CERTIFICATE

Number: 212340054/AA/02

Issue Date: 05 June 2024

Expiration Date: -

Page 1 of 8

UKCA TYPE EXAMINATION CERTIFICATE (Module B)

In compliance with the procedure specified in M009, Kiwa Ltd. declares as approved body for UKCA 0558 for the Radio Equipment Regulations 2017, that the stated product, complies with the essential requirements, in accordance with part 2 (chapter 1) of Radio Equipment Regulations, as indicated under Annex 1 of this certificate, based on the applicable Technical Standards and Specifications as listed under 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 Regulations 2017.

This certificate has THREE Annexes.

Signed on behalf of Kiwa Ltd.
(UK Approved Body Number 0558)

Ramy Nabod
Product Assessor

UKCA

UKAS PRODUCT CERTIFICATION
0217

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3473056

Annex 1 to certificate 212340054/AA/02

General Conditions

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

Article 6.1

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 the Electrical Equipment (Safety) Regulations 2016,
C	(b)	an adequate level of electromagnetic compatibility as set out in the Electromagnetic Compatibility Regulations 2016.

Article 6.2

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

Legend

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

Annex 1 to certificate 212340054/AA/02

- This UKCA-type examination certificate is limited to the Radio Equipment Regulations.
- This UKCA-type examination certificate is part of the Conformity Assessment procedure Modules B and C, as described in annex III of the Radio Equipment Regulations.
- The validity of this UKCA type examination certificate is limited to products, which are equal to the one(s) assessed for this type Examination.
- The manufacturer has to draw up and issue a self Declaration of Conformity, declaring that the product(s) described in this UKCA-type examination certificate, are in compliance with Radio Equipment Regulations 2017 and any other applicable 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 Ltd. shall be notified immediately. Depending on the modifications, Kiwa Ltd. may have additional examinations carried out in consultation with the applicant.
- Enforcement of a new amending regulation voids the validity of this UKCA-type examination certificate.
- In case any referenced standard in this UKCA-type examination certificate is withdrawn or superseded and the presumption of conformity with the essential requirements has ceased, investigation by Kiwa Ltd. is needed to determine the validity of this type examination.

Remarks and observations

The following conditions are applicable:

AA/02: Add monitor unit MU-192 as described in this TCF.
AA/01: models variants added(FAR-2018-MARK-2/FAR-2028-MARK-2) / added the companion accessory (monitor - MU-192HD) as described in this TCF

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.

Annex 2 to certificate 212340054/AA/02

Documentation lodged for this 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

Annex 2 to certificate 212340054/AA/02

- 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

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

Annex 2 to certificate 212340054/AA/02

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

Annex 3 to certificate 212340054/AA/02

The product as described in this 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

Annex 3 to certificate 212340054/AA/02

- 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