NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 51469-2025

Technical standard of Beidou satellite integrated monitoring system engineering

北斗卫星综合监测系统工程技术标准

Issued on: October 30, 2025 **Implemented on: March 1, 2026**

Issued by: Ministry of Housing and Urban-Rural Development of the PRC, jointly with the State Administration for Market Regulation

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Foreword

This document was issued on 30 October 2025 by the Ministry of Housing and Urban-Rural Development of the PRC, jointly with the State Administration for Market Regulation and takes effect on 1 March 2026.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies.

The document runs to 58 pages. The identification, the dates, the classification and the table of contents on this page are taken from the cover and the printed contents of the standard itself.

This standard was approved and issued by the Ministry of Housing and Urban-Rural Development of the People's Republic of China as Announcement No. 156 of 2025, dated 30 October 2025, and takes effect on 1 March 2026.

The standard was drafted in accordance with the notice of the Ministry of Housing and Urban-Rural Development issuing the 2017 plan for the formulation and revision of engineering construction standards and specifications (Jianbiao [2016] No. 248). The drafting group carried out extensive investigation and research, summarised practical experience, referred to the relevant international and foreign advanced standards, and drew up the standard after wide consultation.

The main content of the standard is: general provisions; terms and abbreviations; basic requirements; survey; design; construction; and acceptance.

The Ministry of Housing and Urban-Rural Development is responsible for the administration of this standard.

The lead drafting organisation is Sun Create Electronics; the drafting organisations include the Guizhou Transportation Planning Survey and Design Academy, Qianxun Spatial Intelligence, Sichuan Jiuzhou Beidou Navigation and Location Services, Anhui Tulian Technology, the Guizhou China Construction Building Research and Design Institute, the Second Hydrogeological and Engineering Geological Survey Institute of the Anhui Geological Bureau, Guangzhou Jingyan Zhilian, Jiangxi College of Applied Technology, the

Wuhan Beidou Industrial Innovation Centre, Zhengzhou Geo Geographic Information Technology, the Henan Surveying and Mapping Geographic Information Technology Centre and the Beijing Space Intelligence Development Centre.

1 Scope

GB/T 51469 is the Chinese engineering standard for Beidou satellite integrated monitoring systems: the networks of reference and monitoring stations that use China's own satellite navigation constellation to measure whether a dam, a slope, a bridge, a subsidence basin or a tall building is moving, and by how much. Millimetre-level deformation monitoring is now the standard way large infrastructure is watched in China, and this document is the first national standard covering such a system as an engineering work rather than as a piece of equipment. It runs through the whole project life: the survey of the sites for the reference station, the monitoring stations, the communication subsystem and the data processing centre machine room; the design of each of those; the construction; and the acceptance, in three stages, preliminary acceptance, trial operation and completion acceptance. Seven annexes give the forms the work is recorded on, including the horizontal and vertical displacement monitoring report forms. Effective 1 March 2026.

2 Terms and abbreviations

Clause 2 is organised as follows: 2.1 Terms; 2.2 Abbreviations.

4 Survey

Clause 4 is organised as follows: 4.1 General rules; 4.2 Survey for the reference station; 4.3 Survey for the monitoring station; 4.4 Survey for the communication subsystem; 4.5 Survey for the data processing centre machine room; 4.6 Deliverables.

5 Design

Clause 5 is organised as follows: 5.1 General rules; 5.2 Design of the reference station; 5.3 Design of the monitoring station; 5.4 Design of the communication subsystem; 5.5 Design of the data processing centre.

6 Construction

Clause 6 is organised as follows: 6.1 General rules; 6.2 Construction of the reference and monitoring stations; 6.3 Other works.

7 Acceptance

Clause 7 is organised as follows: 7.1 General rules; 7.2 Preliminary acceptance; 7.3 Trial

operation; 7.4 Completion acceptance.