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**Guide for commercial off-the-shelf (COTS) parts assurance for
space application**

宇航用商业现货（COTS）器件保证指南

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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:

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:

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Commercial Off-the-Shelf (COTS) Component Assurance Guide for Space Applications

1 Scope

This document provides the classification, risks, information and data of the commercial off-the-shelf components (hereinafter referred to as "COTS components") supply base for aerospace:

According to the data, the factors that users need to consider in COTS device demand analysis, selection assurance, supply assurance, quality assurance and application assurance are given:

It also provides guidance on aspects such as board-level and subsystem-level assurance implementation considerations for COTS devices:

This document applies to the assurance of COTS components for space missions:

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 to This document:

GB/T 4937:201-2018 Mechanical and climatic test methods for semiconductor devices Part 20-1: Comprehensive test methods for humidity and soldering heat Handling, packaging, marking, and shipping of sensitive surface mount devices

GB/T 19000-2016 Quality Management System Fundamentals and Vocabulary

GB/T 37312:1-2019 Avionics Process Management Aerospace, Defense and Other High Performance Applications (ADHP) Electronics Components Part 1: Common requirements for high reliability integrated circuits and discrete semiconductor devices

GB/T 38027-2019 Micro-nano satellite test requirements

GB/T 41040-2021 Quality Assurance Requirements for Commercial Off-the-Shelf (COTS) Semiconductor Devices for Aerospace Use

GB/T 41041-2021 Control requirements for prohibited and restricted components in aerospace

IEC TS62686-2:2019 Avionics Process Management Aerospace, Defense and Other High Performance Applications (ADHP) Electronics passivecomponents]

3 Terms, definitions and abbreviations

3:1 Terms and Definitions

GB/T 19000-2016 and the following terms and definitions apply to this document:

Commercial off-the-shelf; COTS

Off-the-shelf products that use mature commercial technology, are not designed and manufactured according to aerospace or military standards, and are not subject to procurement restrictions by aerospace agencies:

Components available on a commercial off-the-shelf basis:

Note 1: In this document, devices and components are synonymous, and parts and components in English are synonymous:

Note 2: COTS devices include: