

VIBRATION SOURCE TECHNOLOGY CO., LTD.

Vibration Testing Laboratory

**Add: No.29, Lane 65, Sanjun St., Shulin Dist., New Taipei City 23864,
Taiwan (R.O.C.)**

Tel: 886-2-2688-0999 Fax: 886-2-2688-0977

E-mail: info@vibsource.com

Report No.: VS-TV-1130122-01

Test Report

Date of Issue: 2024 / 01 / 22

Product :	Edge AI Computing System
Model :	EAC-5100
Applicant Name :	Vecow Co., Ltd.
Applicant Address :	3F., No. 10, Jiankang Rd., Zhonghe Dist., New Taipei City 23586, Taiwan

The result of this test report, performed by

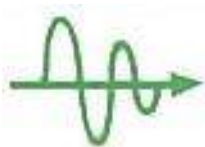
VIBRATION SOURCE TECHNOLOGY CO., LTD. is specified in this report.

When the cover and the following 15 pages are separated, the validity of this report no longer exists.

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Signature





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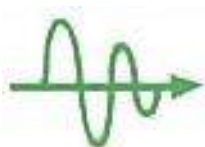
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Report No.: VS-TV-1130122-01

I - Test Information

Test Report NO.	VS-TV-1130122-01
Applicant Name	Vecow Co., Ltd.
Product	Edge AI Computing System
Model	EAC-5100
Series Model	EAC-5100 Series, EAC-5XXXXXXXXXXXXXXXXX ("X" can be 0-9, A-Z, - or blank for marketing purpose)
CPU	NVIDIA® Jetson AGX Orin™ 64GB
RAM	64GB LPDDR5 DRAM
GPU	2048-core Ampere™ GPU with 56 Tensor Cores
PCIe	Expansion card: PE-8004MX
Quantity	1 Carton
Date of Test	Jan 15 ~ 16, 2024



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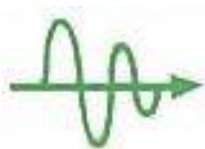
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E-mail: info@vibsource.com

Report No.: VS-TV-1130122-01

Test Item	Test 1 : Random Vibration Test																																																												
Test Standard	Vibration : MIL-STD-810G, Method 514.6, Category 4																																																												
Sample Condition	Operating																																																												
Test Condition	<p>Waveform: Random Wave</p> <p>Frequency Range: (10 ~ 500) Hz</p> <p>Axial: Vertical Transverse Longitudinal (Z Axis) (X Axis) (Y Axis)</p> <p>Acceleration: RMS=1.04 G RMS=0.204 G RMS=0.740 G</p> <p>PSD:</p> <table border="1"> <thead> <tr> <th colspan="2">Vertical (Z)</th> <th colspan="2">Transverse(X)</th> <th colspan="2">Longitudinal(Y)</th> </tr> <tr> <th>Frequency, Hz</th> <th>PSD g²/Hz</th> <th>Frequency, Hz</th> <th>PSD g²/Hz</th> <th>Frequency, Hz</th> <th>PSD g²/Hz</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>0.01500</td> <td>10</td> <td>0.00013</td> <td>10</td> <td>0.0065</td> </tr> <tr> <td>40</td> <td>0.01500</td> <td>20</td> <td>0.00065</td> <td>20</td> <td>0.0065</td> </tr> <tr> <td>500</td> <td>0.00015</td> <td>30</td> <td>0.00065</td> <td>120</td> <td>0.0020</td> </tr> <tr> <td colspan="2" rowspan="5">RMS=1.04G</td> <td>78</td> <td>0.00002</td> <td>121</td> <td>0.003</td> </tr> <tr> <td>79</td> <td>0.00019</td> <td>200</td> <td>0.003</td> </tr> <tr> <td>120</td> <td>0.00019</td> <td>240</td> <td>0.0015</td> </tr> <tr> <td>500</td> <td>0.00001</td> <td>340</td> <td>0.00003</td> </tr> <tr> <td colspan="2">RMS=0.204 G</td> <td colspan="2">500</td> <td colspan="2">0.00015</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2">RMS=0.740 G</td> </tr> </tbody> </table> <p>Vibration Axial: X, Y, Z</p> <p>Single Axis Time: 1 Hour</p> <p>Total Time: 3 Hours</p> <p>FIG 1.1 ~ 1.2: X axis direction mounted</p> <p>FIG 2: X axis test screen</p> <p>FIG 3.1 ~ 3.2: Y axis direction mounted</p> <p>FIG 4: Y axis test screen</p> <p>FIG 5.1 ~ 5.2: Z axis direction mounted</p> <p>FIG 6: Z axis test screen</p>	Vertical (Z)		Transverse(X)		Longitudinal(Y)		Frequency, Hz	PSD g ² /Hz	Frequency, Hz	PSD g ² /Hz	Frequency, Hz	PSD g ² /Hz	10	0.01500	10	0.00013	10	0.0065	40	0.01500	20	0.00065	20	0.0065	500	0.00015	30	0.00065	120	0.0020	RMS=1.04G		78	0.00002	121	0.003	79	0.00019	200	0.003	120	0.00019	240	0.0015	500	0.00001	340	0.00003	RMS=0.204 G		500		0.00015						RMS=0.740 G	
Vertical (Z)		Transverse(X)		Longitudinal(Y)																																																									
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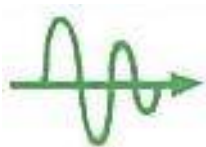
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Report No.: VS-TV-1130122-01

Test Item	Test 2 : Mechanical Shock Test
Test Standard	MIL-STD-810G, Method 516.7, Procedure I - Functional Shock test
Sample Condition	Operating
Test Condition	Waveform: Final Peak Sawtooth Wave Acceleration: 20G Duration Time: 11ms Vibration Axial: 3 Axis , 6 Faces Shock Times: 3 time Total Time: 18 times FIG 7.1 ~ 7.2: +X axis direction mounted FIG 8: +X axis test screen FIG 9.1 ~ 9.2: -X axis direction mounted FIG 10: -X axis test screen FIG 11.1 ~ 11.2: +Y axis direction mounted FIG 12: +Y axis test screen FIG 13.1 ~ 13.2: -Y axis direction mounted FIG 14: -Y axis test screen FIG 15.1 ~ 15.2: +Z axis direction mounted FIG 16: +Z axis test screen FIG 17.1 ~ 17.2: -Z axis direction mounted FIG 18: -Z axis test screen



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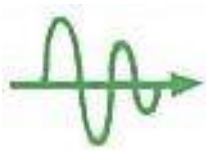
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E-mail: info@vibsource.com

Report No.: VS-TV-1130122-01

Test Result	Appearance: Pass, No external physical damage Function: Pass.	
Test Conducted By		Report Prepared By
Archie Chen <i>Archie Chen</i>		Jane <i>Jane</i>



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Test 1 : (Random Vibration Test)

FIG 1.1: X axis direction mounted

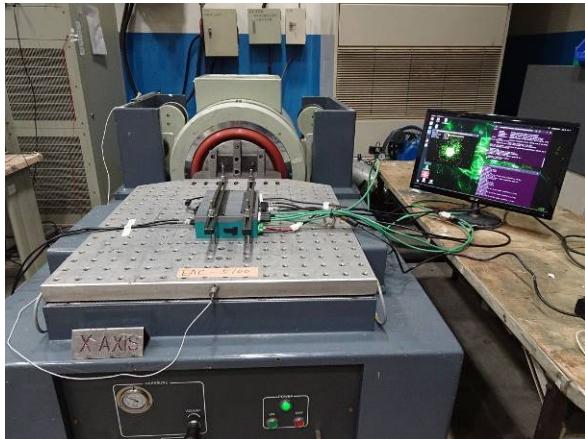


FIG 1.2: X axis direction mounted

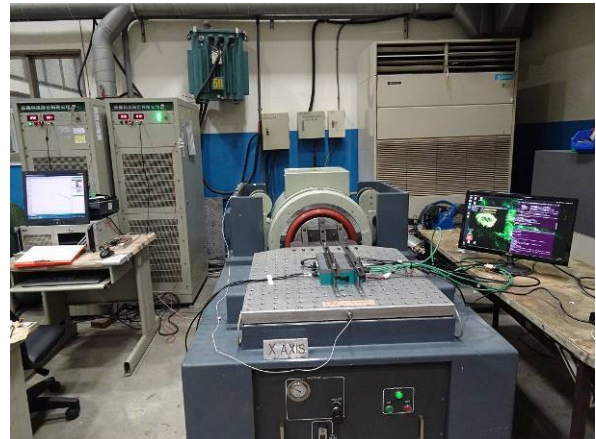
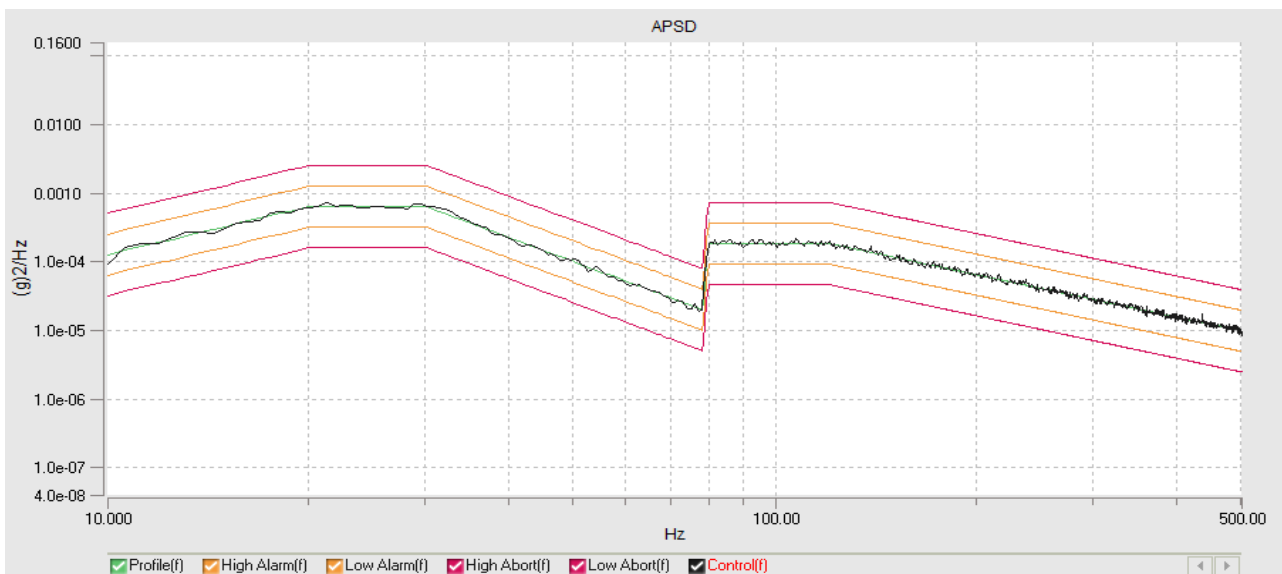


FIG 2: X axis test screen



Current Level: 100.00 %

Demand RMS: 0.204 g

Control RMS: 0.205 g

Frame Time: 1.6000 (s)

Lines: 800

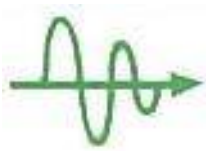
dF: 0.6 Hz

DOF: 424

Current Level Time: 01:00:00

Remaining Time: 00:00:00

Data was saved as a file at time: 2024-1-15 PM 05:38:03



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Report No.: VS-TV-1130122-01

FIG 3.1: Y axis direction mounted

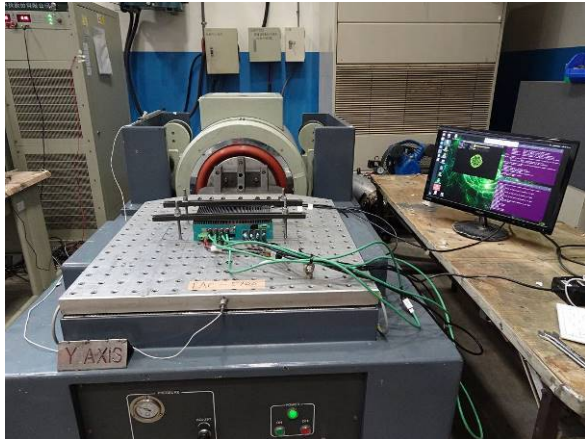
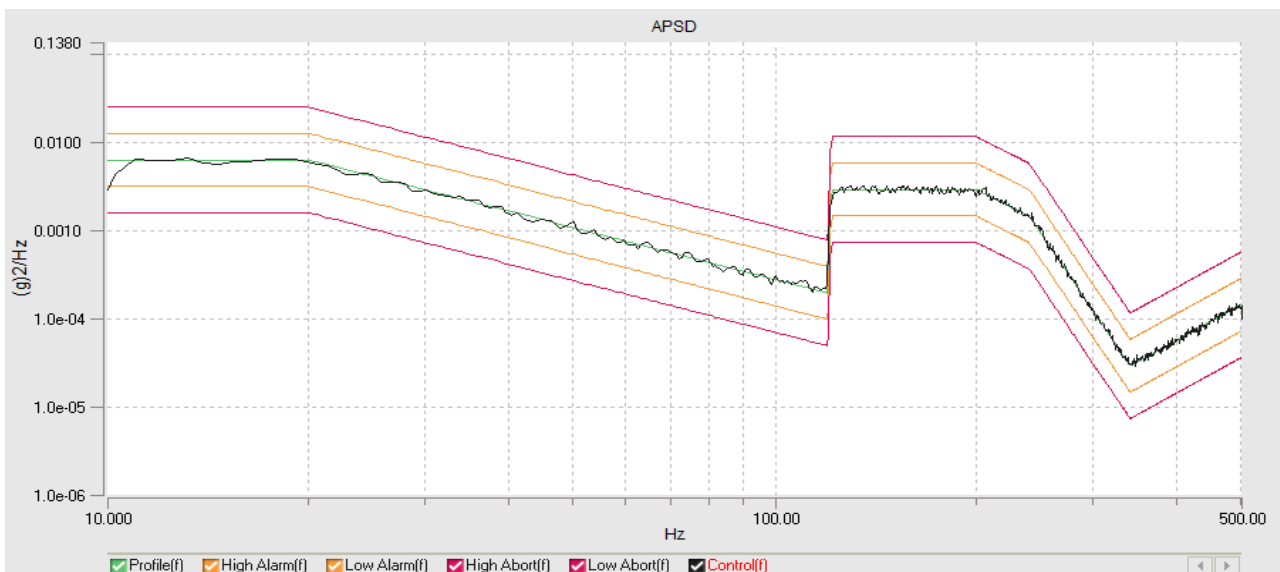


FIG 3.2: Y axis direction mounted



FIG 4: Y axis test screen



Current Level: 100.00 %

Demand RMS: 0.740 g

Control RMS: 0.735 g

Frame Time: 1.3653 (s)

Lines: 800

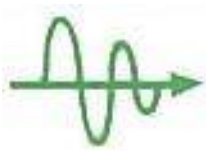
dF: 0.7 Hz

DOF: 424

Current Level Time: 01:00:00

Remaining Time: 00:00:00

Data was saved as a file at time: 2024-1-16 PM 02:37:24



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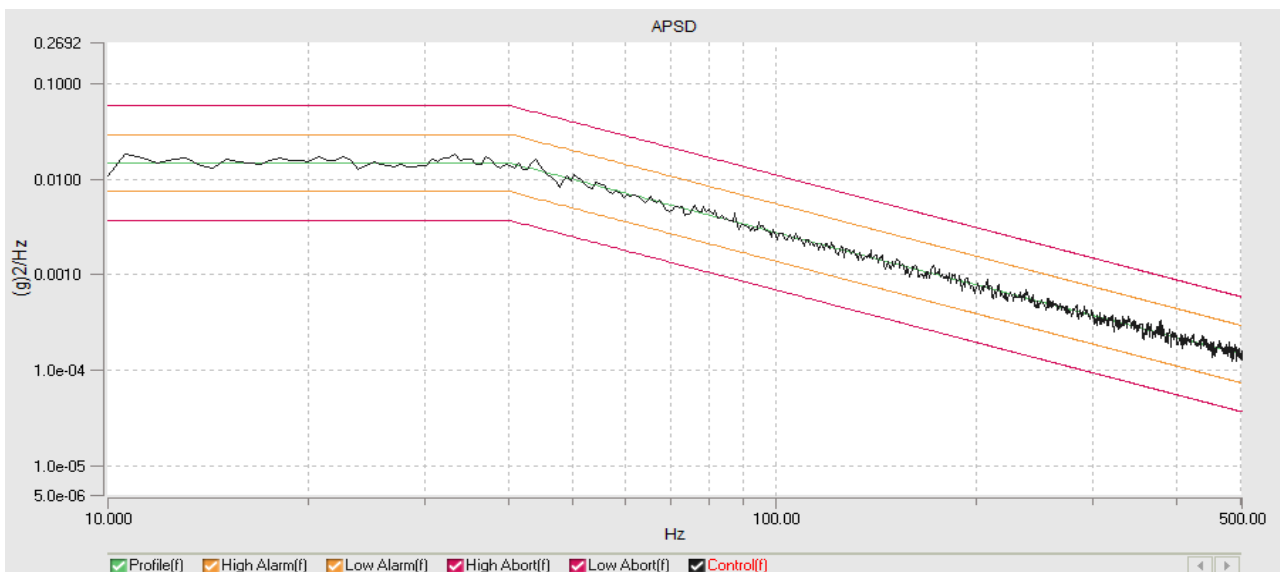
FIG 5.1: Z axis direction mounted



FIG 5.2: Z axis direction mounted



FIG 6: Z axis test screen



Current Level: 100.00 %

Demand RMS: 1.043 g

Control RMS: 1.046 g

Frame Time: 1.6000 (s)

Lines: 800

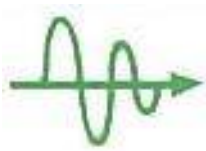
dF: 0.6 Hz

DOF: 200

Current Level Time: 01:00:00

Remaining Time: 00:00:00

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Test 2 : Mechanical Shock Test

FIG 7.1: +X axis direction mounted



FIG 7.2: +X axis direction mounted

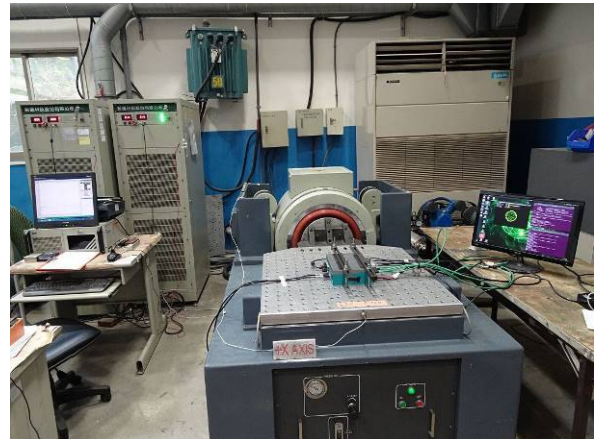
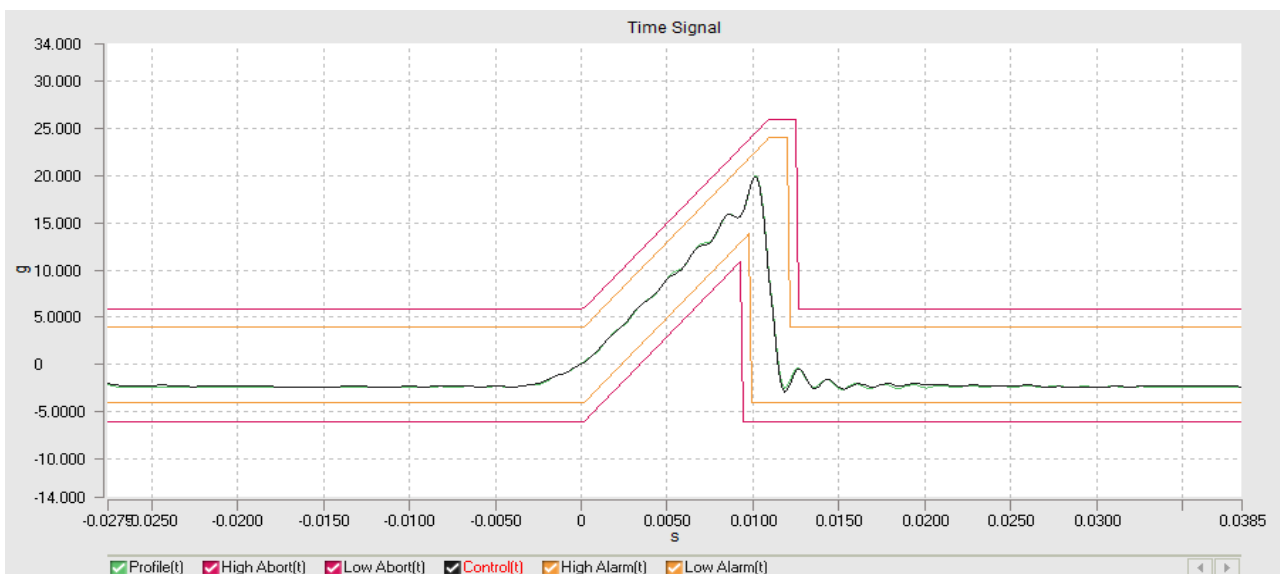


FIG.8 : +X Axis Test screen.



Shock Type:Final Peak Saw Tooth

Mag:20.00 g

Pulse Duration:11 ms

Current level: 100 %

Demand peak: 20.000 g

Control peak:19.966 g

Block Size: 2048

Frame Time:0.3413 s

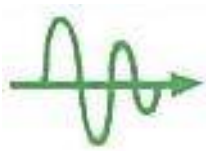
dT:0.000166667 s

Current Pulses: 3

Output pulses: 13

Remain pulses: 0

Data was saved as a file at time:2024-1-16 PM 01:19:36



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FIG 9.1: -X axis direction mounted

