

**DNV·GL**

Certificate No:  
**TAA00000KY**

## TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Personal Computer**

with type designation(s)  
**tBOX810-838-FL**

Issued to

**Axiomtek Co., Ltd.**  
**New Taipei City, Taiwan**

is found to comply with  
**DNV GL rules for classification – Ships**

**Application :**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

<b>Temperature</b>	<b>D</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>A</b>

This Certificate is valid until **2021-07-31**.

Issued at **Hamburg** on **2016-08-01**

DNV GL local station: **Kaohsiung**

Approval Engineer: **Dariusz Lesniewski**

for **DNV GL**

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**Duy Nam Le**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id: **262.1-021829-1**  
Certificate No: **TAA00000KY**

## Product description

The tBOX810-838-FL is an fanless embedded system with onboard Intel® Atom™ E3845 (1.91 GHz) processor.

### Main Features:

CPU: Intel® Atom™ processor E3845 (4C@1.91 GHz)  
System Memory: DDR3L-1333, 4 GB memory onboard  
HDD: Seagate, ST9320423AS\_32GB  
Graphic Integrated in the Intel® HD Graphics for VGA  
2 x PCI Express mini card slot, 1 x SIM card socket  
BIOS AMI Ver. 2.16.1242

### System I/O

2x GbE LAN (M12 D-coded)  
1x power input (M12 A-coded)  
4x antenna opening  
2x RS-232/422/485  
1x 8bit programmable DIO  
1x VGA  
2x USB 2.0  
1x reset button  
1x remote power switch

Power Supply: 24 VDC  
Mounting: wall mount or DIN rail

Compass safe distances: Standard compass: 75 cm; Steering compass: 55 cm

## Application/Limitation

Shielded signal cables to be used

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

### Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

### Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV GL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

## Type Approval documentation

Test Report No. 1620425R-ITCEP16V00 V2.0 of QuieTek, dated 2016/05/31  
Test Report No. UT105020 of UTI, dated April 13, 2016  
Test Report No. VZ-160510-1 of KDI, dated 2016/04/26  
Test Report No. 20842 Applica T & C, dated 2016-05-26  
Type Approval Report V1.0 of MingTECH, dated 2016-06-09 (documents dossier)  
Type approval assessment report issued at Kaohsiung on 2016-06-03.

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### Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015  
Applicable tests according to IEC 60945, 4<sup>th</sup> Edition (2002)  
Applicable tests according to IACS UR E10, Rev.6 October 2014

For the bridge mounted components the 'Acoustic noise and signals' and the 'Compass safe distance' were measured according to sections 11.1 and 11.2 of IEC 60945, 4<sup>th</sup> edition (2002).

### Marking of product

The products to be marked with:

- Manufacturer Name: AXIOMTEK
- Model No.: tBOX810-838-FL
- Serial Number: xxxxx
- Power Rating: 24Vdc, 1A
- Compass Safe Distance 75 cm

### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least once during the validity period and at renewal of this certificate.

END OF CERTIFICATE

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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