

EU-TYPE EXAMINATION (MODULE B) CERTIFICATE

Radio Equipment Directive (RED) 2014/53/EU

PHOENIX TESTLAB
Notified Body Number **0700**



This is to certify that:

PHOENIX TESTLAB did undertake the relevant type examination procedures for the radio equipment identified below which was found to be in compliance with the essential requirements of Radio Equipment Directive (RED) 2014/53/EU subject to any conditions in the annex attached hereto.

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|-------------------------|---|
| Certificate No. | 20-112051 |
| Manufacturer | Alltek Marine Electronics Corp. |
| Address | 14F-2, No. 237, Sec. 1, Datong Rd., Xizhi Dist., New Taipei City 22161, Taiwan |
| Product Description | AIS Class B transponder, with GPS (M10W: with additional WLAN) |
| Brand Name / Model Name | McMurdo Smartfind M10, M10W / Orolia Type Z602, Z603 |

The radio equipment meets the following essential requirements

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|--|----------------|
| Article 3.1 a): Health and Safety | Conform |
| Article 3.1 b): Electromagnetic Compatibility | Conform |
| Article 3.2: Effective and Efficient Use of Radio Spectrum | Conform |
| Additional Essential Requirements: Article 3.3 g): Access to emergency services | Conform |

Date of issue: **2021-01-19** Expiry date: **2026-01-18**

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached annex are complied with. The conditions for the validity of this certificate are listed in the Annex.

The attached Annex forms part of this certificate. This certificate consists of 4 pages.



Signed by Klaus Knörig
Notified Body

Annex

Technical description

| | |
|-----------------------------|--|
| Frequency Range | 156.025 MHz to 162.025 MHz (AIS Transponder) 2412 MHz to 2472 MHz (WLAN) 1575.42 MHz (GPS, receive-only) |
| Channel Separation | 25 kHz (AIS Transponder) |
| Modulation scheme | GMSK / FM (AIS Transponder) |
| Transmit Power | 33 dBm \pm 1.5 dB conducted (AIS Transponder) 19.4 dBm EIRP (WLAN) |
| Hardware Version | M-PCB-B108MBV11 M-PCB-B601WFBV1 (Option for M10W / Z603) |
| Software Version | V1.2.8 |
| Operating temperature range | -15°C to +55°C |

System Components

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|--------------|---|
| Main Unit | AIS Class B Transponder |
| VHF antenna | TENTA-11, max. gain 2.86 dBi |
| GPS antenna | ANT-21 or GA-22 |
| WLAN antenna | M-ANT-SAA04-05005G-01, peak gain 2 dBi (at 2.4 GHz) |

Approval documentation

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|---|--|
| Operator's Manual | Smartfind M10 & M10W, AIS Transponder, User Manual, 21-235-001 Issue 18 |
| Block Diagram | Block Diagram |
| Circuit Diagram | Schematic_M-PCB-B108IOBV1 Schematic_M-PCB-B108MBV11 Schematic_M-PCB-B601WFBV1 |
| Operational Description | Operational Description |
| PCB Layout | PCB layout_M-PCB-B108IOBV1 PCB layout_M-PCB-B108MBV11, 2018-04-11 PCB layout_M-PCB-B601WFBV1 |
| Parts List | Parts list_M-PCB-B108IOBV1 Parts list_M-PCB-B108MBV11, 2020-02-10 Parts list_M-PCB-B601WFBV1 |
| EU Declaration of Conformity | Declaration of Conformity, 2020-12-10 |
| Declaration of compliance Article 10(2) and Article 10(10) | Declaration of Compliance, 2016-09-07 |
| Declarations letters | Declaration of Equality for McMurdo M10 series, 2020-12-10 Declaration of Equality for GPS Module EVA-M8M, 2020-09-13 |

Approval documentation

| | |
|----------------------------------|---|
| Label | M10 Product Label, M10W Product Label (contained in Declaration of Equality for McMurdo M10 series) |
| External / Internal photos | External and internal photos M10, M10W (contained in Declaration of Equality for McMurdo M10 series) |
| Risk assessment | Risk Assessment of McMurdo M10 Series |
| Hardware / Software information | Hardware and software versions, 2020-02-11 |
| TCF Waiver Document | Technical Construction File Waiver Document AIS Class B Transponder |
| Antenna specifications | Antennas v1.4, Antennas v1.5 |
| Description of modifications | Modified areas, new GNSS receiver Technical Note: Compatibility Test of CAMINO-108 GPS Function between u-blox AMY-6M and u-blox EVA-M8M, document no. TN-CAMINO-108-GPS-01, Issue 1.0, 2019-12-11 |
| EU-Type Examination Certificates | Based on EU-Type Examination Certificates 20-111498a, issued by the Notified Body PHOENIX TESTLAB GmbH |

Applied Standards and Test Reports

| Specification | Laboratory | Test Report Number / Version |
|--|--|--|
| EN 62368-1:2014+A11:2017 | DEKRA | SN2006002 |
| EN 62311:2008 | QuieTek Corporation | 1620048R-SACEP56V00 V2.0 |
| EN 301 843-1 V2.1.1 | QuieTek Corporation | 1620048R-RFCEP01V00-A |
| EN 301 843-2 V2.1.1 | | |
| EN 60945 Ed. 4:2002 clauses 9, 10, 12.2 | QuieTek Corporation | 135096R-ITCEP26V01 V2.0 |
| IEC 60945: 2002-08 Clauses 9, 10 | DEKRA | 1720081A-S-CUSTOM |
| IEC 60945 Ed. 4.0:2002 | SGS | HC20045/2017 |
| IEC 60945 Ed. 4.0:2002 | SGS | HC50235A/2018 |
| IEC 60945 Ed. 4.0:2002, Clause 8.7 | SGS | HHD0021A/2016 |
| EN 301 489-1 V2.1.0 | QuieTek Corporation | 1620048R-RFCEP01V00 |
| EN 301 489-3 V2.1.0 | | |
| EN 301 489-1 V2.1.0 | QuieTek Corporation | 1620048R-RFCEP02V00 V2.0 |
| EN 301 489-17 V3.1.0 | | |
| IEC 62287-1 Ed. 2:2010 Clause 11 and Annex C.4 | PHOENIX TESTLAB | F130840E1 |
| EN 303 413 V1.1.1 | SGS Compliance Certification Services Inc. | T190102W01RT |
| EN 300 328 V2.1.0 | QuieTek Corporation | 1620048R-RFCEP24V00 V2.0 |
| IEC 61108-1 Ed. 2:2003 | BSH | BSH/4543/001/4143083/16 |
| IEC 62287-1 Ed. 2:2010 + A1:2013 Clause 12 and Annex C.3 | BSH | BSH/4542/001/4322516/13 |
| ITU-R M.1371-4 (2010) | BSH | Certificate No. |
| IEC 61162-1 Ed. 4.0:2010 | | BSH/4542/001/4322516/13 |
| IEC 61162-2 Ed. 1.0:1998 | | |
| ITU-R M.1371-5 (2014) | AMEC | B108 Technical Note TN-B108-2020-001, 2020-09-18 |




Applied Standards and Test Reports

| Specification | Laboratory | Test Report Number / Version |
|---|---------------------|--|
| IEC 62287-1 Ed. 2:2010 + A1:2013 Clauses 10,12,13 and Annex C.3 | PHOENIX TESTLAB | F130840E2 2 nd Version |
| IEC 62287-1 Ed. 2.1:2013 Clause 10.6.1.3 | PHOENIX TESTLAB | F162340E1 |
| IEC 62287-1 Ed. 3.0:2017 Clauses 11.2, 11.3.1, 11.1.2, 11.3.2 | PHOENIX TESTLAB | F172634E1 |
| EN 60945 Ed. 4:2002 IEC 62287-1 Ed. 2:2010 EN 60068-2-1:2008 EN 60068-2-2:2008 EN 60068-2-78:2002 | PHOENIX TESTLAB | U130840E1, 4th Version |
| IEC 62287-1 Ed. 2:2010 Clause 9.2.1 | SGS Taiwan | HC30037A/2013 |
| IEC 60068-2-52 Ed. 2:1996 EN 60945 Clause 11.2 | IST BSH | HS1303150050A-1 Compass safe distance, Certificate No. 813/1 |
| IEC 62287-1 Ed. 2:2010 Clause 9.4 | QuieTek Corporation | SN1307032-A, Rev. 2 |
| IEC 62287-1 Ed. 2:2010 Clause 9.2.2 | SGS Taiwan | HCD0137A/2009 |
| IEC 60529 Ed. 2.1:2001 | SGS Taiwan | HCD0137A/2009 |
| IEC 60529 Ed. 2.2: 2013 | SGS | HH40002A/2017 |
| IEC 60529 Ed. 2.2: 2013 | SGS | HHD0021B/2016 |

Limitations / Restrictions

- None -

Notes

1. This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with PHOENIX TESTLAB.
2. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/them being placed on the market.
3. The manufacturer shall take all measures necessary so that the manufacturing process and its monitoring ensure conformity of the manufactured radio equipment with the approved type described in the EU-type examination certificate and with the requirements of Directive 2014/53/EU that apply to it.
4.  The manufacturer shall affix the CE marking to each item of radio equipment that is in conformity with the type described in the EU-type examination certificate and satisfies the applicable requirements of the Directive.
5. The manufacturer shall draw up a written EU declaration of conformity for each radio equipment type and keep it at the disposal of the national authorities for 10 years after the radio equipment has been placed on the market. The EU declaration of conformity shall identify the radio equipment type for which it has been drawn up. A copy of the EU declaration of conformity shall be made available to the relevant authorities upon request.