

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

JT/T 1300-2019

**Technical requirements and methods of testing for BeiDou
shipborne emergency position indicating radio beacon**

北斗船用应急无线电示位标技术要求及测试方法 清晰版

(English Translation)

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Foreword

This standard is in accordance with GB/T Draft the rules given in 1-2009.

This standard is proposed by and under the jurisdiction of the Technical Committee on Transportation, Information, Communications and Navigation Standardization.

This standard was drafted. China Communications and Information Center, Anhui Shuangchuang Electronics Co., Ltd.

1 Scope

This standard specifies the overall composition and general requirements, functional requirements, performance requirements, and test methods of Beidou marine emergency radio beacons.

And required results.

This standard applies to the design, production and testing of Beidou ship emergency radio beacons.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

beidou. gov. cn/zt/bdbz /.201117/W02020126854554950925. pdf) bdbz
/.201112/W020217128455454182023. pdf) Technical Regulations for Statutory Survey of
Domestic Sailing Ships IEC 60945.:2002 Maritime navigation and radiocommunication

equipment and systems generally require test methods and required test results (Maritime navigation and radio communication equipment and end systems \\ General requirements - h o o o o o o o ting and requisition tests results) Imo A. 658 (16) Reflective materials on life-saving equipment (Using and fitting of reflective materials on living appliances)

3 Terms and definitions, abbreviations

3.1

Terms and definitions the following terms and definitions apply to this document.

3. 1. 1

Beidou emergency radio beacons for Beidou ship boring, eringen, posion, indicating, radio, beacon Shipborne device that uses Beidou satellite system to locate and send ship distress alert information.

3. 1. 2

Beidou short message service BeiDou shortsmesssage service Digital message transmission service between users via Beidou satellite.

3. 1. 3

Precision factor diofion precision the factor by which the satellite's geometric position contributes to the error.

3. 1. 4

Position resolution resolution off of position the smallest change in the position of the Beidou ship's emergency radio beacon antenna can be measured.

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3. 1. Five

Cold start cold star the Beidou ship's emergency radio beacon is turned on when the ephemeris, almanac, time and position information are unknown.

3. 1. 6

Hot start hot star

The Beidou ship's emergency radio beacon is turned on using the stored ephemeris, almanac, time and location information.

3.1.7

Capture sensitivity acquisition sensitivity the minimum signal level required for the Beidou ship's emergency radio beacon to capture navigation signals and locate properly under cold

start conditions.

3.1.8

Tracking sensitivity tracking sensitivity After the Beidou emergency radio beacon is positioned normally, it can continue to maintain the minimum information required for tracking and positioning of navigation signals.

No. level.

3.2

Acronyms

The following abbreviations apply to this document.

BDQEPRB. Beidou Ship Emergency Radio Beacon (Beijing Ship Point Industrial Possibility Indicating Radical Beacon) BDS. BeiDou Satellite Navigation System (Beidou Navigation System) EIR. Equivalent Isotropic Radiated Power (Effective Isolation Radiated Power) GNSS. Global Satellite Navigation System (Global Navigation System) GPS. Global Positioning System (Global Positioning System) HDOP. plane position accuracy factor (Horizontal Diofion of Precision) POP. Position accuracy factor (Position of Offion Preciseon) RDSS. Radio Determining Service (Radio Demininion State Service)

4 General composition and general requirements

4.1

overall composition BDQEPIRB is an automatic floating alarm device for ships. It can be started manually or automatically when the ship is in danger.

The GNSS positioning unit achieves continuous positioning, and transmits distress alert information via the Beidou RDSS uplink frequency, and connects to the RDSS downlink frequency Receive alarm response information.

The overall composition of BDQEPIRB is shown in Figure 1. The specific composition and function requirements of the beacon terminal and release device are as follows.

a) The composition and function of the beacon terminal are.

- 1) Control unit. with working status display, alarm information sending and receiving control, Beidou communication protocol analysis, and ring light control functions.
- 2) GNSS positioning unit. It has the function of collecting ship positioning information, including position information, speed information and time information.

The bit mode includes at least BDS and GPS.

- 3) RDSS unit. It has Beidou short message service function, and realizes the communication between BDQEPRB and the shore control center.

- 4) 121. 5MHz positioning unit. with transmission 121. 5MHz frequency analog amplitude modulation seek signal function.
- 5) Beidou civil user card. It has the function of identifying the identity information of BDQEPIRB users, and has a unique ID number for Beidou RDSS two-way communication.
- 6) Battery unit. It has the function of supplying power to the beacon terminal and providing battery status information.
- 7) Positioning terminal housing. Reflective material is installed, which is oil-resistant, corrosion-resistant, radiation-proof, waterproof and sealed.
- b) The composition and function of the release device are.

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- 1) Release device housing. It has information reflecting the status of the product and is used to place the beacon terminal.
- 2) Hydrostatic pressure release device. a device with BDQEPIRB that automatically releases and floats away from the terminal of the beacon at a certain water depth or pressure Features.
- 3) Bracket. It has the function of fixedly installing the release device.

Figure 1 Schematic diagram of the composition of BDZEPIRB

4.2

General requirements the general requirements of BDQEPRB are as follows.

- a) It should have distress alarm, alarm cancellation, receipt, and self-test functions;
- b) It should have an automatic floating function, which can be started automatically after floating
- c) shall have automatic and manual release functions;
- d) BDEZEPRB shall send a Beidou satellite every 5 distress alert messages when it has not obtained a valid GPS position.

Active positioning request until a valid GPS position is obtained;

- e) The format of the BDQEPIRB message shall be in accordance with Appendix B of Chapter 4, Chapter 4, Appendix 4, of the Technical Regulations for Statutory Survey of Domestic Sailing Ships Requirements
- f) BDZEPIRB shall be provided with a buoyant lanyard serving as a distress or liferaft tether.