

MILITARY APPLICATION IP66 FRONT PANEL MOUNT

15" LCD monitor, 1024x768, LED-250nits, AC-IN w/Built-in PWR, I/O
(Regular connector): VGA and PWR, Compliance: MIL-STD-810G
(anti-shock and anti-vibration) and MIL-STD-461F
Power 9~36VDC

MODEL: EPM1500HBWWT-DC



FEATURES:

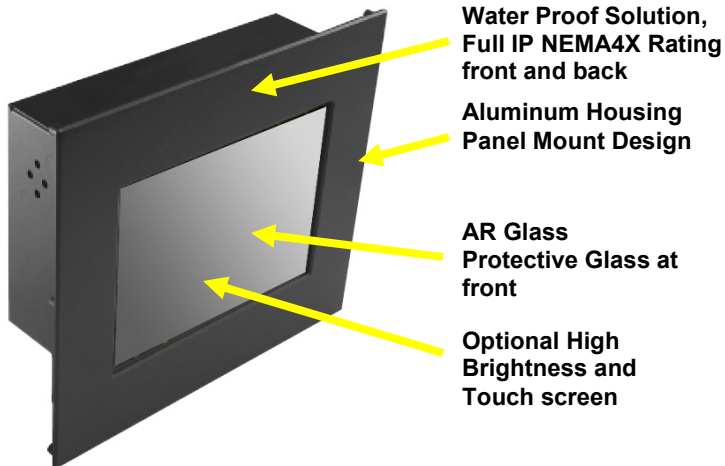
- IP65 front side sealed for water-dust proof
- Modularize mechanical design provides flexible product configuration and easy maintenance
- Optional build-in touch screen for interactive application
- Available with auto-brightness sensor offers application in day and night
- VGA connector with optional AV,SV,AV-Looping
- Complete custom design/solution for OEM customers
- Compliance: MIL-STD-810G (anti-shock and anti-vibration) and MIL-STD-461F

OPTION MIL

- Environmental: MIL-STD-810, DO-160
- EMI/EMC: MIL-STD-461/462
- Panel construction & lighting: MIL-P-7788
- Power: MIL-STD-704, MIL-STD-1275
- Shock – MIL S 901D
- Vibration – MIL STD 167



Rugged Completely Sealed IP66/NEMA4X Panel Mount LCD Monitor



*** IP66 Water and Dust proof
connection for a higher protection**



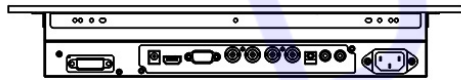
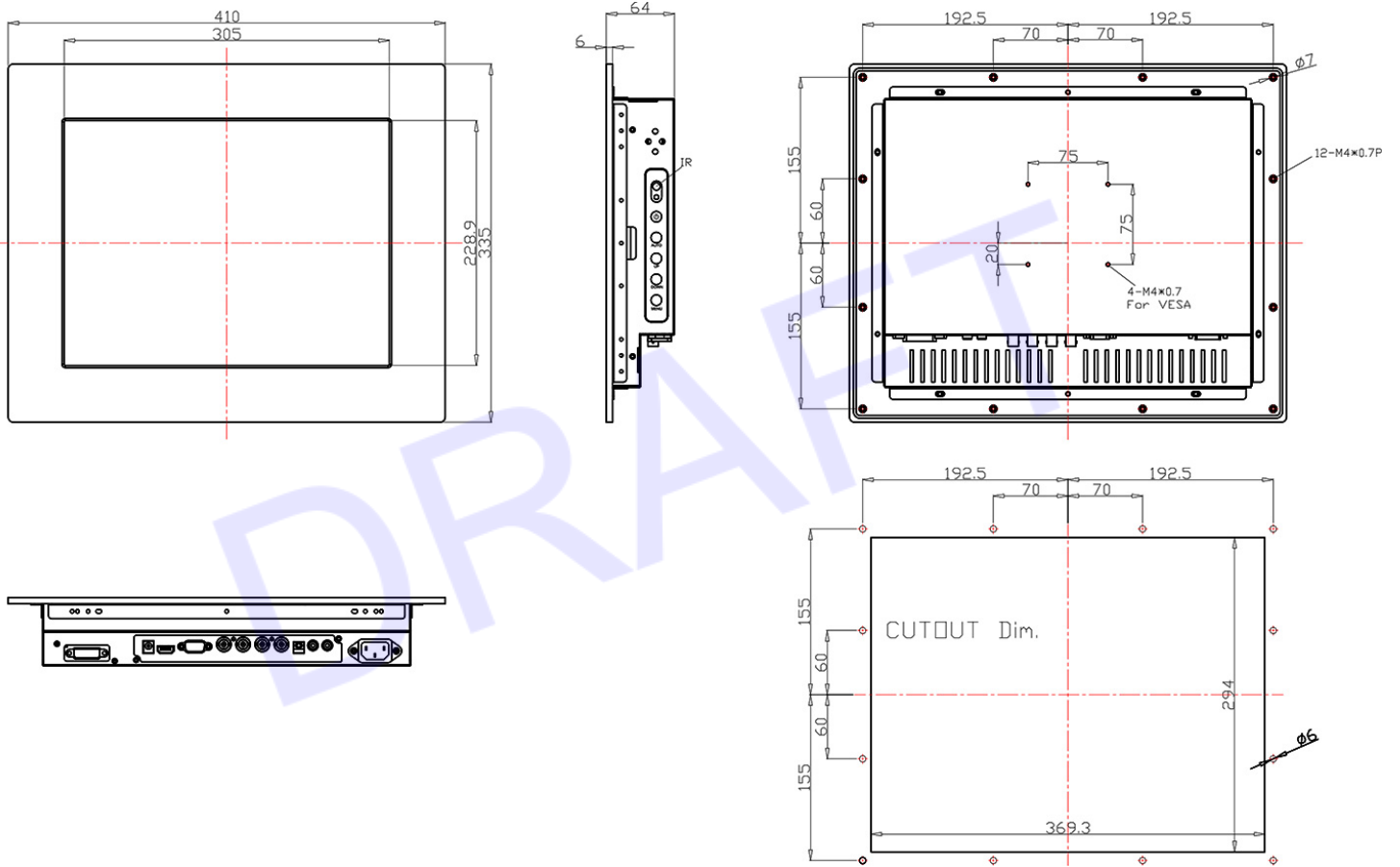
SPECIFICATION:

Panel	Cell Type / Glass Surface	TFT LCD / Black Anti-Glare, low reflection coating	
	Aspect Ratio / Size	4 : 3 / 15" viewable diagonal area	
	Active Area / Pixel Pitch	304.13(H) x 228.10(V) mm / 0.297(H) x 0.297(V) mm	
	Native Resolution / Colors	1024(H) x 768(V) / 16.2 M	
	Brightness / Contrast	250 cd/m ² (typ) / 700 : 1	
	Response Time	< 35 ms	
	Viewing Angle (typical)	H. 140° (- 70° ~ + 70°) , V. 120° (- 60° ~ + 60°)	
	Light Source	LED backlight, Long life, 35,000 hrs (typ)	
Input Sources	PC System	Signal	Analog RGB (0.7/1.0 V _{p-p} , 75 ohms)
		Sync	Separate Sync, Composite Sync, Sync On Green
		Frequency	F _h : 30 - 82Khz , F _v : 50 -75Hz
Input Terminals	1 x VGA (15 Pin Female D-Sub) , 1 x PWR, 1 x PC Audio (Stereo Headphone Jack) , 1 x DC Power Plug		
Convenient Features	Auto Calibration , Back Light Adjustment , Plug&Play (VESA DDC/CI, DDC 2B)		
	OSD Multi-Languages , Wall Mount Ready (VESA Dimension - please refer to Drawing)		
Power	9~36V DC isolated.		
Power Consumption	Operation / Power Saving	20 watt , < 2 watt (Support DPMS)	
Operating Condition	Temperature / Humidity	0°C ~ 50°C (32°F ~ 122°F) , 10% ~ 90% (no condensation)	
Storage Condition	Temperature / Humidity	- 20°C ~ 60°C (- 4°F ~ 140°F) , 10% ~ 90% (no condensation)	
Certification	FCC , CE		
Dimensions	Physical	Please refer to Drawing	
	Carton	W x H x D = TBD	
Weight	N.W. / G.W.	4 Kgs / 5 Kgs	
Container Loaded	20ft / 40ft / 40ft HQ	TBD (Sets , By pallet)	

**Specifications subject to change without notice, not responsible for typographical errors.*

MECHANICAL DRAWING:

This is subject to change without Notice. Final Drawings Will be Provided for Approval after Order.



Drawing No.: EMPM1500HBWWT-DC-01232023-V1

LCD OPTIONS:



LED Backlight Options

Introducing LED backlight options for monitors for energy efficiency and a brighter screen.



VIDEO Input Options:

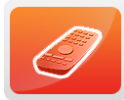
For Video inputs options:

DVI, DVI+HDMI, SVideo+AV, SVideo+AV+DVI, AV+Looping, DVI+AV+Looping, HD-SDI, BNC (PAL/NTSC)



Optical Bonding Options

- Optical Bonding provides the best reduction of ambient light washout of any commercially available enhancement technology.
- Optical Bonding has a lower cost than most other competing technologies.
- Optical Bonding offers superior ruggedization, enhancing the display durability under vibration, shock and other environmental extremes.



RS-232 Remote Control Options

Remote Control Protocol: Command Code to set system



9-36V DC Input Options

iTech offers a selection of DC input from 9V to 36V



Light Sensor and Motion Sensor Options

iTech LCD offers Light and Motion Sensor

Privacy Filter

Front Glass Options:

- Anti Reflective AR Glass 3mm
- Anti Reflective AR Glass 6mm Vandal-Resistance
- Anti Reflective AR Glass 8mm Vandal-Resistance
- Anti Glare AG Glass 3mm

Applicant : i-Tech Company LLC
42978 Osgood Road Fremont,
CA 94539 USA

Description : Sample Name Industrial Monitor
Model Name EMPM1500HBWWT-DC
Date of Received Jun. 28, 2019
Date of Testing Jul. 01, 2019

Test Required : As requested by the applicant, please see following sheets in detail.

Conclusion	: Test Information	Q'ty	Test Result	Page
	Vibration Test	1	PASS	3
	Mechanical Shock Test	1	PASS	5

Certificate : TAF/ ilac-MRA Certificate of Independent Test Laboratory/ Approval
Certificate No.: 1723

Authorized by:
On behalf of World Advance Co., Ltd


Casber Lu
Manager

Notes :

- This report will be invalid if duplicated or photocopied in part.
- This report refers only to the specimen(s) submitted to test, and is invalid as separately used.

Sample Description

Sample Name	Industrial Monitor
Model Name	EMPM1500HBWWT-DC
Series Number	001
Test Quantity	1
Function Check	Normal display
Unit Dimension	530 x 315 x 65 mm (L x D x H)
Unit Weight	9.40 kg
Remark	—

Appearance Photo of Unit	—
	—

1. Vibration Test

Test Date : Jul. 01, 2019

Test Equipment :

Apparatus name : Electromagnetism Vibration Test System

Brand : A-LAB

Model : AL-KDVI-2000

Laboratory Ambience Condition :

Temperature : 25 °C

Humidity : 60 %RH

Reference Document :

The test was performed with reference to MIL-STD-810G method 514.6

Table 514.6C-II. Category 4 - Common carrier

Test Condition :

Random wave

Frequency (Hz)	PSD (G ² /Hz)	Grms	Duration (h : min)	Direction (Axis)	Condition
10 40 500	0.015 0.015 0.00015	1.04	01:00	Z	Operation
10 20 30 78 79 120 500	0.00013 0.00065 0.00065 0.00002 0.00019 0.00019 0.00001	0.20	01:00	X	
10 20 120 121 200 240 340 500	0.0065 0.0065 0.0002 0.003 0.003 0.0015 0.00003 0.00015	0.74	01:00	Y	

-Operation: Normal display

TEST REPORT

Report No.: EVT-E04-1059A

Issue Date: Jul.03,2019

EVT-E04-1059A

Test Result :

Model Name / Series Number	PASS	FAIL	No Judgment
EMPM1500HBWWT-DC / S/N:001	V	—	—

Test Criteria :

- There is no visible damage on the unit.
- The function is normal after the test.

2. Mechanical Shock Test

Test Date : Jul. 01, 2019

Test Equipment :

Apparatus name : Shock Testing System

Brand : A-LAB

Model : AL-LBMS

Laboratory Ambience Condition :

Temperature : 25 °C

Humidity : 60 %RH

Reference Document :

The test was performed with reference to MIL-STD-810G method 516.6

Test Condition :

Pulse Shapes	Acceleration (G)	Pulse width (ms)	Direction (axis)	Total Shocks	Condition
Terminal Peak Sawtooth	20	11	±X, ±Y, ±Z	18	Operation

-Operation: Normal display

Test Result :

Model Name / Series Number	PASS	FAIL	No Judgment
MD-RM2383 / S/N:001	V	—	—

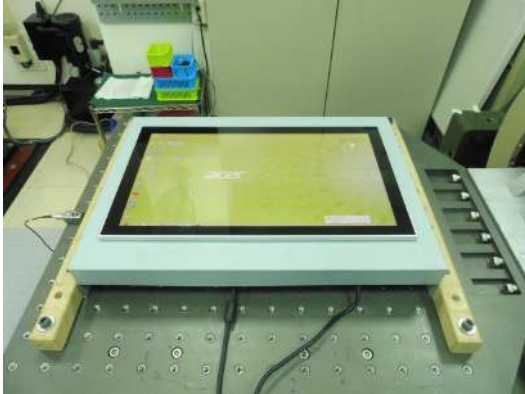
Test Criteria :

- There is no visible damage on the unit.
- The function is normal after the test.

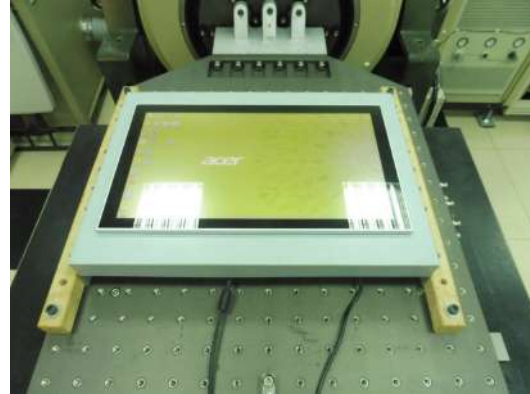
Test photo :