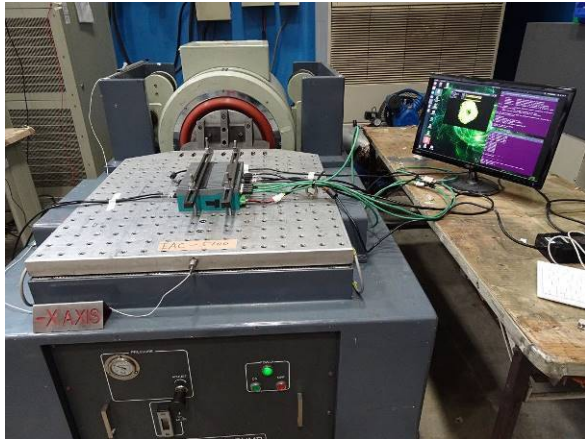
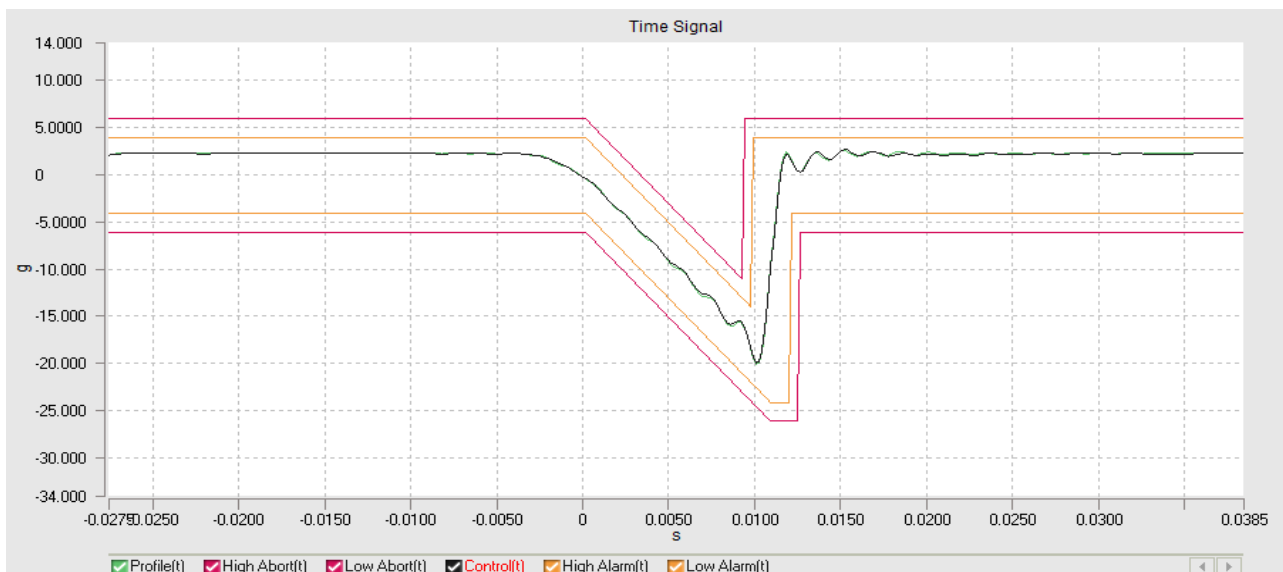


FIG 9.2: -X axis direction mounted



FIG.10 : -X Axis Test screen.



Shock Type:Final Peak Saw Tooth

Mag:20.00 g

Pulse Duration:11 ms

Current level: 100 %

Demand peak: 20.000 g

Control peak:19.876 g

Block Size: 2048

Frame Time:0.3413 s

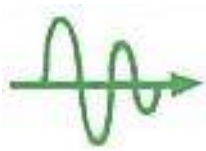
dT:0.000166667 s

Current Pulses: 3

Output pulses: 13

Remain pulses: 0

Data was saved as a file at time:2024-1-16 PM 01:23:38



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FIG 11.1: +Y axis direction mounted



FIG 11.2: +Y axis direction mounted



FIG.12 : +Y Axis Test screen.



Shock Type:Final Peak Saw Tooth

Mag:20.00 g

Pulse Duration:11 ms

Current level: 100 %

Demand peak: 20.000 g

Control peak:19.985 g

Block Size: 2048

Frame Time:0.3413 s

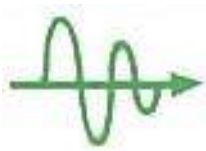
dT:0.000166667 s

Current Pulses: 3

Output pulses: 13

Remain pulses: 0

Data was saved as a file at time:2024-1-16 PM 02:43:51



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FIG 13.1: -Y axis direction mounted

