



Danmark

Marine Equipment Directive EC Type Examination Module B Certificate

This is to certify that TÜV SÜD DANMARK ApS did undertake the relevant type approval procedures for the equipment identified below, which was found to be in compliance with the Marine Equipment Directive (2014/90/EU) requirements, under the following Implementing Regulation for the listed types of equipment

Implementing Regulation	(EU)2024/1975
Certificate Holder and Manufacturer	Japan Radio Co., Ltd. 4-10-1, Nakano Nakano Central Park East 3F Nakano-ku Tokyo 164-0001 Japan
EC Representative	JRC Newdigate-Dublin, 77 Camden Street Lower St Kevin's Dublin 2 Ireland D02 XE80
Product(s)	JMR-5400 Series Marine Radar
Product Sector	Navigation Equipment
Product Type	MED/4.64 Radar Equipment: CAT 1 / CAT 1H / CAT 2 / CAT 2H

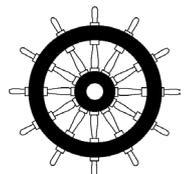
and on the basis of the Technical Data and information detailed in the Annex to this certificate.

Valid from: 19 August 2025

(Andy Little)

Expiry Date: 06 November 2027

This certificate has been issued in accordance with the TÜV SÜD Testing and Certification Regulations and constitutes page 1 of the combined Certificate and Annex. The Conditions for the validity of this certificate are listed in the Annex. For further details, related to this certification please contact BABT@tuvsud.com

**2443**

Issued by TÜV SÜD DANMARK ApS under document number: DK-MED000146 Issue 05

Page 1 of 8

TÜV SÜD DANMARK ApS • Johanne Møllers Passage 1, 3. sal • 1799 Copenhagen V • Denmark



Danmark

Annex to Marine Equipment Directive Module B Type Examination Certificate

1 Equipment Description

Shipborne Radar Equipment

1.1 Models

Model
JMR-5400 Series Radar System

1.1.1 System Components (CAT 1)

Models:

		S-Band 250 W			S-Band 30 kW	X-Band 25 kW			X-Band 10 kW			
		JMR-5472-S	JMR-5482-S	JMR-5482-SH	JMR-5430-S	JMR-5425-9X	JMR-5425-7X	JMR-5425-6XH	JMR-5410-6X	JMR-5410-6XH	JMR-5410-4X	JMR-5410-4XH
Radar Display: 26" or 27" Colour LCD Monitor	NWZ-208 or NWZ-233 <small>Note 1</small>	X	X	X	X	X	X	X	X	X	X	X
Control unit, incorporating:	NCM- 963	X	X	X	X	X	X	X	X	X	X	X
Radar Process Unit	NDC-1678 or NDC-1678A	X	X	X	X	X	X	X	X	X	X	X
Operation unit	NCE-5794	X	X	X	X	X	X	X	X	X	X	X
250W Solid State Transceiver/ Turning Unit c/w 8ft antenna	NKE-2632 & NKE-2632A <small>Note 2</small>		X									
250W Solid State Transceiver/ HSC Turning Unit c/w 8ft antenna	NKE-2632-H <small>Note 2</small>			X								
250W Solid State Transceiver/ Turning Unit c/w 12ft antenna	NKE-1632 & NKE-1632A <small>Note 2</small>	X										
30kW Transceiver/Turning Unit c/w 12ft antenna	NKE-1130 & NKE-1130A <small>Note 3</small>				X							
25kW Transceiver/Turning Unit c/w 9ft antenna	NKE-2255-9 <small>Note 3</small>					X						
25kW Transceiver/Turning Unit c/w 7ft antenna	NKE-2255-7 <small>Note 3</small>						X					
25kW Transceiver/HSC Turning Unit c/w 6ft antenna	NKE-2255-6HS <small>Note 3</small>							X				
10kW Transceiver/Turning Unit c/w 6ft antenna	NKE-2103-6 <small>Note 3</small>								X			
10kW Transceiver/HSC Turning Unit c/w 6ft antenna	NKE-2103-6HS <small>Note 3</small>									X		
10kW Transceiver/ Turning Unit c/w 4ft antenna	NKE-2103-4 <small>Note 3</small>										X	
10kW Transceiver/HSC Turning Unit c/w 4ft antenna	NKE-2103-4HS <small>Note 3</small>											X