1 Vibration Test

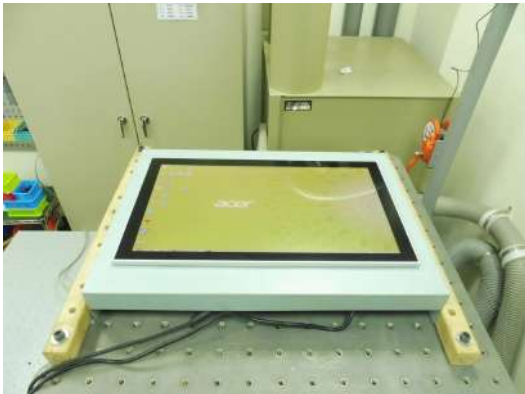
1-1 X axis



1-2 Y axis



1-3 Z axis

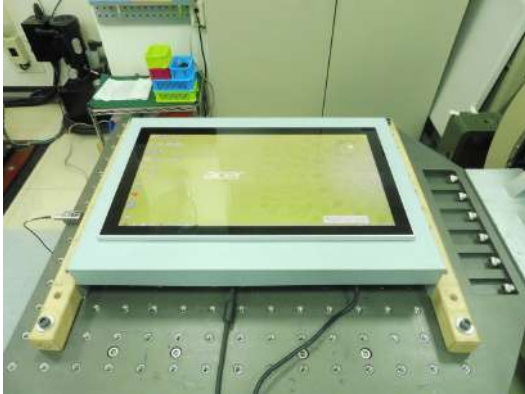


1-4 After Test: Function Check

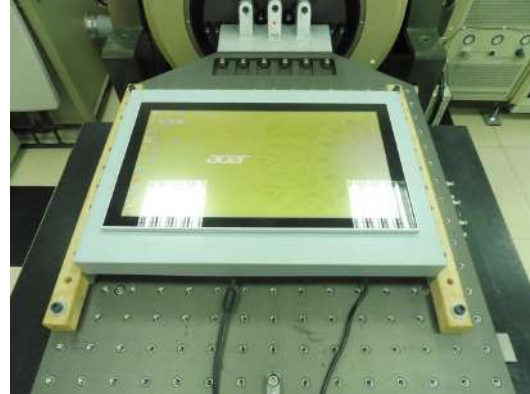


2 Mechanical Shock Test

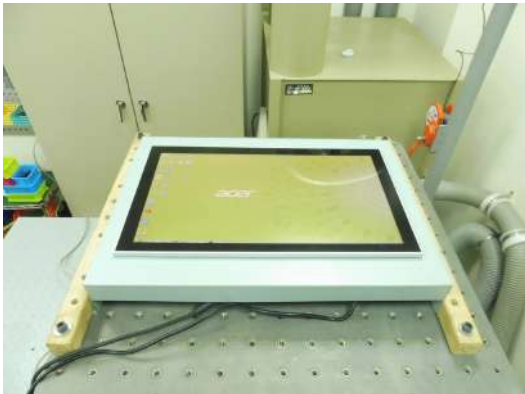
2-1 X axis



2-2 Y axis



2-3 Z axis

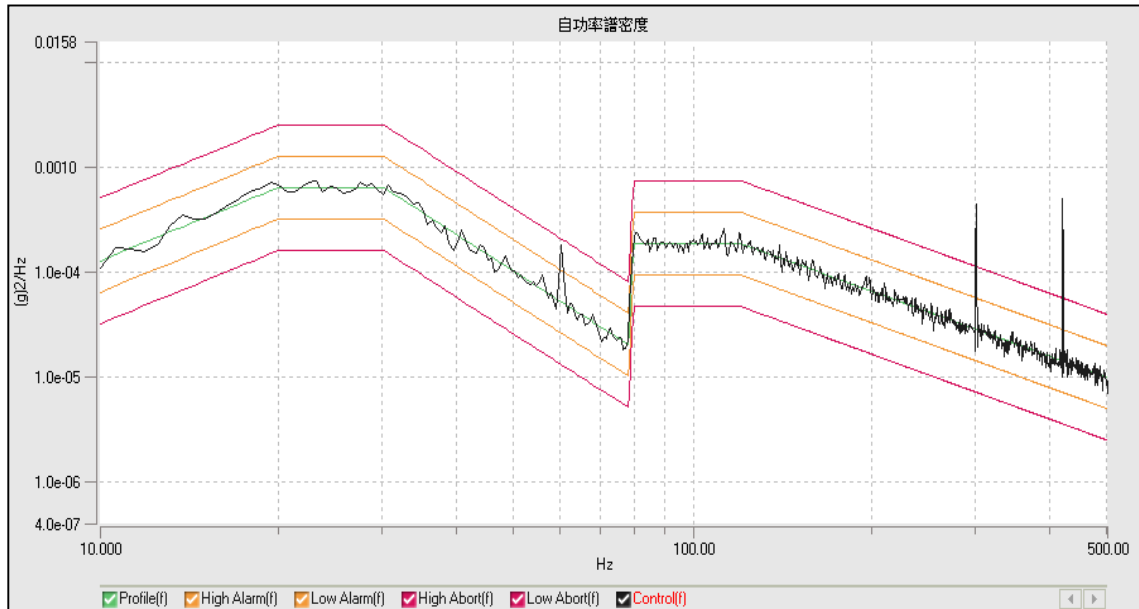


2-4 After Test: Function Check

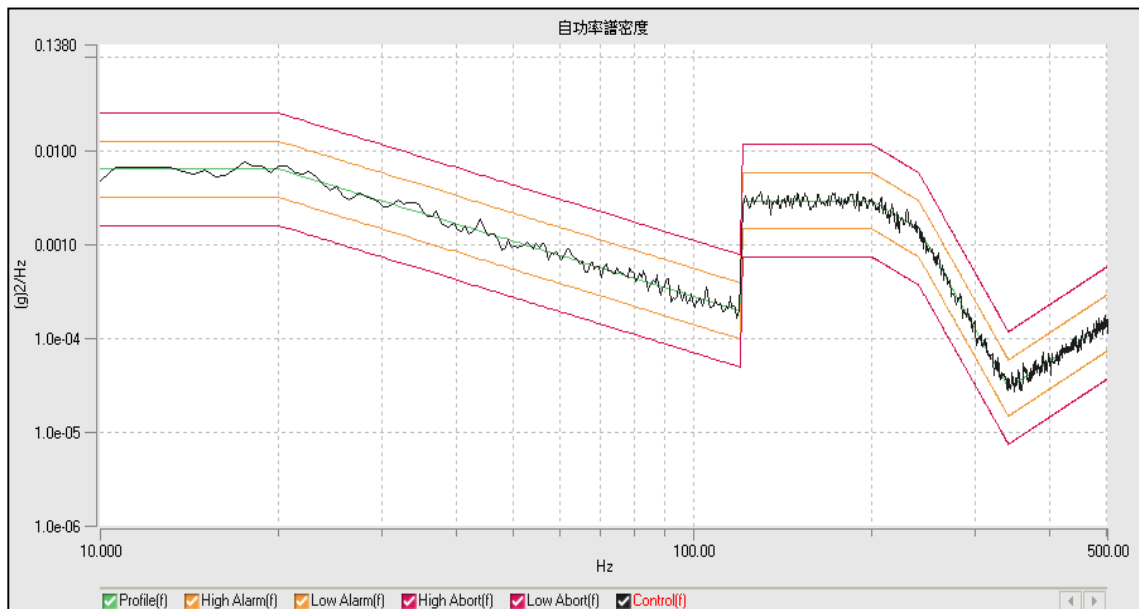


Test Profile :