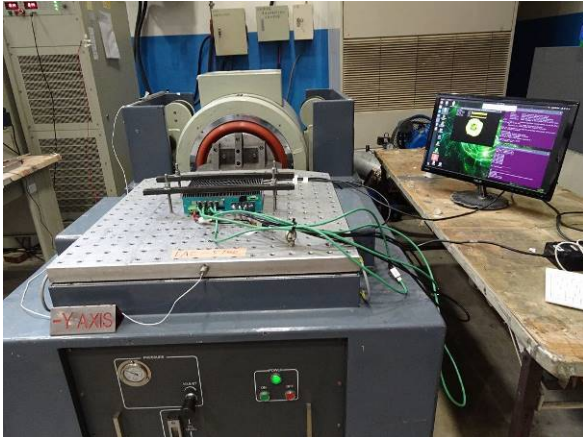
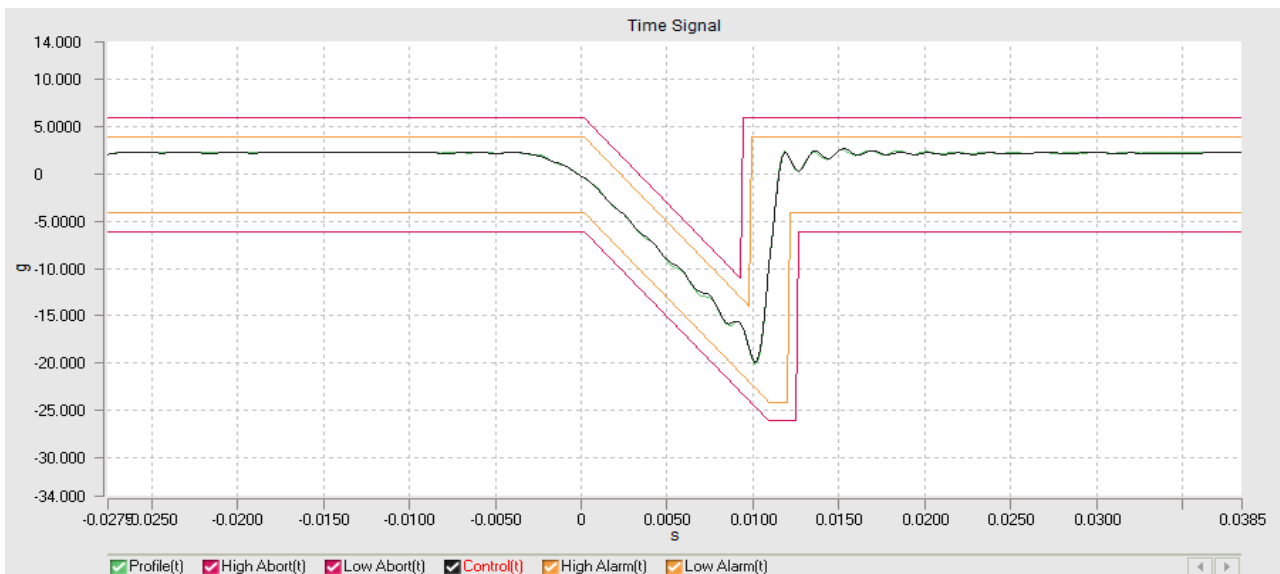


FIG 13.2: -Y axis direction mounted



FIG.14 : -Y Axis Test screen.



Shock Type:Final Peak Saw Tooth

Mag:20.00 g

Pulse Duration:11 ms

Current level: 100 %

Demand peak: 20.000 g

Control peak:19.832 g

Block Size: 2048

Frame Time:0.3413 s

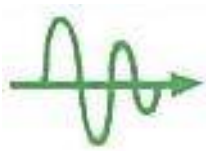
dT:0.000166667 s

Current Pulses: 3

Output pulses: 13

Remain pulses: 0

Data was saved as a file at time:2024-1-16 PM 02:48:27



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FIG 15.1: +Z axis direction mounted

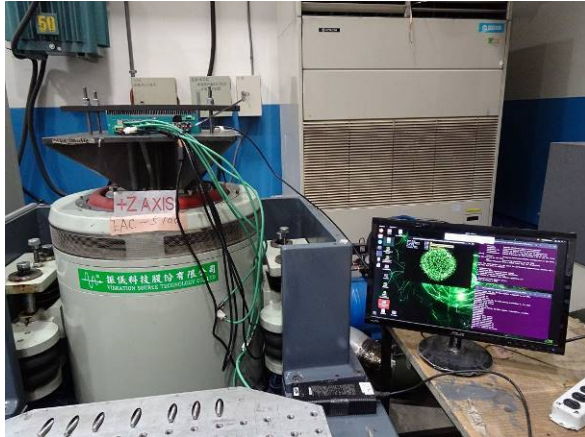


FIG 15.2: +Z axis direction mounted



FIG.16 : +Z Axis Test screen.



Shock Type:Final Peak Saw Tooth

Mag:20.00 g

Pulse Duration:11 ms

Current level: 100 %

Demand peak: 20.000 g

Control peak:19.647 g

Block Size: 2048

Frame Time:0.3413 s

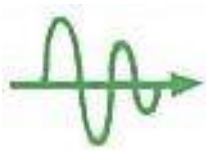
dT:0.000166667 s

Current Pulses: 3

Output pulses: 13

Remain pulses: 0

Data was saved as a file at time:2024-1-16 PM 04:18:37



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FIG 17.1: -Z axis direction mounted

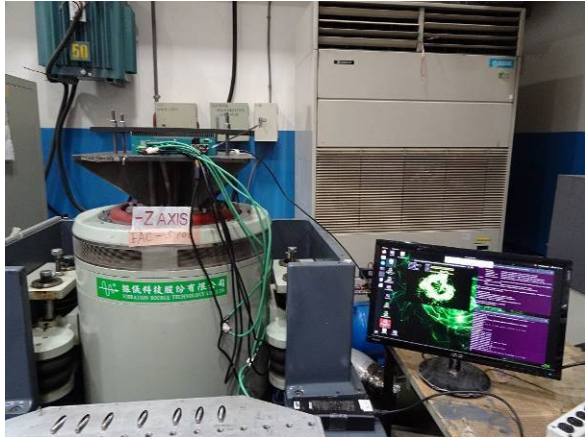
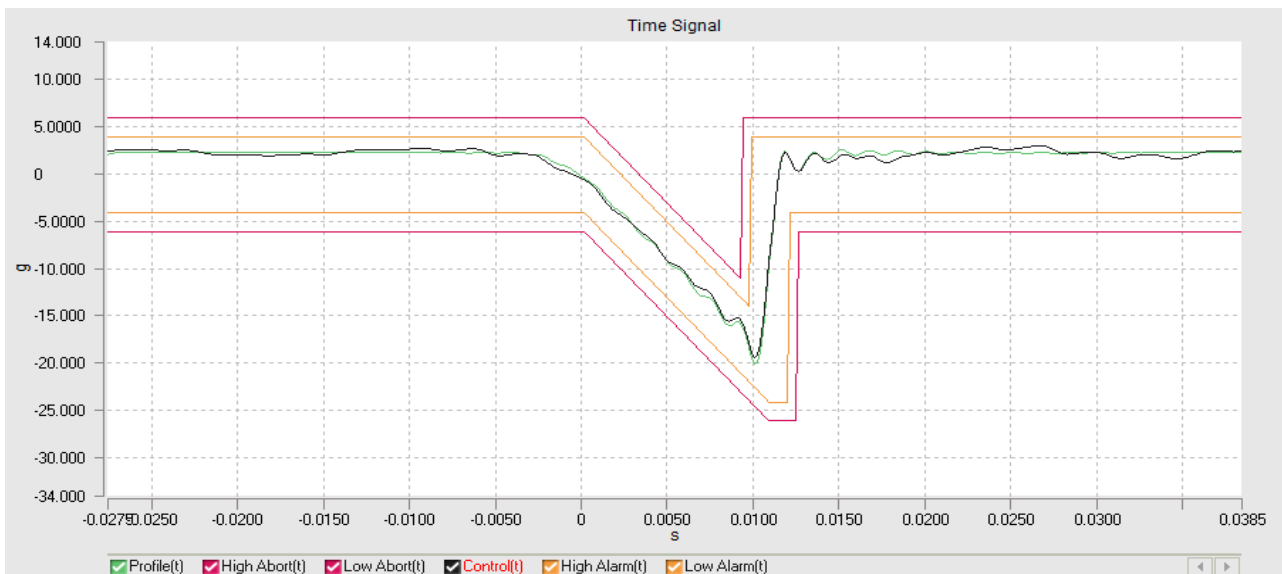


FIG 17.2: -Z axis direction mounted



FIG.18 : -Z Axis Test screen.



Shock Type:Final Peak Saw Tooth

Mag:20.00 g

Pulse Duration:11 ms

Current level: 100 %

Demand peak: 20.000 g

Control peak:19.294 g

Block Size: 2048

Frame Time:0.3413 s

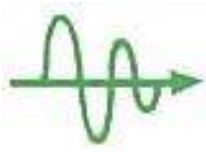
dT:0.000166667 s

Current Pulses: 3

Output pulses: 13

Remain pulses: 0

Data was saved as a file at time:2024-1-16 PM 04:21:39



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E-mail: info@vibsource.com

Report No.: VS-TV-1130122-01

II 、 Test Description

1. Date of Test

This test was performed on Jan 15 ~ 16, 2024

2. Test Location

This test was performed on NO. 29, Lane 65, Sanjun St., Shulin Dist., New Taipei City 23864, Taiwan.

3. Test Methods

This test was carried out according to the following documents: (VS-LP-TS-01)V3.1.

4. Test standard instruments

Test standard instruments and matching accelerometer, as below:

Specimen	Manufacturer	Model	Serial NO.	Calibration Date	Validity Date
Electrodynamics Type Vibration Tester	Vibration Source Technology CO., LTD	VS-2000VH	T0701	2023/03/10	2024/03/09
Accelerometer	PCB	J353B32	86797		

Calibration and Traceability to Vibration Source Technology CO., TD.
Vibration Calibration Laboratory (TAF 2465)
(Calibration Report No.: VS-CV-120310-01)

III 、 Reference

1. Vibration testing procedures (VS-LP-TV-01)V3.1.

VIBRATION SOURCE TECHNOLOGY CO., LTD.

The End.