Annex to Marine Equipment Directive Module B Type Examination Certificate



Danmark

1.1.2 System Components (CAT 2)

Models:

		S-Band 250 W			S-Band 30 kW	X-Band 25 kW			X-Band 10 kW			
		JMR-5472-S	JMR-5482-S	JMR-5482-SH	JMR-5430-S	JMR-5425-9X	JMR-5425-7X	JMR-5425-6XH	JMR-5410-6X	JMR-5410-6XH	JMR-5410-4X	JMR-5410-4XH
Radar Display: 19" Colour LCD Monitor	NWZ-214 or ^{Note 1} NWZ-214-AC	X	X	X	X	X	X	X	X	X	X	X
Control unit, incorporating:	NCM- 963	X	X	X	X	X	X	X	X	X	X	X
Radar Process Unit	NDC-1678 or NDC-1678A	X	X	X	X	X	X	X	X	X	X	X
Operation unit	NCE-5794	X	X	X	X	X	X	X	X	X	X	X
250W Solid State Transceiver/ Turning Unit c/w 8ft antenna	NKE-2632 & NKE-2632A ^{Note 2}		X									
250W Solid State Transceiver/ HSC Turning Unit c/w 8ft antenna	NKE-2632-H ^{Note 2}			X								
250W Solid State Transceiver/ Turning Unit c/w 12ft antenna	NKE-1632 & NKE-1632A ^{Note 2}	X										
30kW Transceiver/Turning Unit c/w 12ft antenna	NKE-1130 & NKE-1130A ^{Note 3}				X							
25kW Transceiver/Turning Unit c/w 9ft antenna	NKE-2255-9 ^{Note 3}					X						
25kW Transceiver/Turning Unit c/w 7ft antenna	NKE-2255-7 ^{Note 3}						X					
25kW Transceiver/HSC Turning Unit c/w 6ft antenna	NKE-2255-6HS ^{Note 3}							X				
10kW Transceiver/Turning Unit c/w 6ft antenna	NKE-2103-6 ^{Note 3}								X			
10kW Transceiver/HSC Turning Unit c/w 6ft antenna	NKE-2103-6HS ^{Note 3}									X		
10kW Transceiver/ Turning Unit c/w 4ft antenna	NKE-2103-4 ^{Note 3}										X	
10kW Transceiver/HSC Turning Unit c/w 4ft antenna	NKE-2103-4HS ^{Note 3}											X



Danmark

Annex to Marine Equipment Directive Module B Type Examination Certificate

1.1.3 Additional Components

The applicant declared that the following units may be added to the basic radar systems illustrated on page 2. These units have been assessed and tested in conjunction with the JMR-5400 series radar systems.

Model		Description
NCE-5625		Keyboard Operation Unit
NCE-5605		Track ball Operation unit
CWB-1659		19" Monitor Desktop Frame ^{Note 1 & 5}
NWZ-208		26 " Colour LCD Monitor ^{Note 1 & 5}
CWB-1660		26/27" Desktop Frame ^{Note 1 & 5}
NBA-5111		Rectifier
NQA-2443 or NQA-2443A		Sensor LAN switch unit
NQE-1143		Junction box
NQE-3151A		Junction box
NJU-84		Performance Monitor (S-Band) ^{Note 3}
NJU-85		Performance Monitor (X-Band) ^{Note 3}
NJU-97		Performance Monitor (X-Band) ^{Note 3}
NQE-3141-4A		4 unit switching inter-switch
NQE-3141-8A		8 unit switching inter-switch
NQE-3167		Power control unit
NCT-4106A		NSK Unit (Gyro Syncro Interface)
AlphaScreen 19	FDS1904(T)	19" Display ^{Note 5}
AlphaScreen 26	FDU2603W(T)	26" Display ^{Note 5}
AlphaScreen 27	MDF2701W	27" Display ^{Note 5}
HD 19T22 ALD-MA4-FAGA	HD 19T22 PND-MA4-FAGA	19" Display ^{Note 5}
HD 24T22 ALD-MA4-FAGA	HD 24T22 PND-MA4-FAGA	24" Display ^{Note 5}
HD 26T22 ALD-MA4-FAGA	HD 26T22 PND-MA4-FAGA	26" Display ^{Note 5}
HD 27T22 ALD-MA4-FAGA	HD 27T22 PND-MA4-FAGA	27" Display ^{Note 5}
HD 32T22 ALD-MA4-AAGA	HD 32T22 PND-MA4-AAGA	32" Display ^{Note 5}
HD 43T22 ALD-MA4-COTA	HD 43T22 PND-MA4-COTA	43" Display ^{Note 5}
HD 55T22 ALD-MA4-COTA	HD 55T22 PND-MA4-COTA	55" Display ^{Note 5}
HD 55T22 ALD-AA4-LOGA	HD 55T22 PND-AA4-LOGA	55" Display ^{Note 5}
HD19T27 JED-MA4-xxxx		19" Display ^{Note 5}
HD24T27 JED-MA4-xxxx		24" Display ^{Note 5}
HD27T27 JED-MA4-xxxx		27" Display ^{Note 5}
HD32T40 JED-MA4-xxxx		32" Display ^{Note 5}
HD43T40 JED-MA4-xxxx		43" Display ^{Note 5}