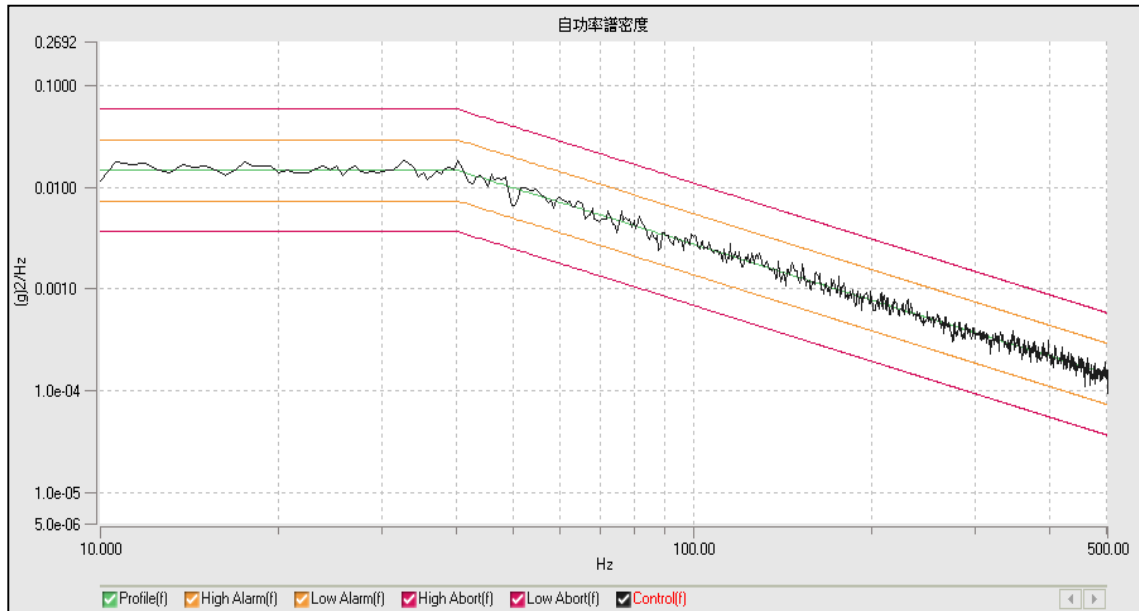
1 Vibration Test : X axis



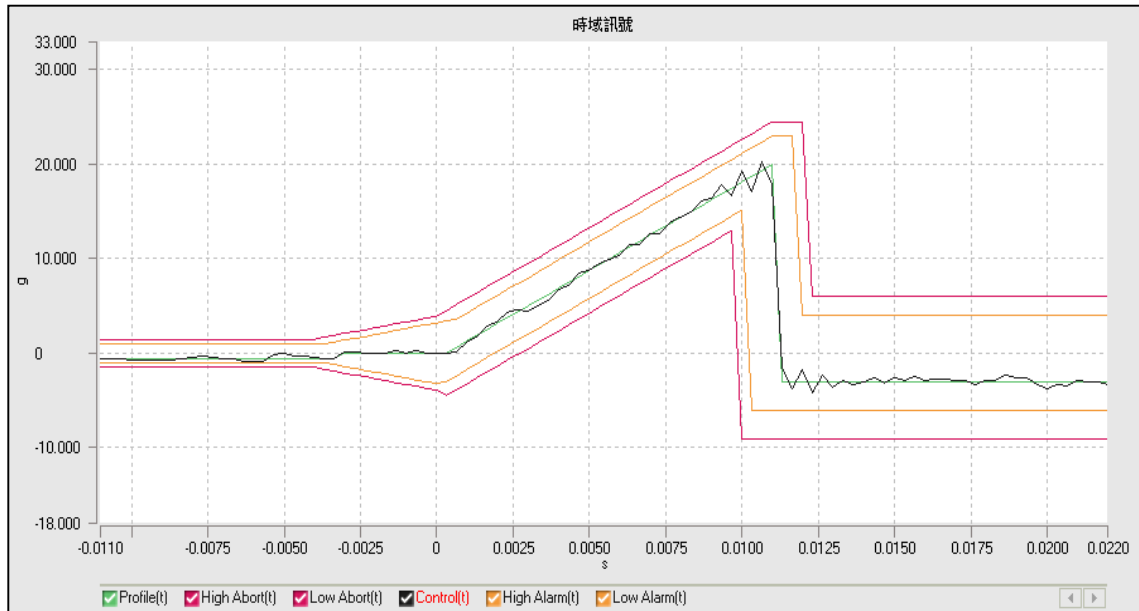
Y axis



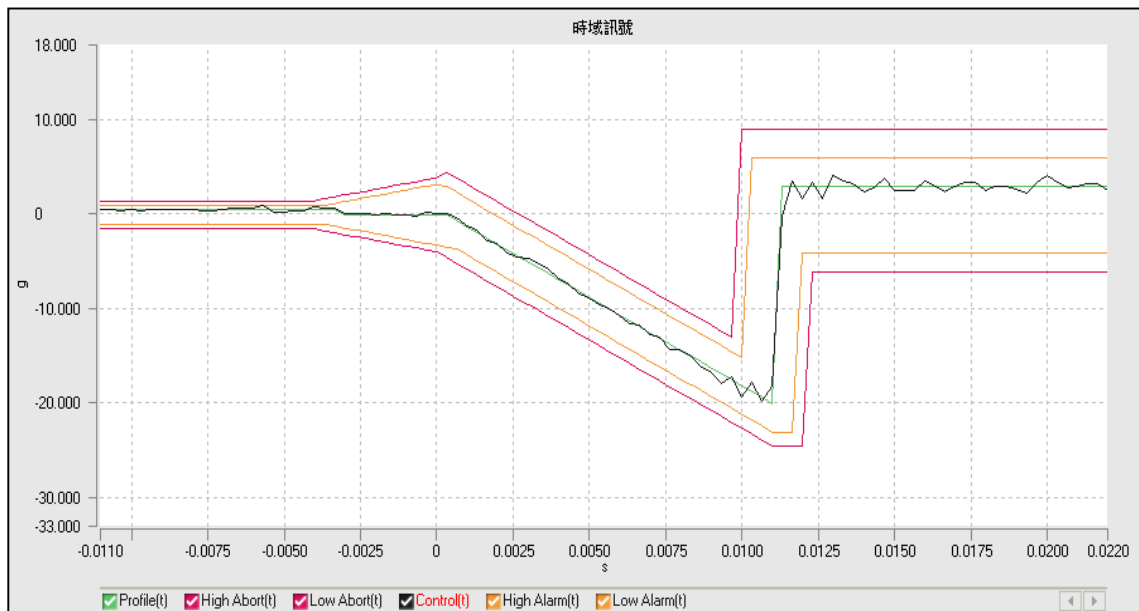
Z axis



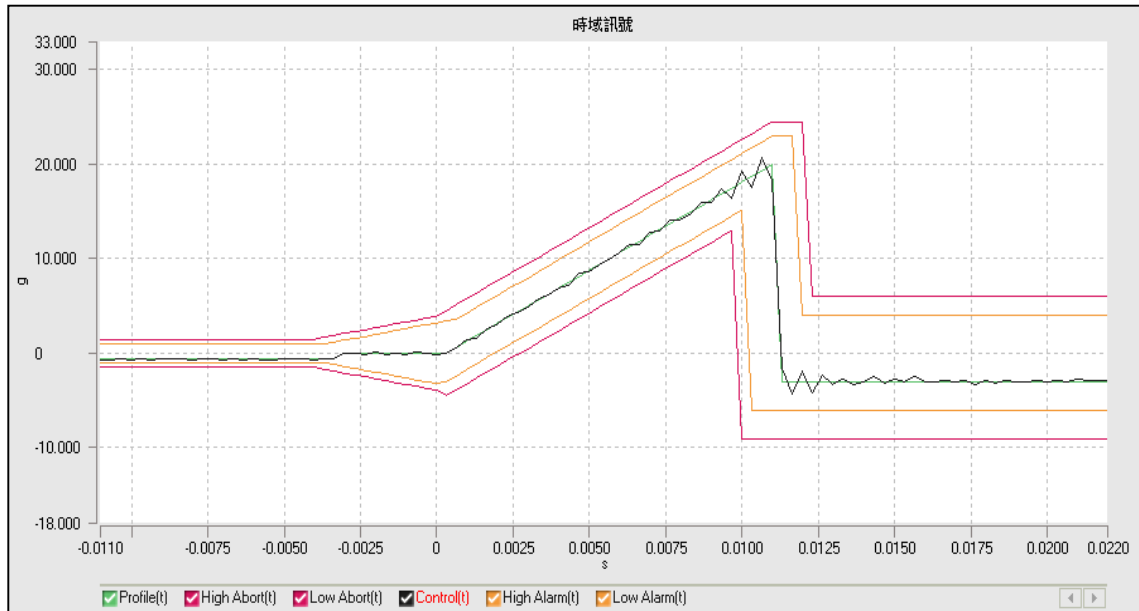
2 Mechanical Shock Test : +X axis



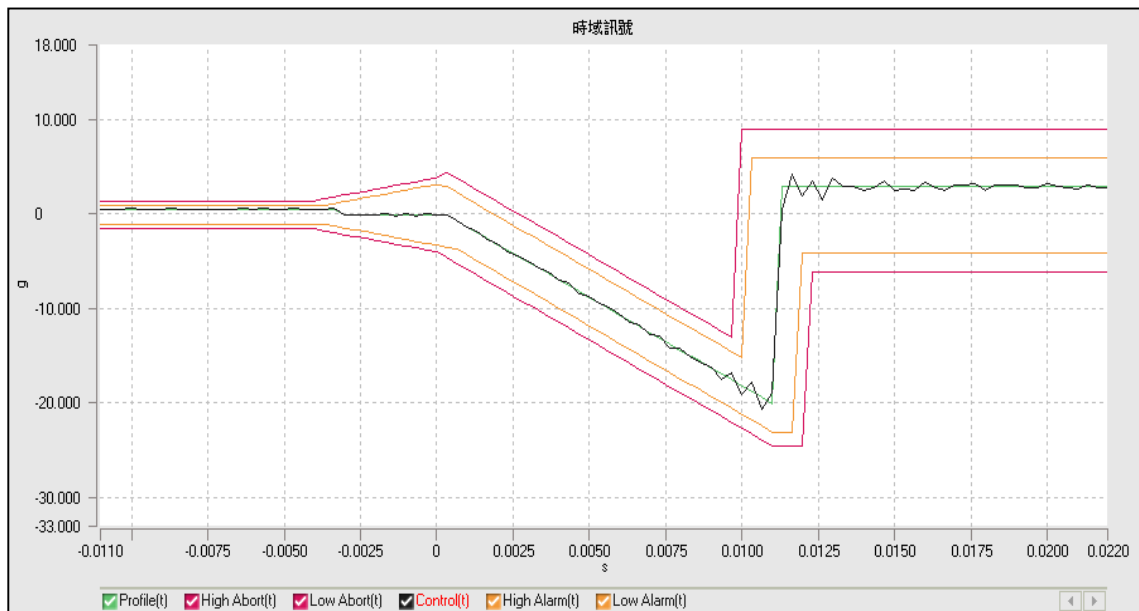
-X axis



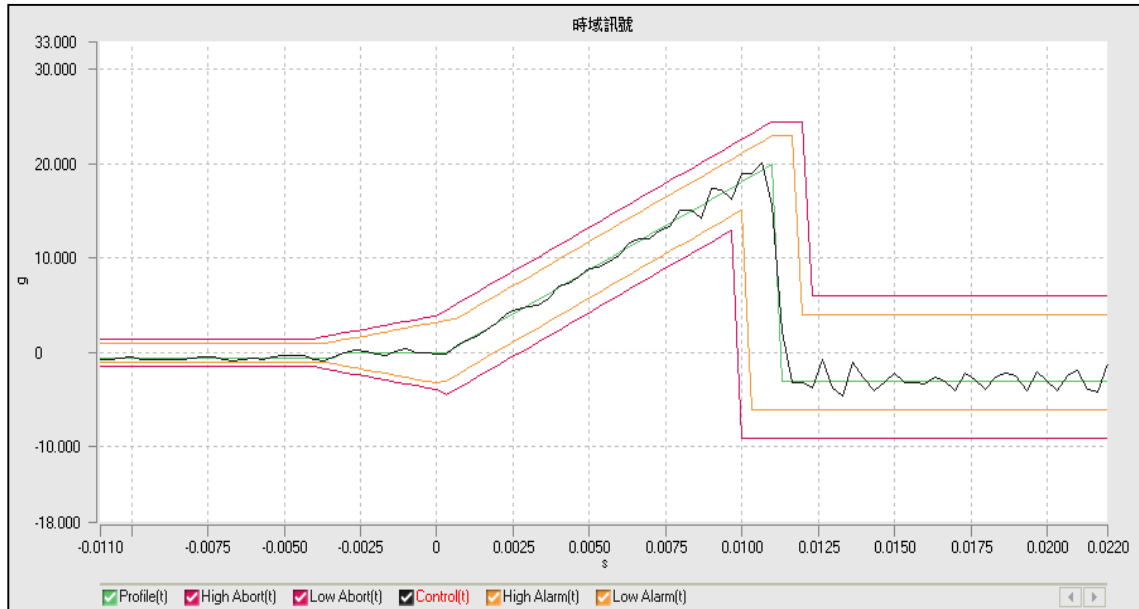
+Y axis



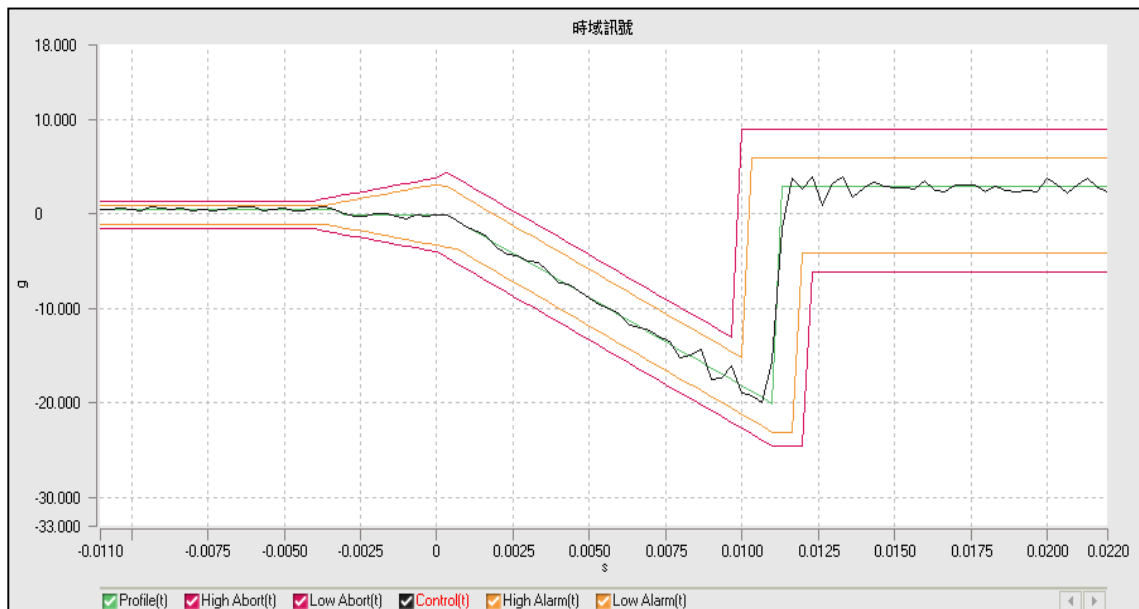
-Y axis



+Z axis



-Z axis



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ESS- EMPM1500HBWWT-DC

20/10/2021

				Model	EMPM1500HBWWT-DC			
				Quantity	1	Black Color	Logo	N/A
Note	Panel Mount 15"-1024x768,LED-250nits,VGA, Black Color,Power 9-36V DC							
Spec	AC-IN <input type="checkbox"/> Power Switch <input type="checkbox"/> DC-IN:12V <input type="checkbox"/> 24V <input type="checkbox"/> 9-36V <input checked="" type="checkbox"/> Phoenix Connector <input type="checkbox"/> / Temp: 24 °C Humidity: 40 Time : 13:22 History Record <input type="checkbox"/> nits: SOP <input type="checkbox"/> , <input type="checkbox"/> Double Confirm / Signature: Silicone <input type="checkbox"/> Rubber <input checked="" type="checkbox"/> Sponge : Adhesive Tape mm : 0.5mm <input type="checkbox"/> Production Record: Resolution: 1024 * 768 Vol: 3.3 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 10 <input type="checkbox"/> 18 <input type="checkbox"/> Bit:6 <input type="checkbox"/> 8 <input checked="" type="checkbox"/> 10 Inverter:Build in <input type="checkbox"/> T11704 <input type="checkbox"/> AV <input type="checkbox"/> 2204 <input type="checkbox"/> Board: GTR77 Firmware: 20210528 DCN <input checked="" type="checkbox"/> PWM-N <input