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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 43869-2024

**General technology requirements for surveillance radar in
vessel traffic services**

船舶交通管理系统监视雷达通用技术要求

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting: Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents: This document is proposed and coordinated by the National Technical Committee for Standardization of Marine Electrical and Electronic Equipment (SAC/TC531): This document was drafted by: China Shipbuilding Industry Corporation 724 Research Institute, China Electronics Technology Group Northwest Group Co., Ltd., Ministry of Transport Planning and Research Institute, CSSC (Nanjing) Atmospheric and Oceanic Information System Co., Ltd., Jiangsu Maritime Safety Administration, and Wuhan University of Technology: The main drafters of this document are: Tian Chi, Zhao Xianfeng, Lu Xiaohu, Jiang Xiaozhu, Sun Dajin, Zhang Jie, Wang Chen, Xie Haibing, Ma Jie, Pan Zhen, Liu Huaizhi, Cai Zhaoyun, Chen Yang, Liu Shengli, Qian Zhengfeng, Wang Fuzhai, Meng Xiangquan, Qiao Yili, Yang Qingxin, Huang Xiaopeng, Wang Xiang, Yang Zhikun, Huang Penggang, Guo Ziyi, Qi Hua, Lu Yafang: General technical requirements for surveillance radar for vessel traffic management systems

1 Scope

GB/T 43869-2024 sets the general technical requirements for the surveillance radar of a vessel traffic service. VTS radar is a specialised instrument rather than a marine radar on a mast: it looks down on a waterway from a shore tower, it must resolve small vessels close to quay walls and to each other in heavy rain and sea clutter, and it must hold tracks continuously because the operator is managing traffic rather than navigating. The standard sets the composition of the radar system and then the technical requirements: the

functions, the performance in detection range and probability, range and bearing accuracy and resolution, minimum range, target discrimination and clutter suppression, the tracking capacity and behaviour, the interfaces to the data processing and display systems, the power supply, the operating and environmental conditions, the reliability, maintainability and availability, and the antenna and transmitter requirements. It then gives the test methods and the inspection rules. It takes effect on 1 November 2024, and for a supplier to Chinese maritime authorities it is the acceptance text.

This document specifies the composition, technical requirements, test methods, inspection and control of the vessel traffic management system surveillance radar (hereinafter referred to as "surveillance radar"): Inspection, marking, packaging, transportation and storage, etc: This document is applicable to the design, development, production and acceptance of surveillance radars: Other radars used for surface target surveillance shall be implemented as a reference:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document: For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document:

GB/T 191 Pictorial markings for packaging, storage and transportation

GB/T 2423:1-2008 Environmental testing for electric and electronic products Part 2: Test methods Test A: Low temperature

GB/T 2423:2-2008 Environmental testing for electric and electronic products Part 2: Test methods Test B: High temperature GB/T 2423:

3 Environmental testing Part 2: Test method Test Cab: Steady state damp heat test GB/T 2423:

10 Environmental testing Part 2: Test methods Test Fc: Vibration (sinusoidal) GB/T 2423:

17 Environmental testing for electric and electronic products Part 2: Test methods Test Ka: Salt spray

GB/T 2423:38-2021 Environmental testing Part 2: Test methods Test R: Water test methods and guidance

GB 2894 Safety signs and their use guidelines GB/T 5080:

7 Equipment reliability test - Failure rate and mean time between failures under the assumption of constant failure rate - Verification test plan

GB 8702-2014 Electromagnetic environment control limits

GB/T 9254:1-2021 Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers Part 1: Emission requirements

GB/T 12649-2017 Weather radar parameter test method

GB/T 13384 General technical requirements for packaging of mechanical products

3 Terms and definitions

The terms and definitions defined in GB/T 39277-2020 and the following apply to this document: