EU type-examination certificate (Module B)
182140307/AA/07

Issued 05 June 2024

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This certificate has THREE Annexes

CERTIFICATE

In compliance with the procedure specified in the **Radio Equipment Directive Scheme** RD_061, Kiwa Nederland B.V. declares as designated Notified Body 0063 for the Radio Equipment Directive, that the stated product complies with the essential requirements, in accordance with Article 3 of Directive 2014/53/EU and amending Directive (EU) 2022/2380, as indicated under Annex 1 of this certificate, based on the applicable technical standards and specifications as listed in Annex 2 of this certificate.

Product description:	**Marine radar**
Trademark:	**FURUNO**
Type designation:	**FAR-2218**
Variants:	**See Annex 3**

This certificate is granted to manufacturer:

Name:	**Furuno Electric Co., Ltd.**
Address:	**9-52 Ashihara cho**
City:	**662-8580 Nishinomiya**
Country:	**JAPAN**

This certificate remains valid as long as the stated product stays in compliance with the essential requirements of the Radio Equipment Directive.

Ron Scheepers
Managing director

PRODUCTS
RvA C 002

Kiwa Nederland B.V.
Wilmersdorf 50
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7300 AC Apeldoorn
The Netherlands

https://www.kiwa.com/nl/en/markets/radio-wireless-and-electrical-equipment/

Chamber of commerce
08090048

General Conditions

For each product to which this EU-type examination certificate relates, it has complied to the essential requirements as follows:

Article 3.1

Radio equipment shall be constructed so as to ensure:

C	(a)	the protection of health and safety of persons and of domestic animals and the protection of property, including the objectives with respect to safety requirements set out in Directive 2014/35/EU, but with no voltage limit applying;
C	(b)	an adequate level of electromagnetic compatibility as set out in Directive 2014/30/EU.

Article 3.2

C		Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

Article 3.3

Radio equipment within certain categories or classes shall be so constructed that it complies with the following essential requirements:

NA	(a)	radio equipment interworks with accessories other than the charging devices for the categories or classes of radio equipment, specified in Part I of Annex Ia, which are specifically referred to in paragraph 4 of this Article
NA	(b)	radio equipment interworks via networks with other radio equipment;
NA	(c)	radio equipment can be connected to interfaces of the appropriate type throughout the Union;
NA	(d)	radio equipment does not harm the network or its functioning nor misuse network resources, thereby causing an unacceptable degradation of service;.
NA	(e)	radio equipment incorporates safeguards to ensure that the personal data and privacy of the user and of the subscriber are protected;
NA	(f)	radio equipment supports certain features ensuring protection from fraud;
NA	(g)	radio equipment supports certain features ensuring access to emergency services;
NA	(h)	radio equipment supports certain features in order to facilitate its use by users with a disability;
NA	(i)	radio equipment supports certain features in order to ensure that software can only be loaded into the radio equipment where the compliance of the combination of the radio equipment and software has been demonstrated.

Article 3.4

NA	(a)	Radio equipment falling within the categories or classes specified in Part I of Annex Ia shall be so constructed that it complies with the specifications relating to charging capabilities set out in that Annex for the relevant category or class of radio equipment.

Legend

C	=	Conform
NC	=	Not Conform
NA	=	Not applicable (for this equipment)
NP	=	Not performed (for this certificate)

- This EU-type examination certificate is limited to the Radio Equipment Directive.
- This EU-type examination certificate is part of the Conformity Assessment procedure Module B and C, as described in annex III of the Radio Equipment Directive.
- The validity of this EU-type examination certificate is limited to products, which are equal to the one(s) assessed for this EU-type examination.
- When the manufacturer (or holder of this EU-type examination certificate) is placing the listed products on the European market or the countries of the EEA, he is obliged to label the products with the prescribed CE logo. The CE logo stands for conformity to all applicable Directives.
  Next to the CE logo the manufacturer has to draw up and issue a Declaration of Conformity, declaring that the product(s) described in this EU type-examination certificate, are in compliance with Directive 2014/53/EU and any other applicable EU harmonization legislation.
- Each product shall be identified by means of type, batch and/or serial numbers and the name of the manufacturer and/or importer.
- If the equipment is to be modified, Kiwa shall be notified immediately. Depending on the modifications, Kiwa may have additional examinations carried out in consultation with the applicant.
- Enforcement of a new amending directive voids the validity of this EU-type examination certificate.
- In case any referenced standard in this EU-type examination certificate is withdrawn or superseded and the presumption of conformity with the essential requirements has ceased, investigation by Kiwa is needed to determine the validity of this EU-type examination certificate.

Remarks and observations

The following conditions are applicable:

AA/07: Add monitor unit MU-192 as described in this TCF.
AA/06: models variants added(FAR-2018-MARK-2/FAR-2028-MARK-2) / added the companion accessory (monitor - MU-192HD) as described in this TCF
AA/05: add new model (FAR-2268DS)
AA/04: Adds the standard IEC62368-1 Ed.3.
AA/03: Added 3 new model names (FAR-2228-NXT, FAR-2228-NXT-BB, FAR-2328-NXT).
AA/02: Added 3 new model names (FAR-2258 / FAR-2258-BB / FAR-2358).
AA/01: Addition of DC power to Processor unit RPU-025

Model difference: Radar types, frequency band, Monitor size and output power.
The radar series are Non-IMO version without Performance monitor, and included RP board and LAN signal converter as the option unit.

Documentation lodged for this EU-type examination

Test Reports:

- Labotech International Co., Ltd.: FLI 12-10-068, 06 December 2010
- Labotech International Co., Ltd.: FLI 12-13-062, 12 September 2013
- Labotech International Co., Ltd.: FLI 12-13-072, 18 November 2013
- Labotech International Co., Ltd.: FLI 12-13-074, 22 November 2013
- Labotech International Co., Ltd.: FLI 12-13-076, 11 November 2013
- Labotech International Co., Ltd.: LIC 12-16-009, 25 March 2016
- Labotech International Co., Ltd.: LIC 12-16-010, 25 March 2016
- Labotech International Co., Ltd.: LIC 12-16-011, 25 March 2016
- Labotech International Co., Ltd.: FLI 12-13-057, 18 October 2013
- Labotech International Co., Ltd.: FLI 12-13-058, 18 October 2013
- Labotech International Co., Ltd.: FLI 12-13-059, 28 October 2013
- Labotech International Co., Ltd.: LIC 01-18-006, 30 March 2018
- Labotech International Co., Ltd.: LIC 01-18-007, 30 March 2018
- Labotech International Co., Ltd.: LIC 01-18-008, 30 March 2018
- Labotech International Co., Ltd.: LIC 01-18-009, 30 March 2018
- Labotech International Co., Ltd.: LIC 12-18-008, 31 January 2018
- Labotech International Co., Ltd.: LIC 12-18-009, 30 January 2018
- Labotech International Co., Ltd.: LIC 12-18-010, 30 January 2018
- Labotech International Co., Ltd.: LIC 12-18-012, 30 January 2018
- LIC 12-18-011, 30 January 2018
- Labotech International Co., Ltd.: LIC 12-17-134, 15 November 2017
- Furuno Electric Co., Ltd.: RET-18-002, 20 February 2018
- Furuno Electric Co., Ltd.: RET-18-005-0, 19 March 2018
- Furuno Electric Co., Ltd.: RET-18-007, 23 February 2018
- QinetiQ Funtington: QINETIQ/MS/MAR/CR1303326/V1.2, 04 September 2013
- Applica Test & Certification: 20128, 28 February 2014
- Labotech International Co., Ltd.: LIC 12-17-018, 26 May 2017
- Labotech International Co., Ltd.: LIC 12-17-021, 26 May 2017
- Labotech International Co., Ltd.: LIC 12-19-014, 16 April 2019
- Labotech International Co., Ltd.: LIC 12-19-015, 16 April 2019
- Labotech International Co., Ltd.: LIC 12-19-016, 16 April 2019
- Labotech International Co., Ltd.: LIC 12-19-017, 16 April 2019
- Labotech International Co., Ltd.: LIC 12-19-018, 16 April 2019
- Labotech International Co., Ltd.: LIC 12-19-050, 30 May 2019
- Labotech International Co., Ltd.: LIC 12-19-051 , 30 May 2019
- Labotech International Co., Ltd.: LIC 12-19-052, 30 May 2019
- Labotech International Co., Ltd.: LIC 12-19-053, 30 May 2019
- Labotech International Co., Ltd.: LIC 12-19-054, 30 May 2019
- Labotech International Co., Ltd.: LIC 12-19-055, 30 May 2019
- Labotech International Co., Ltd.: LIC 12-19-056, 30 May 2019
- Furuno Electric Co., Ltd.: RET-19-017, 31 May 2019
- Furuno Electric Co., Ltd.: RE-17-005, 17 February 2017
- applica: 30215, 30 October 2019
- Labotech International Co., Ltd.: LIC 12-19-151, 27 September 2019
- Labotech International Co., Ltd.: LIC 12-19-152, 27 September 2019
- Labotech International Co., Ltd.: LIC 12-19-155, 27 September 2019
- Labotech International Co., Ltd.: LIC 12-19-156, 27 September 2019
- Labotech International Co., Ltd.: LIC 12-19-159, 23 October 2019
- Labotech International Co., Ltd.: LIC 12-19-160 Rev.1, 29 February 2020
- Labotech International Co., Ltd.: LIC 12-19-161, 27 September 2019
- Labotech International Co., Ltd.: LIC 12-20-041, 27 April 2020
- Labotech International Co., Ltd.: LIC 12-20-057, 26 May 2020
- Labotech International Co., Ltd.: LIC 12-20-125, 16 September 2020

- Labotech International Co., Ltd.: LIC 12-20-137, 26 September 2020
- Labotech International Co., Ltd.: LIC 12-20-150, 13 October 2020
- Labotech International Co., Ltd.: LIC 12-20-160, 29 October 2020
- Labotech International Co., Ltd.: LIC 12-20-161, 29 October 2020
- Labotech International Co., Ltd.: LIC 12-20-163, 29 October 2020
- Labotech International Co., Ltd.: LIC 12-21-001, 26 February 2021
- Labotech International Co., Ltd.: LIC 12-21-002, 26 February 2021
- Labotech International Co., Ltd.: LIC 12-21-003, 26 February 2021
- Labotech International Co., Ltd.: LIC 12-21-004, 26 February 2021
- Furuno Electric Co., Ltd.: RET-21-001, 01 March 2021
- Labotech International Co., Ltd.: LIC 12-22-114, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-116, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-117, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-118, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-122, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-125, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-134, 08 September 2022
- Cosmos Corporation Matsusaka lab.: CJ22-166336S-1, 13 June 2022
- Labotech International Co., Ltd.: LIC 12-22-111, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-127, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-128, 31 August 2022
- Labotech International Co., Ltd.: LIC 12-22-129, Rev.1, 03 June 2024
- Applica Test & Certification: 31140, 24 February 2023
- Labotech International Co., Ltd.: LIC 12-24-005, 10 April 2024
- Labotech International Co., Ltd.: LIC 12-24-011, 10 April 2024

Product Documentation:

- Assembly drawings
- Bill of materials
- Block diagram
- Electrical diagrams
- Internal photos
- External photos
- Manual
- Label and label placement
- Test setup photos
- Risk assessment
- Packaging information
- RED declarations

Technical Standards and Specifications

The product is compliant with:

EN 301 843-1	November , 2017	V2.2.1
EN 302 248	November, 2016	V2.1.1
IEC 60945	August, 2002	Edition 4
IEC 60950-1	December, 2005	
IEC 60950-1/A1	December, 2009	
IEC 60950-1/A2	May, 2013	
IEC 62311	August, 2007	
IEC 62368-1	October, 2018	Ed. 3.0
IEC 62388	June, 2013	Ed. 2.0

Technical features and characteristics

The product includes the following features and characteristics:

Radar equipment
- Operating frequency range: 9410 MHz ± 30 MHz
- Modulation method(s): P0N
- Maximum output power: 12 kW rated
- Transceiver unit: RTR-131, Antenna unit: XN12AF-RSB146, XN20AF-RSB146, XN24AF-RSB146

Radar equipment
- Operating frequency range: 9410 MHz ± 30 MHz
- Modulation method(s): P0N
- Maximum output power: 25 kW rated
- Transceiver unit: RTR-132, Antenna unit: XN12AF-RSB146, XN20AF-RSB146, XN24AF-RSB146

Radar equipment
- Operating frequency range: 9410 MHz ± 30 MHz
- Modulation method(s): P0N
- Maximum output power: 12 kW rated
- Transceiver unit: RTR-105, Antenna unit: XN12CF-RSB128, XN20CF-RSB128, XN24CF-RSB128

Radar equipment
- Operating frequency range: 9410 MHz ± 30 MHz
- Modulation method(s): P0N
- Maximum output power: 25 kW rated
- Transceiver unit: RTR-106, Antenna unit: XN12CF-RSB128, XN20CF-RSB128, XN24CF-RSB128

Radar equipment
- Operating frequency range: 9410 MHz ± 30 MHz
- Modulation method(s): P0N
- Maximum output power: 50 kW rated
- Transceiver unit: RTR-122, Antenna unit: XN24AF-RSB139, XN30AF-RSB139

Radar equipment
- Operating frequency range: 3050 MHz ± 30MHz
- Modulation method(s): P0N
- Maximum output power: 30 kW rated
- Transceiver unit: RTR-107, Antenna unit: SN24CF-RSB129, SN30CF-RSB129, SN36CF-RSB129

Radar equipment
- Operating frequency range: 3050 MHz ± 30MHz
- Modulation method(s): P0N
- Maximum output power: 60 kW rated
- Transceiver unit: RTR-129, Antenna unit: SN30AF-RSB144, SN36AF-RSB144, SN30DF-RSB144

Radar equipment
- Operating frequency range: CH1 P0N: 3043.75MHz / Q0N: 3063.75± 5MHz or CH2 P0N: 3053.75MHz / Q0N:3073.75± 5MHz
- Modulation method(s): P0N; Q0N
- Maximum output power: 250 W rated
- Transceiver unit: RTR-111, Antenna unit: SN24CF-RSB133, SN30CF-RSB133, SN36CF-RSB133.

Radar equipment
- Operating frequency range: CH1 P0N: 9403.75 MHz/ Q0N: 9423.75 MHz ±5 MHz or CH2 P0N: 9413.75 MHz/ Q0N: 9433.75 MHz ±5 MHz
- Modulation method(s): P0N; Q0N
- Maximum output power: 600 W rated
- Transceiver unit: RTR-123, Antenna unit: XN12CF-RSB128, XN20CF-RSB128, XN24CF-RSB128

The product as described in this EU-type examination includes the following type designations:

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2218

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2218-BB

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2228

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2228-BB

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2238S

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2238S-BB

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2238S-NXT

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2238S-NXT-BB

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2318

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2328

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2338S

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2338S-NXT

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2258

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2228-NXT

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2228-NXT-BB

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2328-NXT

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2268DS

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2018-MARK-2

- Product description: Marine radar
- Trademark: FURUNO
- Type designation: FAR-2028-MARK-2