checked="" type="checkbox"/> LED 1P <input type="checkbox"/> 55w <input type="checkbox"/> 2P <input type="checkbox"/> 100w <input type="checkbox"/> mA, UVP: Touch:RT <input type="checkbox"/> CT <input type="checkbox"/> ST <input type="checkbox"/> IT <input type="checkbox"/> PCT <input checked="" type="checkbox"/> OT <input type="checkbox"/> / USB <input checked="" type="checkbox"/> RS232 <input type="checkbox"/> / Control:内建 <input type="checkbox"/> Atouch: EETI : Other: Driver: Atouch 3.40 <input type="checkbox"/> / EETI:511 <input checked="" type="checkbox"/> / ELO <input type="checkbox"/> Other: 1. 180501.bin/F96 AL: DC <input type="checkbox"/> P <input type="checkbox"/> N <input type="checkbox"/> PWM <input type="checkbox"/> MS: ___S BIOS: Default bit:18 <input type="checkbox"/> 24 <input type="checkbox"/> / HDD: 160 <input type="checkbox"/> 500 <input type="checkbox"/> G / DRAM: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 4 <input type="checkbox"/> G / WiFi <input type="checkbox"/> OS w/o <input type="checkbox"/> No: (SVN1005-V103) Other:							
Mechanic Improve								
Test Item	Description (Temp : -30°C <input type="checkbox"/> -20°C <input type="checkbox"/> -10°C <input type="checkbox"/> 0°C <input type="checkbox"/> 25°C <input checked="" type="checkbox"/> 50°C <input type="checkbox"/> 60°C <input type="checkbox"/> 70°C <input type="checkbox"/>)							pass
A	VGA <input checked="" type="checkbox"/> DVI <input type="checkbox"/> HDMI <input checked="" type="checkbox"/> Audio <input checked="" type="checkbox"/> RS232 <input type="checkbox"/> COM <input type="checkbox"/> PS2 <input type="checkbox"/> LAN <input type="checkbox"/> USB <input type="checkbox"/> 滿載 ___VDC							pass
