

ICS 47.020.60
CCS U 60



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

GB/T 43800-2024

**Electrical and electronic installations in ships - Electromagnetic
compatibility (EMC) - Ships with a non-metallic hull**

船舶电气与电子装置 电磁兼容性 非金属船舶

(English Translation)

Issued on: March 15, 2024

Implemented on: July 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface
1 Scope
2 Normative references
3 Terms and Definitions
4 General
5 Electromagnetic Environment (EME)
5.1 Overview
5.2 Sensitivity study
5.3 Unintentional emitters installed near VHF antennas
6 Shielding methods
6.1 Overview
6.2 Shielding function
6.3 Ship Arrangement
6.4 Room Layout
7 Antenna Arrangement
7.1 General
7.2 Whip Antenna
7.2.1 General
7.2.2 Transmitter location
7.2.3 Antenna Ground Plane
7.3 Loop Antenna
8 Grounding and equipotential bonding systems
8.1 General
8.2 Grounding System
8.3 Protected Areas
8.4 Ground Plate
8.4.1 Materials
8.4.2 Position
8.4.3 Dimensions and construction
8.4.4 Quantity
8.5 Communication Transmitter System
8.6 Grounding conductor size

8.7 Lightning Rod

8.8 Non-equilibrium systems

9 Cable Installation

9.1 Cable Laying

9.2 Electrical connection (bonding) of cable shielding

9.3 Radio Frequency Field Protection

9.4 Inductive current protection

9.5 Filtering

10 Overvoltage protection

11 Maintenance test and inspection

Appendix A (Normative) Comparison between Chapter 4 to Chapter 8 of IEC 60533:2015 and this document

Appendix B (Informative) Comparison between IEC 60533:2015 Appendix A (Informative) and Appendix B (Informative) and this document

References

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.

This document is equivalent to IEC 62742:2021 "Electromagnetic compatibility of marine electrical and electronic equipment - Non-metallic ships".

1 Scope

This document specifies the minimum emission, immunity and performance criteria for electromagnetic compatibility (EMC) of non-metallic electrical and electronic installations on board ships.

Low requirements.

Note: IEC 60533 specifies the electromagnetic compatibility requirements for metallic hulls. As an extension of IEC 60533, this document specifies the electromagnetic compatibility requirements for non-metallic hulls.

Capacitance.

This document further provides guidance on the implementation of electromagnetic compatibility for ships with non-metallic hulls, which can be used for ships with non-metallic superstructures or components.

Reference for implementation of electromagnetic compatibility of metal hull ships.

This document helps to meet the requirements of International Maritime Organization (IMO) Resolution A.813(19).

This document does not specify basic safety requirements, such as electric shock protection and equipment insulation strength test requirements. This document does not cover electromagnetic the impact of compatibility on personnel.

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.

Note: GB/T 6994-2006 Definitions and general provisions for marine electrical equipment (IEC 60092-101:2002, IDT) Note. GB/T 21065-2007 Installation and completion tests of marine electrical installations (IEC 60092-401:1980, IDT) Small vessels Note. GB/T 10250-2007 Electromagnetic compatibility of marine electrical and electronic equipment (IEC 60533:1999, IDT)

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in IEC 60533 and the following apply.

Hull

The main watertight part of a ship or the main hull.

Compartment

The hull is divided into compartments by bulkheads.