

ICS 37.040.01

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

GB/T 19294-2025

Replacing GB/T 19294-2003

Specification for the technological design of aerial photography

航空摄影技术设计规范

Issued on: December 31, 2025

Implemented on: July 1, 2026

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

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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. This document replaces GB/T 19294-2003 "Specifications for Technical Design of Aerial Photography". Compared with GB/T 19294-2003, except for structural adjustments... Aside from integration and editorial changes, the main technical changes are as follows:

- a) The scope of application has been changed to include aerial photography using frame-type digital aerial cameras mounted on manned aircraft. (See Chapter 1, Chapter 1 of the.2003 edition);
- b) The terms "aerial photography," "aerial photography technical design," and "aerial photography factor" have been added (see Chapter 3);

- c) Added the abbreviations "DEM", "DLG", "DOM", "DSM", "GNSS", "GSD", and "IMU" (see Chapter 4);
- d) The requirements regarding the overall principle of aerial photography mission technical design, the responsible unit for aerial photography design, personnel qualifications, and legal basis have been deleted (see [link to document]). (2003 edition, pp. 3.2-3.8)
- e) The basic requirements for the design of aerial photography techniques have been changed (see Chapter 5, Chapter 3 of the.2002 edition);
- f) The selection requirements for aerial photography design drawings have been changed (see 6.1, 4.2 of the.2003 edition);
- g) The selection principles for aerial photography design drawings and the requirements for selecting aerial photography scales have been deleted (see 4.3 of the.2003 edition);
- h) The aerial photography zoning rules have been changed, and the requirements for aerial triangulation have been removed (see 6.2, 4.4 of the.2003 version);
- i) Added requirements for military and civil aviation control to the route laying rules, and removed requirements for route overlap and GPS-assisted air traffic control. Requirements for photography (see 6.3,

1 Scope

GB/T 19294-2025 is the Chinese national standard covering planning an aerial survey - the flight lines and altitude, the overlap forward and sideways, the ground sample distance, the sun angle and season, the camera and its calibration, and the ground control that ties the imagery to the earth. It replaces GB/T 19294-2003 after twenty-two years, a period in which film gave way to digital sensors and drones. Under the Civil Aviation Administration. It was issued on 31 December 2025 and has been in force since 1 July 2026, replacing GB/T 19294-2003. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the basic requirements and techniques for aerial photography design (hereinafter referred to as "aerial photography design") in frame-type digital aerial photography. Requirements, aerial photography design procedures and methods, preparation of aerial photography technical design documents (hereinafter referred to as "aerial photography design documents"), and verification requirements. This document applies to the technical design of aerial photography using a frame-type digital aerial

camera mounted on a manned aircraft. This should be used as a reference when flying aircraft equipped with other digital aerial cameras or using unmanned aerial vehicles.

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 788 Book and Magazine Formats and Dimensions

GB/T 27919-2011 Technical Specification for IMU/GPS-Assisted Aerial Photography

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Aerial photography Using aircraft such as airplanes, airships, and balloons as platforms, to photograph the Earth's surface at photographic altitudes within the Earth's atmosphere. photography. [Source: GB/T 14950-2009, 4.4, with modifications]

3.2 The process of determining the basic parameters of aerial photography based on the aerial photography contract, aerial photography specifications, and relevant regulations for aircraft flight.

Note. This includes calculated data such as aerial survey area, flight altitude, type and focal length of aerial camera, ground resolution, and flight time. [Source: MH/T 0009-1996, 6.1, with modifications]

3.3 Factors that affect the photographic results during aerial photography.

Note. This includes flight ground speed range, ground resolution, flight altitude, heading overlap, and lateral overlap.

4. Abbreviations The following abbreviations apply to this document. DLG. Digital Line Graph