

ICS 49.020



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

GB/T 44930-2024

**Interface requirements of high-altitude scientific balloon
platform and payload**

高空科学气球平台与有效载荷接口要求

Issued on: December 31, 2024

Implemented on: April 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 General requirements	1
5 Mechanical interface requirements	1
5.1 General requirements for mechanical interfaces	1
5.2 Rigid connection	2
5.3 Flexible connection	2
6 Electrical interface requirements	3
6.1 General requirements for electrical interfaces	3
6.2 Supply voltage and starting current	3
6.3 Grounding and bonding	4
6.4 Cable routing, shielding and connectors	4
7 Thermal interface requirements	4
7.1 General requirements for thermal interfaces	4
7.2 Payload Autonomous Thermal Control	5
7.3 Payload thermal control by high altitude scientific balloon platform	5
8 Communication interface requirements	5
8.1 General requirements for communication interfaces	5
8.2 Interface Type	5
8.3 Data transmission requirements	5
Appendix A (Normative) Interface Data Sheet	7

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 was proposed by the Chinese Academy of Sciences.

This document is under the jurisdiction of the National Technical Committee for Space Science and Its Applications Standardization (SAC/TC312).

This document was drafted by: Institute of Space Information Innovation, Chinese Academy of Sciences, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Institute of Atmospheric Physics, Institute of Geology and Geophysics, Chinese Academy of Sciences, National Space Science Center, Chinese Academy of Sciences.

The main drafters of this document are: Feng Hui, Yang Yanchu, Zhu Rongchen, Wang Zihao, Qu Yi, Wang Xuwei, Zhang Qianghui, Cai Jingjing, Li Chen, Luo Haiyan, Li Zhiwei, Zhang Jinqiang, He Fei, Ren Zhipeng, Song Liang, and Duan Chunlian.

High-altitude scientific balloon platform and payload interface requirements

1 Scope

This document specifies the mechanical, electrical, thermal, and communication interface requirements between the high altitude scientific balloon platform and the payload.

This document applies to the design, development and testing of interfaces between high altitude scientific balloon platforms and payloads.

2 Normative references

GB/T 1184-1996

GB/T 1804-2000

GB/T 30114.1

GB/T 38060

GB/T 41885

3 Terms and definitions

The terms and definitions defined in GB/T 30114.1, GB/T 38060, GB/T 41885 and the following apply to this document.

3.1 Including power supply, temperature control, measurement and control and other functional systems

A stratospheric free balloon platform used to perform specific scientific experiments, scientific exploration and applied research missions.

Note. A high-altitude scientific balloon platform is generally composed of a balloon structure and a support system, wherein the balloon structure is composed of a sphere, a cable, a pod, etc., and the support system generally includes

4 General requirements

Common requirements for the interface between a high altitude scientific balloon platform and payload include.

- a) The interface form should meet the experimental requirements of the payload and ensure the safety and reliability of the platform and payload;
- b) The mechanical, electrical, thermal, and communication interface data between the high-altitude scientific balloon platform and the payload should be specified through an interface data sheet;

The interface data sheet shall comply with the provisions of Appendix A;

- c) The preparation and modification of the interface data sheet shall be signed by the party responsible for the high-altitude scientific balloon platform and the party responsible for the payload before it becomes effective.

5.1 General requirements for mechanical interfaces

General requirements for mechanical interfaces include the following.

- a) The mechanical interface should adopt a form that has reliable force transmission and simple connection.