

The SGS logo consists of the letters 'SGS' in a bold, sans-serif font, with a vertical line to the right of the letters.The CE mark is a stylized 'C' and 'E' symbol, followed by the number '0598'.

CERTIFICATE RED-2278

Issue no. 1

EU TYPE EXAMINATION CERTIFICATE
RADIO EQUIPMENT DIRECTIVE 2014/53/EU

Product MARINE BLACK BOX DSC/AIS VHF RADIO SYSTEM

Model NRS-1, NRS-2

Trademark NAVICO

Applicant Navico Auckland Limited
44 Arrenway Drive, Rosedale, Auckland 0632, New Zealand

Compliance with the requirements on the basis of type examination Product fulfils the requirements of the standard(s) listed on page 2 and the essential requirements set out in Article 3.1a (Health & Safety), Article 3.1b (EMC), Article 3.2 (Radio Spectrum Use) and 3.3g (Emergency Services) of the Radio Equipment Directive 2014/53/EU.

Validity This certificate is valid until 2025-10-29 unless the standard in question has been amended or superseded.

Date of issue 2020-10-29

SGS Fimko Ltd

Signature



Jari Merikari
Certification Manager

SGS Fimko Ltd is a Notified Body (0598) according to the RE Directive 2014/53/EU.

Page 1 of 4

This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Fimko Ltd

Takomotie 8, FI-00380 Helsinki, Finland
t. +358 9 696 361 www.sgs.fi

Business ID 0978538-5

Member of the SGS Group (SGS SA)



Manufacturer

Navico Auckland Limited
44 Arrenway Drive, Rosedale, Auckland 0632, New Zealand

Manufacturing site(s)

Shenzhen Fastrain Technology Co., Ltd.
No.3 Baolong 4th Rd., Baolong Industrial Area, Longgang District, Shenzhen, China

Applied standards

Article	Standard
3.1a Health	EN 62311:2008
3.1a Safety	EN 60945:2002 section 8 EN 62368-1:2014 + A11:2017
3.1b EMC	EN 60945:2002 section 9 & section 10 EN 301 843-1:V2.2.1 EN 301 489-1:V2.2.3 EN 301 489-5:V2.2.1 EN 301 489-17:V3.2.4 EN 301 489-19:V2.1.1
3.2 Radio Spectrum	EN 300 328:V2.2.2 EN 301 025:V2.2.1 EN 300 698:V2.3.1 EN 303 413:V1.1.1
3.3g Emergency Services	EN 301 025:V2.2.1 EN 300 698:V2.3.1 EN 62287-1:2017 EN 61162-1:2016 EN 61162-2:1998 EN 61108-1:2003 EN 61108-2:1998

Test reports

Testing Laboratory	Report Number	Date
SGS-CSTC Standards Technical Services Co., Ltd. – Shenzhen Branch	SZES200700466701	22. October 2020
	SZES200800479101	13. October 2020
	SZEM200700601701	19. September 2020
	SZEM200700601702	19. September 2020
	SZEM200700601703	19. September 2020
	SZEM200700601704	19. September 2020
	SZEM200700601705	19. September 2020
	SZEM200700601706	19. September 2020
	SZEM200700601707	19. September 2020
	SZEM200700601708	18. September 2020
	SZEM200700601709	19. September 2020
	SZEM200700601710	19. September 2020
	SZEM200700601711	19. September 2020

Technical information

Operating voltage: 12 VDC from battery

Frequency band:

VHF Tx: 156.025 – 157.425 MHz

VHF Rx: 156.05 – 163.275 MHz

AIS Tx: 161.975 MHz (CH 87) 162.025 MHz (CH 88)

DSC: 156.525 MHz (CH 70)

WiFi 802.11b/g/n(HT20): 2 412 – 2 472 MHz

GLONASS G1: 1 559 – 1 610 MHz

GPS L1: 1 559 – 1 610 MHz

Output power:

VHF: 43.6 dBm (Conducted)

AIS: 33.6 dBm (Conducted)

WiFi: 9.99 dBm (EIRP)

Modulation:

VHF: FM for Analog

AIS: GMSK

DSC: FSK

WiFi 802.11b/g/n(HT20): DSSS (CCK, DQPSK, DBPSK) / OFDM (BPSK, QPSK, 16QAM, 64QAM)

Channel spacing:

VHF: 25 kHz

Antenna type and gain:

VHF / AIS: External Dipole; 6 dBi

GNSS: 1.5 dBi

WiFi: 5.3 dBi

Hardware version:

MCU Main Board: D

RF Board: B

AIS Board: D

Handset Main Board: B

Handset KEY Board: B

Software version:

Host: V5.20

Handset: V5.20

AIS: V4.27

Accessory:

VHF Radio antenna: External antenna, Gain value 6 dBi

AIS antenna: External antenna, Gain value 6 dBi

Additional information

This type examination certificate is based on the inspection of the technical documentation ref. no. NAVICO_NRS-1, NRS-2 dated 2020-09-28 provided by the manufacturer.

This certificate is valid only for the models mentioned in this certificate.

According to the manufacturer's declaration the difference between models is that NRS-2 is equipped with AIS board while NRS-1 not.

The manufacturer must inform SGS Fimko if any technical or electrical changes made to the product covered by this certificate, as unauthorised modifications would invalidate this certificate.