



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAA00000JF**  
Revision No:  
**2**

## This is to certify:

**That the Personal Computer**

with type designation(s)  
**AMPC-2930**

Issued to

**Autic System AS**  
**TØNSBERG, Norway**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**  
**IEC 60945 Ed. 4 (2002-08) Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results**

## Application :

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

## Location classes:

<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 / IP20</b>

Issued at **Høvik** on **2021-05-28**

for **DNV**

This Certificate is valid until **2025-12-31**.

DNV local station: **Sandefjord**

Approval Engineer: **Ståle Sneen**

**Marta Alonso Pontes**  
**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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

Rugged box PC type AMPC-2930 including PCI Express card A1321\_PCIe (2x Isolated 422/485 port)

Dielectric strength for the isolated 422/485 ports: 1.5 kVAC

Power supply: 90~264 VAC / 9~32 VDC

Standard compass safe distance: 70 cm  
Steering compass safe distance: 45 cm

## Place of manufacture

Nagasaki IPC Technology Corp.,  
New Taipei City, Taiwan

## Application/Limitation

The box PC shall be supplied by the standard power adapter, or by another galvanically isolated supply of approved type.

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 certification the clause for software control will be put into force.

### Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

## Type Approval documentation

[I-34] AMPC-2930 Product data sheet No. DB110-2016  
[I-33] NASA-2930 (motherboard) User manual, undated  
[I-25] Autic System Marine PC, Product leaflet No. BR101  
[I-36] Autic System Marine PC, Installation and User Manual Rev.1.1 dated 2016-08-26  
[I-15] Gtti Test Report No. A102021902 dated 2013-07-03 (Mechanical)  
[I-16] Universal Testing Test Report No. UT101174 dated 2012-12-12 (Electrical safety)  
[I-17] ETC Test Report No. 13-01-VAA-103 dated 2013-03-05 (IP55)  
[I-19] Manufacturer declaration that product meet IEC60945 8.12 Corrosion test dated 2016-05-09  
[I-20] DNV Technical Report No.2013-3134 Rev.0 (Acoustic noise, Conducted LFI)  
[I-6] Quietek EMC Test Report No. 08C257R-MISC Rev.V1.0 (Power supply variation test)  
[I-31] DEKRA Test Report No. 1640026R-ITCEP16V00 Rev.V2.0 dated 2021-04-21 (EMC)  
[I-29] Universal Testing Test Report No. UT105033-2 dated 2016-05-18 (Climatic)  
[I-27] Applica Technical Report No. 20894 Rev.0 dated 2016-06-10 (Compass safe distance)  
Type approval renewal assessment report for TAA00000JF, DNV Kaohsiung 2021-04-20  
Type approval renewal assessment report for TAA00000JF, DNV Sandefjord 2021-05-25

## Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

Applicable tests for protected equipment according to IEC 60945, 4<sup>th</sup> edition (2002) with 8.2 Corrosion test waived.

## Marking of product

Type as listed under Product description  
Manufacturer Nagasaki IPC Technology Corp.  
Unique serial number  
Power supply ratings  
Compass safe distance

### **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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE