DNV·GL

Certificate No:
MEDB000058F

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Radar equipment CAT1, CAT2, CAT3; for High Speed Craft CAT 1H/2H ; with a chart option CAT 1C, CAT 2C, CAT 1HC, CAT 2HC

with type designation(s)
SYNAPSIS Radar Nautoscan NX

Issued to
Raytheon Anschütz GmbH
Kiel, Schleswig-Holstein, Germany

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397,**
item No. MED/4.34. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.35. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.36. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.37. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), 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)
item No. MED/4.38a. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.38b. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.38c. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), 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)
item No. MED/4.38d. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), 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)

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2021-08-28**.

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

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Job Id: **344.1-009235-1**
Certificate No: **MEDB000058F**

Issued at **Hamburg** on **2020-01-07**

for **DNV GL SE**

DNV GL local station:
Hamburg

Approval Engineer:
Harald Bluhm

Notified Body
No.: **0098**

Gerhard Aulbert
Head of Notified Body

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

Product description

The Raytheon Anschütz Synapsis Radar Nautoscan NX comprises of the following equipment necessary for functioning:

No.	Designation	Type Designation
1	**Transceiver units** Pedestal / Transceiver Pedestal / Transceiver Pulse Compression Arrays Waveguide coupler	**One or more units** As defined in separate certificate *)
2	**Main Processing Unit** Computer	As defined in separate certificate *)
3	**Display Units CAT 1, CAT 1H, CAT 1C, CAT 1HC** PPI diameter min. 320mm, may be also used for CAT 2 and CAT 3, ECDIS, INS	As defined in separate certificate *)
4	**Display Units CAT 2, CAT 2H, CAT 2C, CAT 2HC** PPI diameter min. 250mm, may be also used for CAT 3, ECDIS, INS	As defined in separate certificate *)
5	**User Interface** Operator Units KVM Equipment	As defined in separate certificate *)
6	**Interfaces** Serial to ethernet converter VDR interface	As defined in separate certificate *)
7	**Network switches** Ethernet switches / Fiber LAN converter	As defined in separate certificate *)
8	**Optional components**	As defined in separate certificate *)

*) The Type Approval certificate TAA00002JU for Synapsis system platforms in its latest revision at the date of placing the system on the market is part of this certificate, for the relevant revision see also https://approvalfinder.dnvgl.com/.

The following Software is necessary for the Raytheon Anschütz Synapsis Radar Nautoscan NX:

No.	Designation	Type Designation
1	Operating System	Windows 7, embedded
2	Bridge Integration Platform Synapsis Service Tool Synapsis Radar NX (Windows 7 only) Synapsis Naval Radar NX / Windows 7 only	NB46-001 E04.XX NB48-001 E04.XX NB45-015 E04.XX NB45-016 E04.XX

Tests carried out

Environmental and EMC testing: IEC 60945 (2002) incl. Corr. 1(2008)
Serial interface testing: IEC 61162-l(2016), IEC 61162-2(1998),IEC 61162-450(2011) incl. am1 (2016)
Presentation: IEC 62288 (2014)
Performance testing: IEC 62388 Ed.2 (2013)

Type Examination documentation

DNVGL No	Document Id.	Rev.	Description
1	TTD04-11-19	Latest	Overview Testreports
2	Dok. 4450 Dok. 4428 Dok. 4452 Dok. 4424		SYNAPSIS Radar NX SYNAPSIS Service Tool SYNAPSIS System Manual SYNAPSIS Naval Radar NX
3	TAA00002JU	Latest	Certificate: DNVGL, Synapsis platform

Marking of product

According to Article 10 of the Council Directive (MED):

- The wheel mark shall be affixed visibly, legibly and indelibly to the product or to its data plate and, where relevant, embedded in its software. Where that is not possible or not warranted on account of the nature of the product, it shall be affixed to the packaging and to the accompanying documents.
- The wheel mark shall be affixed at the end of the production phase.
- The wheel mark shall be followed by the identification number of the notified body, where that body is involved in the production control phase, and by the year in which the mark is affixed.
- The identification number of the notified body shall be affixed by the body itself or, under its instructions, by the manufacturer or the manufacturer's authorised representative.

For specific products, manufacturers may use an appropriate and reliable form of electronic tag instead of, or in addition to, the wheel mark.

Each unit of equipment normally to be installed in a distance of 5 m or less from a standard or a steering magnetic compass shall be clearly marked with the minimum safe distance at which it may be mounted from such compasses.

Only for fixed equipment: Alternatively, the minimum safe distance may be given in the equipment manual.

END OF CERTIFICATE