Electromagnetic Compatibility

Test Report

Product Name ： Defence Panel PC

Model No. ： TDM-P240WH5TAGF-RND2

Test Item ： MIL-STD-461G (CE101 Navy)

Applicant ： Elgens Co., Ltd.

Address ： 7F.-6, No. 492, Bannan Rd., Zhonghe Dist., New Taipei City, Taiwan R.O.C.

Date of Receipt ： 2025/02/10

Issued Date ： 2025/05/05

Report No. ： 2520189R-E3072800005-1

Report Version ： V1.0

Testing Laboratory
3024

Report Statement

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

Issued Date : 2025/05/05

Report No. : 2520189R-E3072800005-1

Product Name	:	Defence Panel PC
Applicant	:	Elgens Co., Ltd.
Address	:	7F.-6, No. 492, Bannan Rd., Zhonghe Dist., New Taipei City, Taiwan R.O.C.
Model No.	:	TDM-P240WH5TAGF-RND2
EUT Voltage	:	28VDC
Applicable Standard	:	MIL-STD-461G
Test Result	:	In test report section
Laboratory Name	:	DEKRA Testing and Certification Co., Ltd. Hsinchu EMC Laboratory
Address	:	No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C. TEL: +886-3-582-8001 / FAX: +886-3-582-8958

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Approved By : Allen Syu

(Allen Syu / Senior Assistant Manager)

Revision History

Report No.	Version	Description	Issued Date
2520189R-E3072800005-1	V1.0	Initial issue of report	2025/05/05

Laboratory Information

We, **DEKRA Testing and Certification Co., Ltd.**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 and specified testing scopes:

Taiwan R.O.C.	**:**	**BSMI, NCC, TAF**
USA	**:**	**FCC**
Japan	**:**	**VCCI**

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site : http://www.dekra.com.tw

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

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E mail address	info.tw@dekra.com
Website	http://www.dekra.com.tw

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1. General Information

1.1. EUT Description

Product Name	Defence Panel PC
Model No.	TDM-P240WH5TAGF-RND2

1.2. Mode of Operation

The test mode defined by client and defined as:

Operation Mode	Details
Mode 1	Normal operation

Performed Item	Test applies (Y/N)	Operating Mode(s) to be used during verification
CE101 conducted emissions, audio frequency currents, power leads	Y	Mode 1

2. Technical Test

2.1. Summary of Test Result

Performed Item	Limit/ Level	Test Result
CE101 conducted emissions, audio frequency currents, power leads	CE101-4 CURVE #2 ≤28V	Compliant

Decision rule

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

2.2. Test Environment

Performed Item	Items	Value	Actual
CE101 conducted emissions, audio frequency currents, power leads	Temperature (°C)	18-28	23

2.3. List of Test Equipment

CE101 conducted emissions, audio frequency currents, power leads / HC-CB09

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Current Probe	R&S	EZ-17	100667	2024/05/20	2026/05/19
EMI Test Receiver	R&S	ESR7	102313	2024/09/12	2025/09/11
V-LISN	Schwarzbeck	NNBL 8226-2	00258	2023/12/29	2025/12/28
Function generator	Agilent	33120A	MY40001963	2024/08/05	2025/08/04
DEKRA Testing System	DEKRA	Version 2.0	HC-CB06	NA	NA

3. CE101 conducted emissions, audio frequency currents, power leads

3.1. Test Specification

According to EMC Standard: MIL-STD-461G (Section 5.4)

3.2. Test Configuration

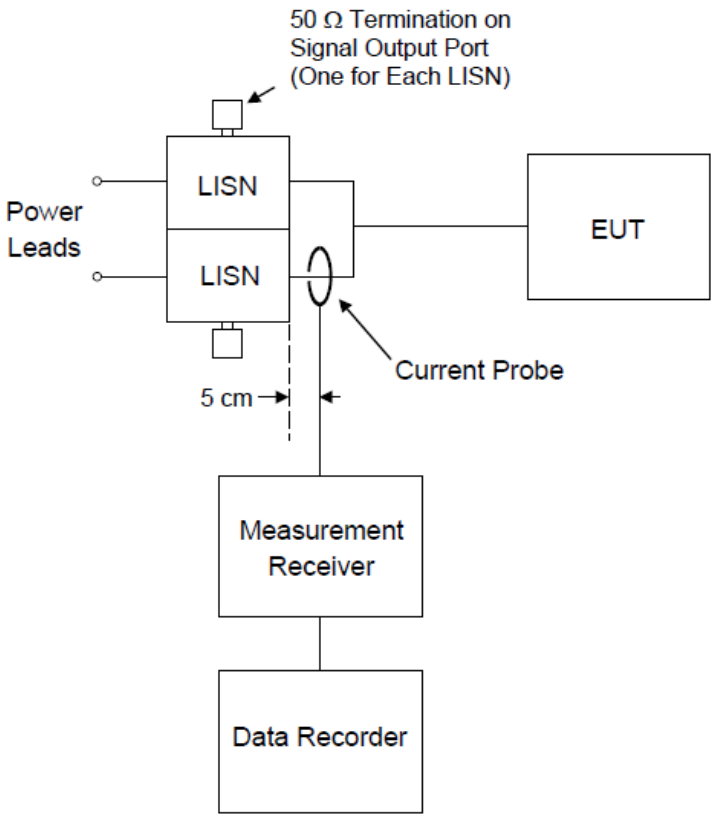


Figure CE101-6. Measurement setup.

3.3. Test Limits

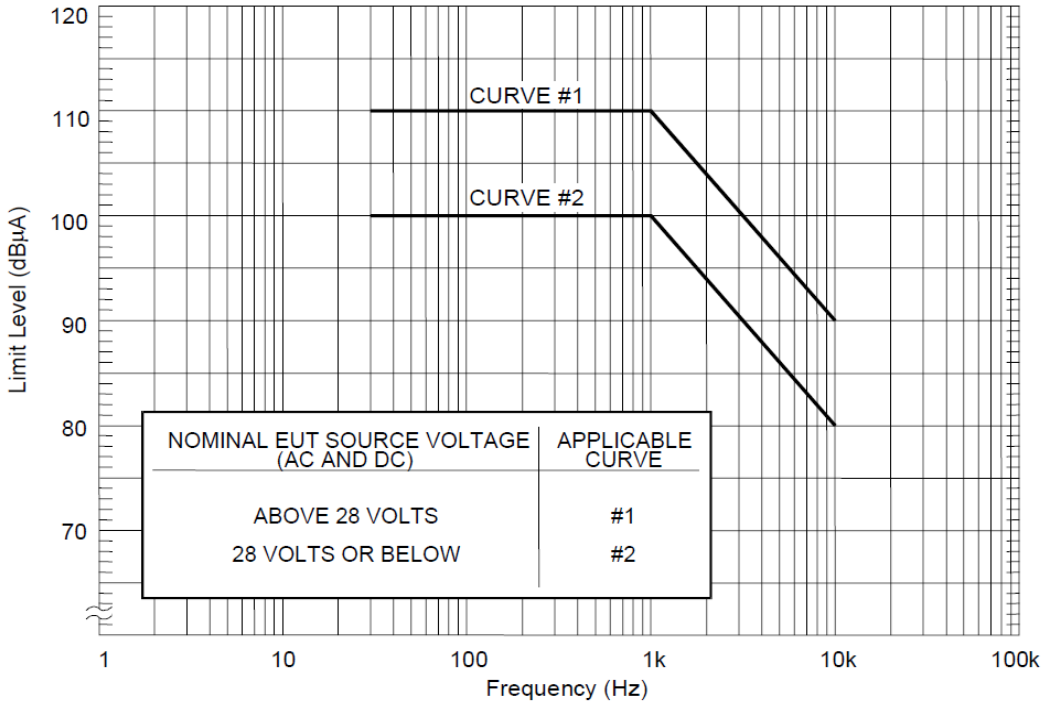


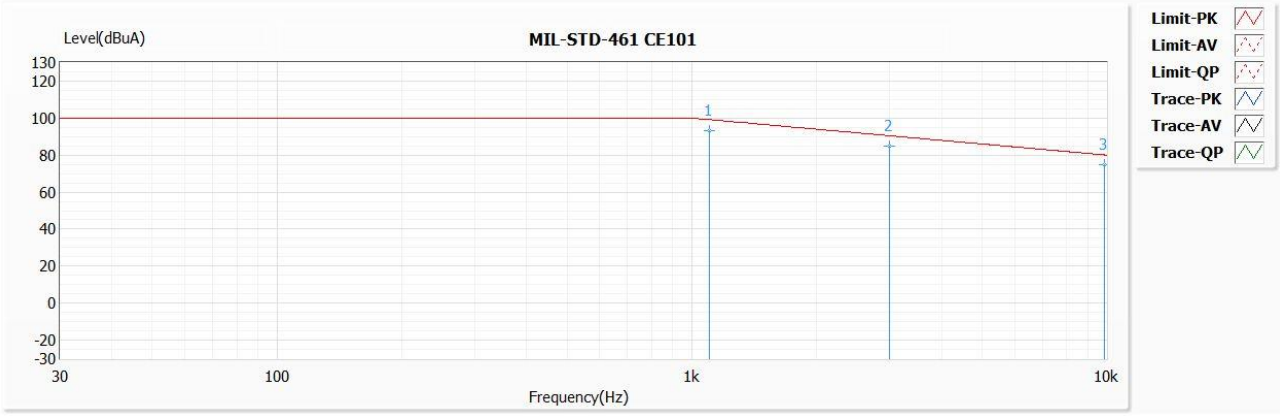
Figure CE101-4. CE101 limit for Navy ASW aircraft and Army aircraft (including flight line) applications.

3.4. Test Procedure

a. Turn on the measurement equipment and allow a sufficient time for stabilization.
b. Calibration. Perform the measurement system check using the measurement system check setup.
c. Turn on the EUT and allow a sufficient time for stabilization.
d. EUT testing. Perform emission data scans using the measurement setup.

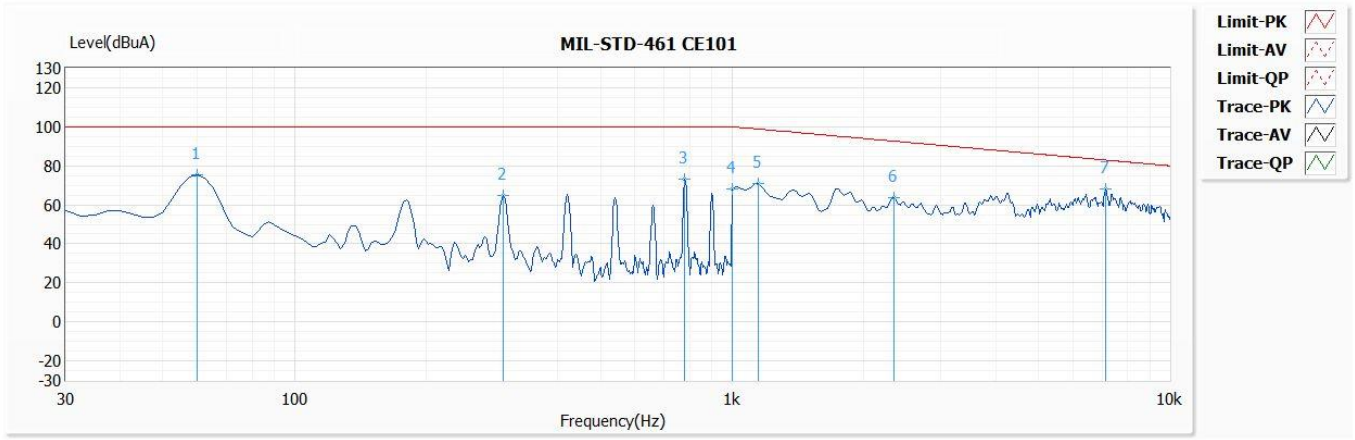
3.5. System calibration level

Limit	MIL-STD-461_CE101_AC,Item=Version D/E/F/G,Limit Class=CE101-4_<=28V, CURVE #2
Note	SYSTEM CHECK



3.6. Test Result

Model No	TDM-P240WH5TAGF-RND2	Site	HC-CB09
Test Voltage	AC 110V to DC 28V	Test Date	2025/2/18
Test Mode	Mode 1: Normal operation	Engineer	Jay Tai
Polarity	L	Temperature (℃)	23
Section	N/A	Humidity (%RH)	55
Limit	MIL-STD-461_CE101_AC,Item=Version D/E/F/G,Limit Class=CE101-4_<=28V, CURVE #2		
Note			



No	Frequency (Hz)	Emission Level (dBuA)	Limit (dBuA)	Margin (dB)	Reading Level (dBuA)	Correct Factor (dB)	Detector Type
1	60.000	75.60	100.00	-24.40	-24.73	100.33	PK
2	300.000	64.57	100.00	-35.43	-26.09	90.66	PK
3	780.000	73.22	100.00	-26.78	-9.75	82.97	PK
4	1.000k	68.39	100.00	-31.61	-12.35	80.74	PK
5	1.150k	70.91	98.79	-27.88	-8.98	79.89	PK
6	2.345k	63.47	92.60	-29.13	-10.72	74.19	PK
* 7	7.150k	68.01	82.91	-14.90	3.50	64.51	PK

Remark:

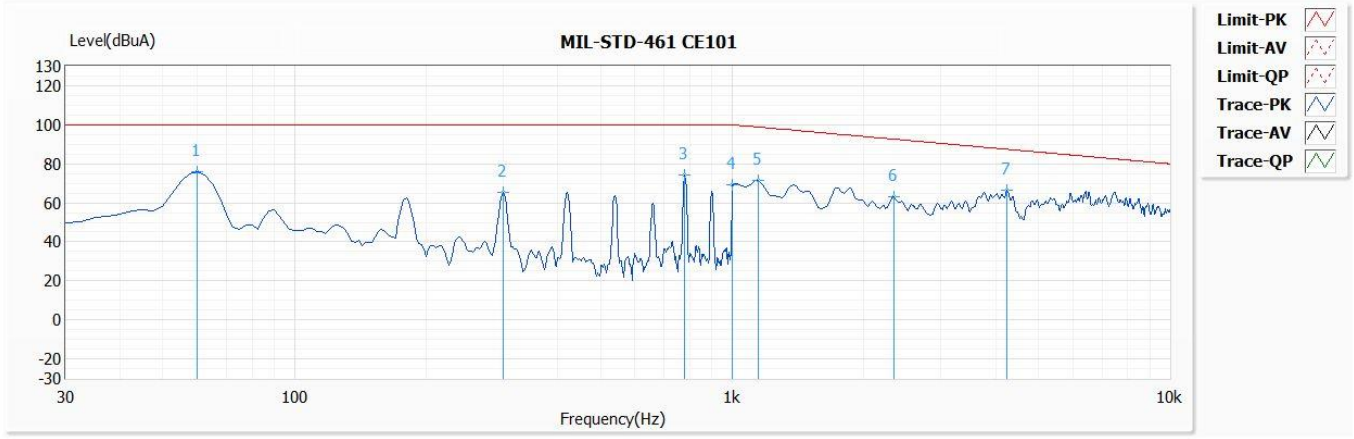
1. "*" means this data is the worst emission level; "!" means this data is over limit.

2. “PK” means Peak detector.

3. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+Cable Loss-Pre Amp).

4. Margin= Emission Level- Limit.

Model No	TDM-P240WH5TAGF-RND2	Site	HC-CB09
Test Voltage	AC 110V to DC 28V	Test Date	2025/2/18
Test Mode	Mode 1: Normal operation	Engineer	Jay Tai
Polarity	N	Temperature (℃)	23
Section	N/A	Humidity (%RH)	55
Limit	MIL-STD-461_CE101_AC,Item=Version D/E/F/G,Limit Class=CE101-4_<=28V, CURVE #2		
Note			



No	Frequency (Hz)	Emission Level (dBuA)	Limit (dBuA)	Margin (dB)	Reading Level (dBuA)	Correct Factor (dB)	Detector Type
1	60.000	75.80	100.00	-24.20	-24.53	100.33	PK
2	300.000	65.14	100.00	-34.86	-25.52	90.66	PK
3	780.000	74.18	100.00	-25.82	-8.79	82.97	PK
4	1.000k	69.46	100.00	-30.54	-11.28	80.74	PK
5	1.150k	71.28	98.79	-27.51	-8.61	79.89	PK
6	2.345k	63.20	92.60	-29.40	-10.99	74.19	PK
* 7	4.250k	66.17	87.43	-21.26	-3.19	69.36	PK

Remark:

1. "*" means this data is the worst emission level; "!" means this data is over limit.

2. “PK” means Peak detector.

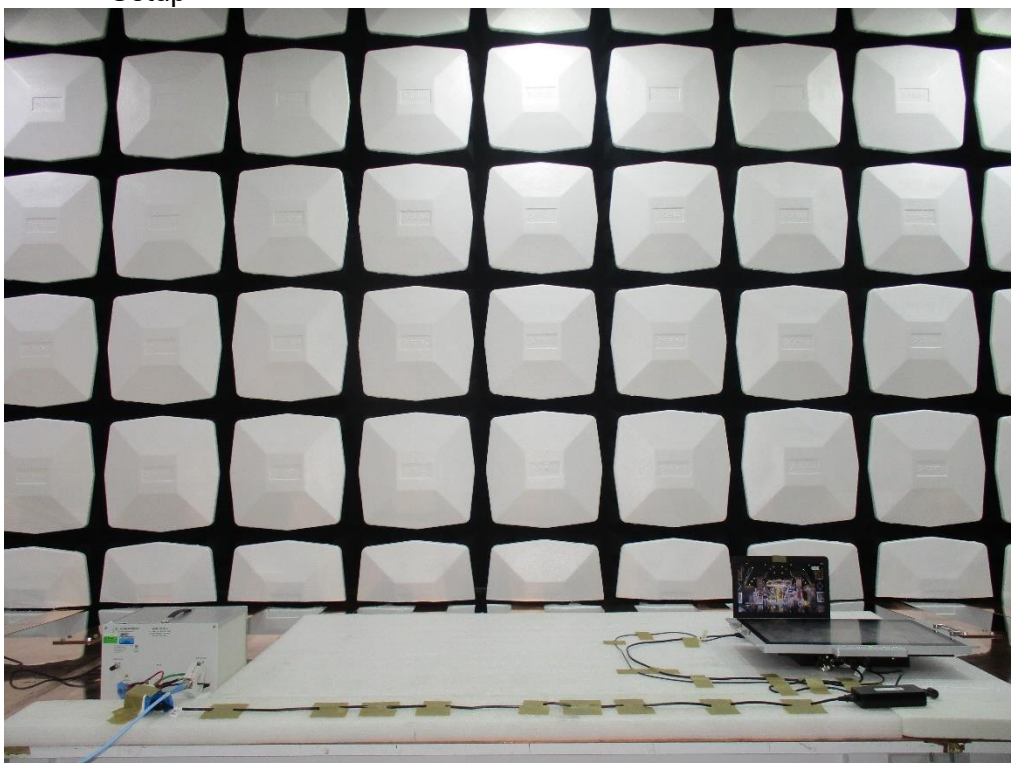
3. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+Cable Loss-Pre Amp).

4. Margin= Emission Level- Limit.

3.7. Test Photograph

Test Mode ： Mode 1: Normal operation

Description： CE101 conducted emissions, audio frequency currents, power leads Test Setup



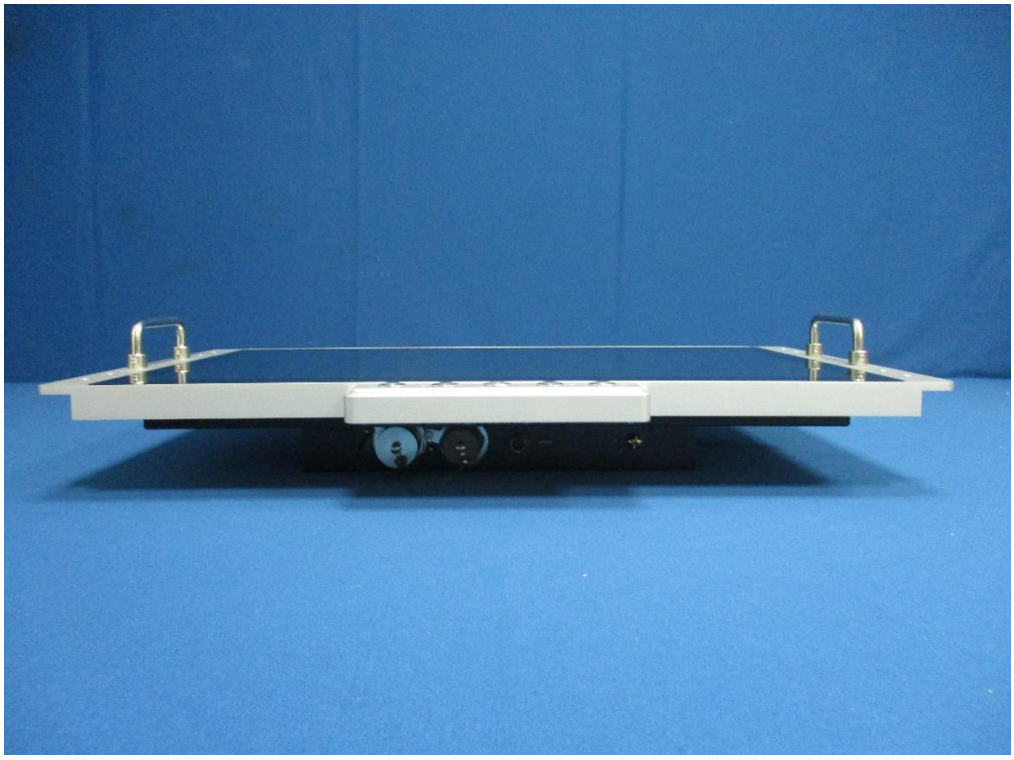
Test Mode ： Mode 1: Normal operation

Description： CE101 conducted emissions, audio frequency currents, power leads Test Setup

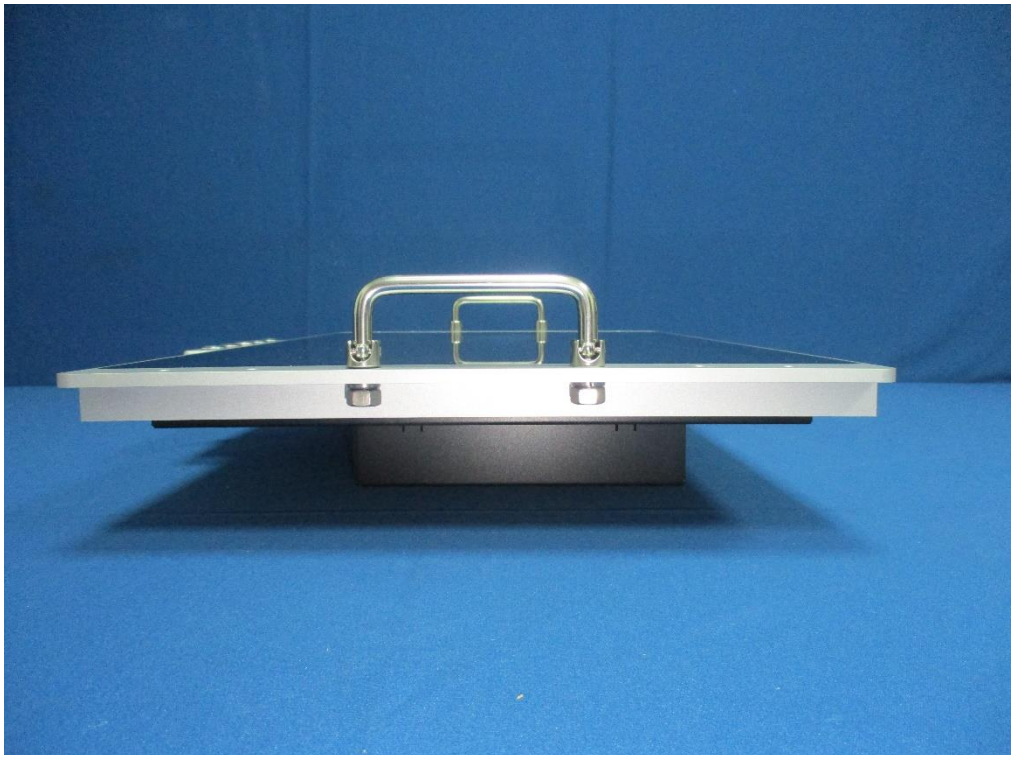


4. EUT Photograph

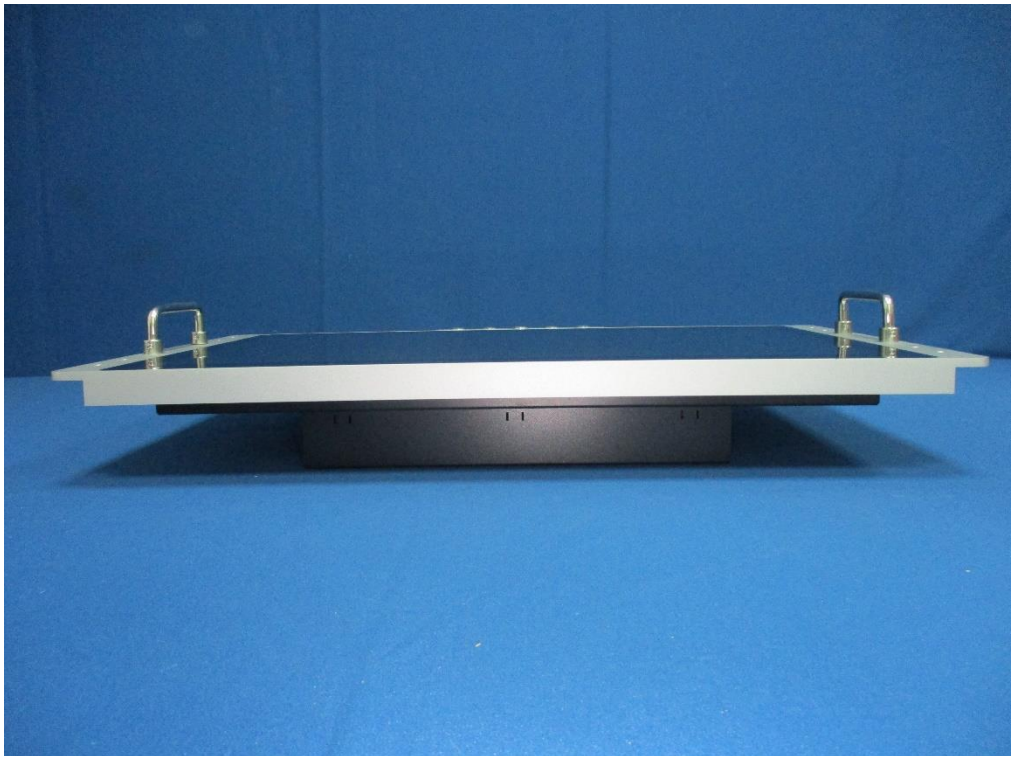
(1) EUT Photo



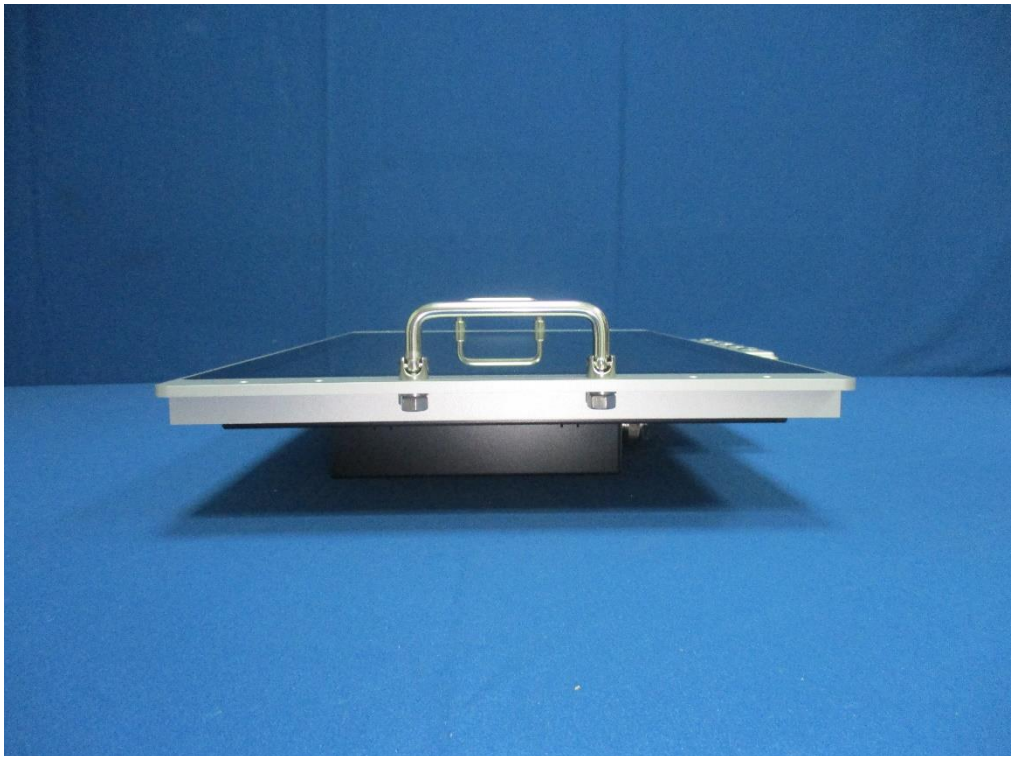
(2) EUT Photo



(3) EUT Photo



(4) EUT Photo



(5) EUT Photo



(6) EUT Photo



(7) EUT Photo_Harness



(8) EUT Photo_Harness



(9) EUT Photo_Harness



(10) EUT Photo_Harness



(11) EUT Photo_Harness



(12) EUT Photo_Harness



(13) EUT Photo_Harness



(14) EUT Photo_Harness

