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

GB/T 44169-2024

**General requirements of ground station for civil large and
medium-sized fixed-wing unmanned aircraft system**

民用大中型固定翼无人机系统地面站通用要求

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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 is required. 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 is proposed and coordinated by the National Technical Committee for Aircraft Standardization (SAC/TC 435). This document was drafted by: AVIC (Chengdu) UAV Systems Co., Ltd., China Aviation Technology Research Institute, Northwestern Polytechnical University, the 54th Institute of China Electronics Technology Group Corporation, and Xi'an Lingkong Electronic Technology Co., Ltd. The main drafters of this document are: Liu Yin, Shu Zhenjie, Yao Huangwei, Wang Jiuyuan, Ren Jie, Tang Jian, Liu Tao, Hu Yingdong, Yue Jun, Fu Wenxing, Chen Bei, Xiang Chunqin, Yang Da, Zhang Zejing, Zong Mao, Jia Baojuan, He Wenzhi, Zhao Dou, Xiao Ben. Civilian large and medium-sized fixed-wing UAV system ground station common enquiries

1 Scope

GB/T 44169-2024 sets the general requirements for the ground control station of a civil large or medium fixed-wing unmanned aircraft system. For an aircraft of this class the ground station is not an accessory but the cockpit: it holds the crew, the displays and controls through which the aircraft is commanded, the command and telemetry links, the mission planning and the flight data recording, and its failure or its misdesign is an aircraft accident. The standard sets the composition and functions of the station, then the requirements: the flight monitoring and control functions and the displays and alerting that support them, the mission planning and payload control, the command and control link management and the handling of link loss, the navigation and airspace awareness including the interface to air traffic services, the human-machine interface and the crew workstation, the data recording and playback, the reliability, redundancy and environmental requirements, and the security of the station and its links. It takes effect on 1 January 2025.

This document specifies the general requirements, performance requirements and test verification for ground stations of civil large and medium-sized fixed-wing UAV systems. This document is applicable to the design, implementation and verification of ground stations for civil large and medium-sized fixed-wing UAV systems. The face-to-face station shall be implemented accordingly.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies. in this document.

GB/T 3482-2008 Lightning test methods for electronic equipment

GB/T 11918.1-2014 Industrial plugs, sockets and couplers Part

3 Terms and definitions

The terms and definitions defined in GB/T 38152-2019 apply to this document.

4 General requirements

4.1 Functionality Civilian large and medium-sized fixed-wing UAV systems (hereinafter referred to as "UAV systems") ground stations (hereinafter referred to as "ground stations") generally have It has the following features. Monitoring. It can realize comprehensive monitoring of the flight and link of the UAV, and if necessary, it can realize comprehensive monitoring of the UAV payload;

a) Planning and management. It can realize the mission planning and management of the UAV system before and during the mission execution;

b) Situation display. It can realize the comprehensive situation display required by the task and display the situation information input by the external system when necessary;

c) Data processing. It can process and distribute UAV telemetry and remote control data, and can process and distribute take-off and landing guidance data when necessary. distribution;

d) Link transmission. It can realize the transmission of UAV telemetry and remote control data, and can also realize the transmission of UAV take-off and landing guidance data when necessary;

e) Information processing. It can realize information processing of payload telemetry data (when there is payload telemetry data), and can realize multi-payload information

processing when necessary. Information fusion processing;

f) Simulation. Ability to simulate UAV systems when necessary. g)

4.2 Reliability The reliability index of the ground station should meet the requirements of the reliability index allocation value of the user and the UAV system.

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