Annex to Marine Equipment Directive Module B Type Examination Certificate



Danmark

1.2 Software ^{Note 4}

Identity	Description
01.20	Radar Process Unit (NDC-1678/1678A)
Windows 7 Embedded SP1	Baseline Operating System

2 Assessed Requirements

2.1 Implementing Regulation (EU)2024/1975

2.2 Compliance Requirements for MED/4.64 Row 1 of 1 ^{Note 6}

Type approval requirements	Carriage and Performance Requirements
SOLAS 74 Reg V/18 SOLAS 74 Reg. X/3 IMO Res.MSC.36(63)-(1994 HSC Code) 13 IMO Res.MSC.97(73)-(2000 HSC Code) 13	SOLAS 74 Reg. V/19 IMO Res. A.278(VIII) IMO Res. A.694(17) IMO Res. MSC.36(63)-(1994 HSC Code) 13 IMO Res. MSC.97(73)-(2000 HSC Code) 13 IMO Res. MSC.191(79) IMO Res. MSC.192(79) IMO Res. MSC.302(87) IMO MSC.1/Circ.1349 ITU-R M.1177-4 (04/11)
Assessed Testing Standards	
IEC 62388 Ed. 2.0: 2013-06 incl. IEC 62388 Corr 1:2014*	IEC 62288 Ed. 3.0:2021
IEC 60945:2002 incl. IEC 60945 Corr. 1:2008	IEC 61162-1:2016
IEC 62923-1:2018	IEC 61162-2 Ed.1.0:1998-09
IEC 62923-2:2018	IEC 61162-450:2018
*Full requirement for Chart Radar are integrated into the IMO Resolution and IEC Standard and form an optional enhancement on standard radar	

3 Technical Documentation

3.1 Declaration of Conformity

183d) MED DoC JMR-5400

Modified

2025-03-31

3.2 User Guide

Marine Radar Equipment Simplified Instruction Manual 7ZPRD0955, Oct 2021 Edition 6

Marine Radar Equipment Instruction Manual (Standard) 7ZPRD0950A, Feb 2025 Edition 9

Marine Radar Equipment Installation Manual (restricted to Service technicians) 7ZPRD0953A, Apr 2025 Edition 8

3.3 Test Reports

IEC 60945:2002 (inc Corr.1)	75937370 Report 04 Issue 2, 2017-09-29	75937370 Report 05 Issue 1, 2017-05-31
	75923142 Report 02 Issue 2, 2014-01-22	75901288 Report 01 Issue 1, 2007-07-10
	75923142 Report 01 Issue 3, 2014-01-22	75901288 Report 02 Issue 1 2001-07-10
	75923142 Report 05 Issue 3, 2014-01-22	75901288 Report 03 Issue 1 2001-07-10
	75924011 Report01Issue1, 2014-04-11	TUV Zacta, JPX-TR-17101-0, 2017-05-18
	Airbus, FM1701477, 2017-05-17	CSD 17-060(E), 2017-04-28
	Corrosion Report, 2013-12-16	CSD 07-511(E), 2008-01-31

Annex to Marine Equipment Directive Module B Type Examination Certificate



Danmark

Test reports - continued

	Z071C-13420, 2013-12-11	YN0708005-11, 2008-03-28
	13-326(E), 2013-10-15	YN0712002-1, 2007-12-18
	YN0708005-1, 2007-12-07	YN0801004-1, 2008-03-13
	007-511(E), 2008-01-31	YN0706005-1, 2007-11-13
	YN0709007-11, 2007-11-13	YN0706005-12, 2007-12-11
	YN0709007-1, 2008-01-31	YN0706005-13, 2007-12-11
	CSD 08-311(E), 2008-10-08	20941, 2016-10-27
	DPS-16-00034, 2016-07-15	20885, 2016-09-14
	FLI 12-14-053, 2014-07-03	20931, 2017-02-07
	Corrosion (FDU26), 2016-07-05	21007, 2017-02-23
	170905001T, 2017-10-30	20869, 2016-11-29
	2013-3122, 2013-04-18	E16240.01, 2017-02-09
	21009, 2017-02-10	21008, 2017-01-25
	Protection (Voltage), 2022-10-24	75953086 Report 01 Issue 01, 2021-12-22
	RD21ZZ1102A, 2021-11-02	RD23ZZ0406A, 2023-04-06
	RD23ZZ0406B, 2023-05-10	LIC 12-23-117, 2023-09-06
	DOC-AP-000071, 2024-09-13	LIC 12-23-118, 2023-09-06
	LIC 12-23-119, 2023-09-06	400-240092-1, 2024-09-10
	23-131(E), 2023-06-26	DOC-AP-000073, 2024-09-27
	17-05-EAT-054-E00 2, 017-05-17	CEBDLB-WTW-P24070081, 2024-09-06
	ME7D0801, 2018-04-11	240620002T, 2024-09-18
	170421001TR1, 2018-04-09	240905001T, 2024-09-18
	31607-2, 2024-12-04	CEBDLB-WTW-P23070246, 2023-08-25
	VS-TV-060502-01, 2017-05-07	20931 Rev1, 2017-02-10
	CEBDLB-WTW-P24070081, 2024-09-06	230911001T, 2024-02-05
	240620003T, 2024-09-06	210519001T, 2021-08-19
	DOC208309-1 Revision 08, 2025-07-09	-
IEC 62388:2013	75937370 Report 02 Issue 1, 2017-09-29	Sea & Rain Clutter evaluation report
	75937370 Report 07 Issue 1, 2018-04-12	JMR-5400, 2017-05-17
	75937370 Report 06 Issue 3, 2018-04-19	75948174 Report 01 Issue 01, 2020-12-15
	RD21ZZ0617A, 2021-06-18	DOC-AP-000061, 2024-08-08
	75963591-02 Issue 05, 2025-06-25	75963690-02 Issue 01, 2025-06-05
IEC 62388:2013 Annex B & ITU-R M.1177-4	QinetiQ/MS/EES/TSTR0800603/1, 2008-06-19	QinetiQ/EMEA/TS/CR0803478/2, 2008-04-01
	QINETIQ/EMEA/MLW/TSTR170116, 2017-05-25	QINETIQ/14/01527 V1.3, 2014-06-17
	QINETIQ/14/00249/1.1, 2014-03-06	QINETIQ/EMEA/MLW/TSTR170116, 2017-05-25
	75948174 Report 01 Issue 01, 2020-12-15	RD23ZZ0622A, 2023-06-26
IEC 62288:2021	75937370 Report 01 Issue 1, 2017-08-21	75940495 Report 01 Issue 01, 2018-03-09
	Evaluation Report of LCD Monitor, 2017-03-22	75959443 Report 01 Issue 01, 2023-12-13
	75963591-02 Issue 04, 2025-06-25	DOC-AP-000061, 2024-08-08
	DOC206081-1, 2017-11-22	DOC209275-1, 2022-12-09
	DOC210531-1, 2024-08-13	DOC209273-1, 2022-12-09
	DOC210588-1, 2025-02-05	DOC209274-1, 2022-12-09
	DOC210529-1, 2024-08-13	DOC209419-1, 2022-12-07
	DOC206156-1, 2017-12-21	DOC209420-1, 2022-12-08
	DOC210527-1, 2024-08-14	DOC209421-1, 2022-12-07
	DOC209276-1, 2022-12-09	75963690-02 Issue 01, 2025-06-05



Danmark

Annex to Marine Equipment Directive Module B Type Examination Certificate

Test reports - continued

IEC 61162 Series	IEC61162-1 Annex B report, 2017-09-25	ITU-T X.27/V.11 Test report, 2017-08-25
	IEC61162-2 Clause8 report, 2017-09-25	ITU-T X.27/V.11 Test report, 2017-08-25
	IEC61162-450 function test, 2017-09-04	Evaluation Report of IEC 61162-450 Ed 1.1, 2019-11-13
	RD21ZZ0810D, 2021-07-30	RD21ZZ0805B, 2021-08-05
IEC 62923 Series	RD21ZZ0810C, 2021-07-31	RD21ZZ0805A, 2021-08-05

3.4 Build Status

3.4.1 Hardware

Marine Radar Equipment Installation Manual: 7ZPRD0953, March 2020 Edition 5

Parts Lists:

NKE1632_Parts Lists.pdf	Dated	2013-12-04
NKE2632_Parts Lists.pdf	Dated	2013-12-03
NKE2632H_Parts Lists.pdf	Dated	2013-12-03
Parts List_NDC-1678 Display Unit.xls	Dated	2017-10-02
Parts List_NKE-2255 Scanner Unit.xls	Dated	2017-10-02
CBD-2400 H-7EPRD0043_schematic+parts.pdf	Modified	2021-01-15
DOC208100-1 - Revision 2	Dated	2020-11-03
RD23ZZ0328A	Dated	2023-03-28
NWZ-233 Build state	Modified	2025-04-09
DOC210617-1 HD 19T27 MMD - IEC 60945 & IACS E10 Statement_R03	Dated	2024-12-20
DOC210615-1 HD 24T27 MMD - IEC 60945 & IACS E10 Statement_R03	Dated	2024-12-20
DOC210612-1 HD 27T27 MMD - IEC 60945 & IACS E10 Statement_R03	Dated	2024-12-20
DOC210004-1 HD 32T40 MVD - IEC 60945 & IACS E10 Statement_R01	Dated	2023-10-06
DOC209665-1 HD 43T40 MVD - IEC 60945 & IACS E10 Statement_R04	Dated	2024-09-23

3.5 Notes

- Note 1 NWZ-214, NWZ-208 and NWZ-233 are flush mount Displays for console / panel mounting or can be mounted in a CWB-1659 or CWB-1660 for Desktop use.
- Note 2 This is a Solid State transceiver which has an internal performance monitor circuit.
- Note 3 These are magnetron based transceivers and require a matching performance monitor probe appropriately selected from the Ancillary units list.
- Note 4 This approval remains valid for equipment including subsequent minor software amendments (Maintenance No. 01.20.000 or later) which have been formally accepted in accordance with the TÜV SÜD Testing and Certification Regulations.
- Note 5 The appropriate sized monitor should be used dependent upon the category of radar being installed.
- Note 6 The JMR-5400 meets the requirements of IEC 62923-1 for EUT function type P.

4 U.S. Coast Guard Number

This product has been assigned U.S. Coast Guard Module B number

165.115/EC2443 (CAT1 Radar)
165.216/EC2443 (CAT1 Radar for HSC)
165.116/EC2443 (CAT 2 Radar)
165.217/EC2443 (CAT 2 Radar for HSC)

To note type approval to Module B only as it pertains to obtaining US Coastguard approval as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", Decision No. 1/2023 signed May 26th, 2023.

Annex to Marine Equipment Directive Module B Type Examination Certificate



Danmark

5 Conditions of Validity

This certificate ceases to be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with TÜV SÜD DANMARK ApS or a person appointed by TÜV SÜD DANMARK ApS to perform that role.

During the period of validity of this certificate the applicable regulations (international conventions and relevant resolutions and circulars of the IMO) and testing standards of the Commission Implementing Regulation may change, therefore the product conformity may need to be re-assessed by TÜV SÜD DANMARK ApS.

The Mark of Conformity may only be affixed to the above type approved equipment and a manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of the directive is fully complied with and controlled by a written inspection agreement with a notified body.

Signature:

A handwritten signature in black ink, appearing to read 'A. Little'.

(Andy Little)

On behalf of TÜV SÜD DANMARK ApS

Date:

19/08/2025