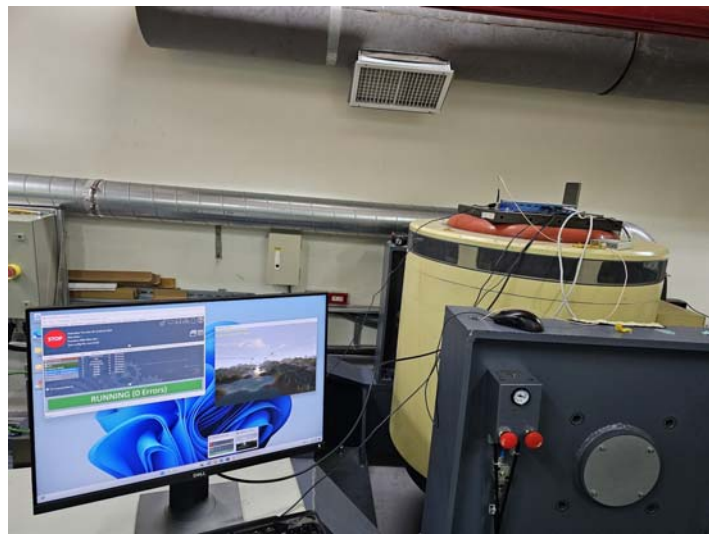
Test Procedure:

- (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.

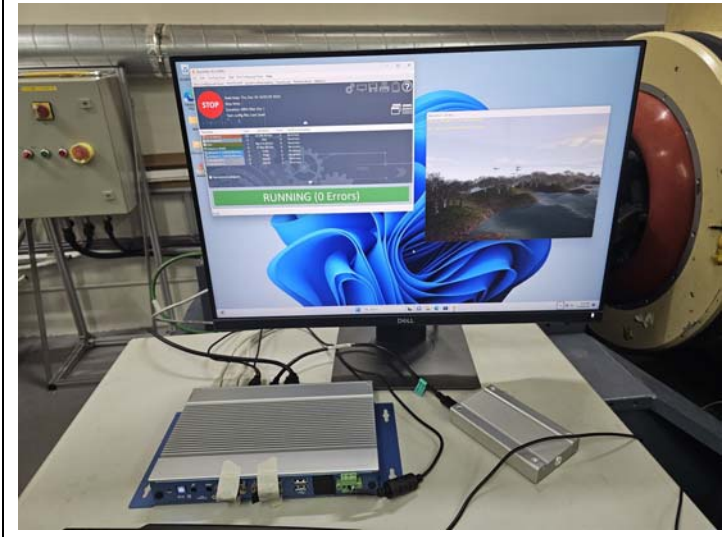
E. Result :

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 :

