

Marine Equipment Directive EC Type Examination Module B Certificate

This is to certify that TÜV SÜD Danmark 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)2019/1397
Certificate Holder and Manufacturer	Northrop Grumman Sperry Marine B.V. Haringbuisweg 33 3133 KP Vlaardingen The Netherlands
Product(s)	a) VisionMaster FT, CAT1 34, - Client/Server Radar Systems b) VisionMaster FT, CAT1C 34, - Client/Server Chart Radar Systems c) VisionMaster FT, CAT1H 34, - Client/Server Radar Systems d) VisionMaster FT, CAT1HC 34, - Client/Server Chart Radar Systems
Product Sector	Navigation Equipment
Product Type	MED/4.34 Radar Equipment CAT 1 MED/4.37 Radar Equipment for high speed craft applications (CAT 1H) MED/4.38a Radar Equipment approved with a chart option; CAT 1C MED/4.38c Radar Equipment for high speed craft applications approved with a chart option; CAT 1HC

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

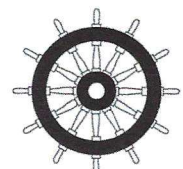


Valid from: 16 January 2020

(Tom Twynam)

Expiry Date: 24 April 2024

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@TUV-SUD.co.uk



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1 Equipment Description

Client/Server CAT 1 Radar Systems with high speed craft and chart options (CAT1H, CAT1C, CAT1HC).

1.1.1 Processor and Display Options

Model	Description
65901AS, 65901AZ	Radar Server
65901AC	Radar Client
65296H, 65926P, 65926L	25.5" Display
65823A, 65923C	23.1" Display
65926AA	25.5" Panel PC
65900AA or 65900AB	PCIO Interface Unit
65903AH, 65903KH, 67003AH or 67003KH	Control Panel
RA00009746	Network Switch
32SDR005 or 32SDT005 <small>Note 1&2</small>	Security Device

1.1.2 Transceiver, Turning Units and Antenna Options

Model	Description
65910*AR, 65910*AT, 65910*AU, where * can be M, N, P, T or W <small>Note 3</small>	10kW X-Band Transceiver and Turning Units
65925*AR, 65925*AT, 65925*AU, where * can be M, N, P, T or W <small>Note 3</small>	25kW X-Band Transceiver and Turning Units
65810E, 65810F, 65810G, 65810H and 65810L	10kW X-Band Transceivers (Bulkhead)
65825E, 65825F, 65825G, 65825H and 65825L	25kW X-Band Transceivers (Bulkhead)
65901BAR, 65901CAR, 65901CAT, 65901CAU	X-Band Turning Unit (Bulkhead)
65604A, 65606A, 65608A	X-Band Antenna
65830M*R, 65830N*R, 65830N*T, 65830N*U, where * can be E, F, G, H, J, K, L, M, P, Q, R or S <small>Note 4</small>	S-Band Transceivers
65831A or 65831B	S-Band Transceivers (Bulkhead)
65830B*R, 65830C*R, 65830C*T, 65830C*U where * can be E, F, G, H, J, K, L, M, P, Q, R or S <small>Note 4</small>	S-Band Turning Unit
65837AB, 65837AC, 65837AE, 65837AF, 65837AH	Scanner Control Unit
65612A	S-Band Antenna

1.1.3 Ancillary Components

Model	Description
4802181	Network Serial Interface
65900685	Mains Distribution Unit
65900614, 65900615, 65900668, 65900635 65900625 and 65900670	Kit Format Units
67050FA	Secure Maritime Gateway

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1.2 Software

Identity	Version
VisionMaster FT Software	12.0.0 Note 5

2 Assessed Requirements

2.1 Implementing Regulation (EU)2019/1397

2.2 Compliance Requirements for MED/4.34, 4.37, MED/4.38a and MED/4.38c Note 6

IMO Resolutions		International Testing Standards
Resolution MSC.192(79)	IEC 62388 (2013)	Maritime navigation and radiocommunication equipment and systems — Shipborne radar
Resolution MSC.191(79) Resolution MSC.302(87)	IEC 62288 (2014)	Maritime navigation and radiocommunication equipment and systems — Presentation of navigation-related information on shipborne navigational displays — General requirements
Resolution A.694(17)	IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008)	Maritime navigation and radiocommunication equipment and systems — General requirements
	IEC 61162-1 (2016)	Maritime navigation and radiocommunication equipment and systems — Digital interfaces Part 1: Single talker and multiple listeners
	IEC 61162-2 (1998)	Maritime navigation and radiocommunication equipment and systems — Digital interfaces Part 2: Single talker and multiple listeners, high-speed transmission
	IEC 61162-450 (2011) with Am 1 (2016)	Maritime navigation and radiocommunication equipment and systems — Digital interfaces Part 450: Multiple talkers and multiple listeners — Ethernet interconnection
ITU-R Recommendation	ITU-R M.1177-4 (2011)	Techniques for measurement of unwanted emissions of radar systems

3 Technical Documentation

3.1 Declaration of Conformity

DoC064A VMFT CAT 1

3.2 User Guide

Radar/Chart Radar User Guide Part No. 65900010-15
VisionMaster Ships Manual Part No.65900011V1- 19 Rev A
VisionMaster Ships Manual Part No.65900011V2- 19 Rev A

3.3 Test Reports

IEC 60945:2002 (inc Corr.1)	QinetiQ/D&TS/SS/CR0607592/1.0, 2006-12-06	103230862LHD-001 Issue 4, 2018-01-02
	QinetiQ/EMEA/iX/CR070194/Issue 1.0, 2007-12-20	21009 Rev 0, 2017-02-10
	QINETIQ/MS/EES/TSTR0801152/1.1, 2008-07-08	QinetiQ/EMEA/iX/CR0802757/Issue 1.1, 2008-02-19
	QinetiQ-MS-EES-TC0802918, 2008-10-17	QinetiQ-MS-EES-TC0905317, 2009-12-14
	75906944 Report 01 Issue 1, 2010-01-14	QINETIQ/MS/EES/TSTR0903808/3.0, 2009-12-14
	75920230 Report 01 Issue 1, 2012-11-22	QINETIQ/TEG/TECS/TSTR1000308, 2010-10-22
	75924948 Report 01 Issue 1, 2014-01-07	QINETIQ/TEG/TECS/TSTR1000030, 2010-08-19
	75931934 Report 01 Issue 1, 2015-12-16	QINETIQ/TEG/TECS/CR1100320, 2011-03-14
	BO613465/1, 2004-12-24	QinetiQ/TEG/TECS/TC1100272, 2011-02-02
	2008-3142 Rev 01, 2008-03-11	QinetiQ/MS/EES/TC0803242, 2008-11-14
	2008-3464, Rev 02, 2008-09-18	QinetiQ/MS/EES/TSTR0801808-1, 2008-08-29

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Test Reports - continued

	2010-3124, Rev 02, 2010-04-20	QinetiQ/D&TS/SES/TC0703744, 2007-03-30
	DANAK-196393, 2002-09-04	QINETIQ/MS/WD/TSTR1201598, 2012-07-03
	DANAK-198181, 2005-12-23	QinetiQ/TEG/TECS/TSTR1102226, 2011-08-22
	DANAK-198236, 2006-01-20	JA 340-8596-1, 2006-07-14
	DANAK-1911472, 2011-07-18	JA 340-8596-2, 2006-05-08
	DANAK-19/12564, 2012-11-02	JA 340-8596-4, 2006-03-16
	DANAK-198899 Revision 2, 2007-12-10	EMC19618, 2007-04-24
	DANAK-1910255, 2008-08-18	TL1016, 2006-10-30
	DANAK-1910681 Revision B, 2010-01-25	TL1316, 2009-06-29
	5P05969-1, 2015-10-30	DOC205830-1-1-Rev3, 2017-03-23
	4P07869, 2014-12-05	416.095.1, 2016-06-17
	4P00022-2, 2014-05-06	416.095.2, 2016-05-11
	5000657, 2007-06-28	416.095.3, 2016-05-18
	103230862LHD-001, 2017-12-06	962, 2017-03-08
	P18-0055-1, 2018-12-04	8P06394 CSD, 2018-08-27
IEC 62388:2013	QINETIQ/MS/EES/TSTR0904084/3, 2009-12-15	TR-V11-NML-018, 2018-11-12
	TR-V10-NML-005, 2017-09-15	TR-V12-NML-032, 2019-08-08
	TR-V12-NML-031, 08-08-2019	TR-V11.1-NML-022, 2019-01-14
IEC 62288:2014	QinetiQ/TEG/TECS/TSTR1102226, 2011-08-22	TR-V10.0.1-NML-010, 2018-02-12
	ECDIS Monitor (LCD) Test Procedure and Report, 2005-04	TR-V10.0.1-NML-011, 2018-02-12
	DOC102351-1 Rev 2, 2017-04-05	TR-V10-NML-004, 2017-09-18
	DOC102352-3 Rev 1, 2016-11-11	TR-V11-NML-017, 2018-11-12
	DOC102352-4 Rev 2, 2017-04-03	362879 Issue 00, 2018-11-06
	TR-V12-NML-028, 2019-09-02	TR-V11.1-NML-021, 2018-12-20
IEC 61162 Series	BSH 46162-0040380-07, 2007-09-12	TR-V11-NML-015, 2018-11-12
	TR-V12-NML-029, 2019-09-02	TR-V12-NML-030, 2019-08-08
Miscellaneous	VisionMaster FT Release 10.0.0 Client Server Radar Performance Test Report Issue 1, 2017-11-27	VisionMaster FT Release 10.0.0 System Performance Test Report, 2017-11-27
	TR-V11-NML-019 (System Performance Test), 2018-11-12	TR-V12-NML-033, 2019-08-08
	TR-V10.0.1-NML-012, 2018-02-16	TR-V11.1-NML-023, 2018-12-20
	TR-V11-NML-019, 2018-11-12	TR-V11.1-NML-024, 2019-01-03

3.4 Build Status

3.4.1 Hardware

VisionMaster FT Technical File VMFTRPRT Issue 13

Dated

2019-10-28

3.5 Notes

- Note 1 The 32SDR005 or 32SDT005 Multi-node security device allows operation of an integrated multi display ships bridge. A security string defines the product type on all the nodes for a particular vessel's bridge operating plan. The product type must be set to CAT1 Radar, CAT1C Chart Radar or Total Watch as appropriate.
- Note 2 A Total Watch product enables operation as a Multi-Function workstation and allows the operator to switch between Chart Radar, ECDIS and conning display. This certificate only applies when the mode is set to Chart Radar for a Total Watch System.
- Note 3 These letters determine whether a 3kHz short pulse trigger option, an additional features option or a bias limiter is fitted.
- Note 4 These letters determine the voltage and frequency of the motor used and is described in the Ships Manual Volume 1.
- Note 5 This approval remains valid for equipment including subsequent minor software amendments which have been formally accepted in accordance with the TÜV SÜD Testing and Certification Regulations
- Note 6 If applicable (EU)2019/1397 gives a last placing on board date of 29/08/2021 for equipment approved against the test standards listed above. See Conditions of Validity.



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4 Additional Information

The products listed on this certificate were originally assessed and certified by Lloyds Register Verification under Notified Body number 0038. This certificate replaces Lloyds Register Verification Certificate Number MED 1900003-M2.

5 U.S. Coast Guard Number

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

165.115/EC2443 (Radar Equipment CAT 1)
165.216/EC2443 (Radar Equipment for high speed craft applications (CAT 1H))

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. 1/2018, signed February 18th, 2019

6 Conditions of Validity

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

Should the specified regulations (international conventions and the relevant resolutions and circulars of the IMO) or the testing standards be amended and enforced through an Implementing Regulation during the period of validity of this certificate, the product(s) is/are to be re-approved prior to it/them being placed on the market or onboard vessels to which the amended regulations or standards apply.

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 Annex B of the directive is fully complied with and controlled by a written inspection agreement with a notified body.

Signature: T. J. Twynam Date: 2020-01-16
Print Name: Tom Twynam
On behalf of TÜV SÜD Danmark