B	Parts <input checked="" type="checkbox"/> / Screw <input checked="" type="checkbox"/> / Wire Cable Manage <input checked="" type="checkbox"/>							pass
C	Assembly <input checked="" type="checkbox"/> / Panel Horizontal <input checked="" type="checkbox"/> / I/O connection <input checked="" type="checkbox"/>							pass
	Chassis (Front Bezel-Back Cover-Stand) -- Mechanics Design <input checked="" type="checkbox"/>							pass
	Shaking, tapping machine is no different sounds (foreign bodies) <input checked="" type="checkbox"/>							pass
D	OSD Keyboard _smooth (to be repeated by 5 times) <input checked="" type="checkbox"/>							pass
E	EEPROM test storage User parameter (1) Re-set OSD parameter <input checked="" type="checkbox"/>							
	(2) Set Brightness/Contrast/Volume to different default OSD parameter <input checked="" type="checkbox"/>							pass
	(3)Cut off the power supply, after 5 mins restart power, theuser parameter still save <input checked="" type="checkbox"/> (4) Re-set OSD default <input checked="" type="checkbox"/>							
F	Power ON system on <input checked="" type="checkbox"/> Power on Auto ON <input type="checkbox"/> Mode Change Auto Adjust <input type="checkbox"/> OSD Lock :Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>							pass
G	Resolution (AV / CCTV)(vividnessr/color saturation/Noise) <input type="checkbox"/>							pass
H	Pat panel surface,check screen is Normal <input checked="" type="checkbox"/> , Pat housing covers, check screen is Normal <input checked="" type="checkbox"/>							pass
I	Adjust Brightness 0% ~ 100% ,check everything normal <input checked="" type="checkbox"/> , No any wave <input checked="" type="checkbox"/>							pass
J	Panel quality							A
K	Remote controller <input type="checkbox"/> , MUTE <input type="checkbox"/>							pass
L	Resolution <input checked="" type="checkbox"/> , EDID <input checked="" type="checkbox"/>							pass
M	Auto Switch:, unplug VGA and then auto switch to DVI <input type="checkbox"/> or auto switch VGA <input type="checkbox"/>							pass
N	Touch panel : Calibration <input checked="" type="checkbox"/> , Accuration <input checked="" type="checkbox"/> , Touch Reaction <input checked="" type="checkbox"/>							
	press touch sensor , check touch no any wave <input checked="" type="checkbox"/>							pass
	Check touch No dead spot <input checked="" type="checkbox"/> , No any defect <input checked="" type="checkbox"/>							
Touch Driver Version Correction <input checked="" type="checkbox"/> , RS232 port <input type="checkbox"/> Compatibles ELO Driver <input type="checkbox"/>								
O	Continuity AC Power ON/OFF 10 times, On/Off <input checked="" type="checkbox"/> , Screen <input checked="" type="checkbox"/>							pass
P	DC Power or AC Power --- (+/-)20% variation of voltage-- function test are normal <input checked="" type="checkbox"/>							pass
Q	Burning Test : 2021/ 10/15 14:35 ~ 2021/ 10/16 14:35 Total : over 18Hr							pass
R	HI-POT <input type="checkbox"/> ESD <input type="checkbox"/> Vibration <input type="checkbox"/>							pass
S	Production Line OP :			Inspector / Date		Signature of handler / Date		
	FAE <input checked="" type="checkbox"/> Date : 15/10/2021			Suhua 2021/10/16		James Ho 2021/10/16		