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

**GB/T 46459-2025**

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**Performance requirements and test methods for BeiDou radio  
frequency and baseband integrated module**

北斗射频与基带一体化模块性能要求及测试方法

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## Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the Ministry of Industry and Information Technology of the People's Republic of China. This document was drafted by: Sifang Electronics Co., Ltd., China Electronics Technology Standardization Institute, University of Science and Technology of China, and Changsha Jin V-Integrated Circuit Co., Ltd., Hexin Xingtong Technology (Beijing) Co., Ltd., Hangzhou Zhongke Microelectronics Co., Ltd., and Taidou Microelectronics Technology Limited Liability Company, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Guilin University of Electronic Technology, China Electric Power Research Institute Co., Ltd. The main drafters of this document are: Meng Xianwei, Jia Lin, Chen Qian, Chen Enhong, Yi Jiong, Cao Xueyong, Yuan Xi, Wu Zhaofeng, Sun Yining, Wang Wei, and Huang Lunwen. Sun Xiyan, He Qian, Li Jinsong, Liu Yan. Beidou RF and baseband integrated module performance Requirements and Test Methods

## 1 Scope

GB/T 46459-2025 is the Chinese national standard covering the single-chip module that receives and solves - the sensitivity for acquisition and for tracking, the time to first fix cold and hot, the position accuracy and the update rate, the power consumption, and the interfaces and the test setup for each figure. At 22,000 words. First edition, in force from 1 February 2026. Issued on 5 October 2025, it has been in force since 1 February 2026.

This document specifies the classification and composition, functional requirements, and performance requirements of the BeiDou radio frequency and baseband integrated module, and describes the test methods. This document applies to the design, development, production, and testing of BeiDou radio frequency and baseband integrated modules (hereinafter referred to as "integrated modules").

## 2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 42979 Performance requirements and test methods for GNSS position reporting/short

message terminals

GB/T 46369 Performance Requirements and Test Methods for Beidou Navigation Receiver Terminals

**3.1 Terms and Definitions** The terms and definitions defined in GB/T 42979 and GB/T 46369, as well as the following terms and definitions, apply to this document.

3.1.1 cold start The integrated module is powered on and started up even when there is no valid satellite ephemeris, satellite almanac, approximate time, or approximate location.

[Source:

GB/T 19391-2003, 2.72, with modifications]

3.1.2 hotstart The integrated module is powered on and started when the satellite ephemeris, time, and approximate location are valid. [Source:

GB/T 19391-2003, 2.74, with modifications]

3.1.3 First fix time (time to first fix) ; TTFF The time required for the integrated module to start up from power-on and for the RNSS positioning result to meet the requirements.

Note. Startup conditions include cold start and warm start. [Source:

GB/T 19391-2003, 4.4, with modifications]

3.1.4 re-acquisition time After a brief loss of lock on the received satellite navigation signal, the integrated module recovers the positioning result to meet the required standard. time.