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BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

अंतरिक्ष पद्धतियाँ – लघु अंतरिक्ष यान और इकाइयों की डिजाइन अर्हता और स्वीकृति
परीक्षण

Draft Indian Standard

**SPACE SYSTEMS — DESIGN QUALIFICATION AND ACCEPTANCE TESTS OF
SMALL SPACECRAFT AND UNITS**

ICS: 49.140

Air and Space Vehicles Sectional Committee, TED 14

**Last date for receipt of comments is
23/09/2023**

Air and Space Vehicles Sectional Committee, TED 14

NATIONAL FOREWORD

(Formal Clause to be added later)

The text of ISO standard is proposed for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. The Bureau of Indian Standards shall not be held responsible for identifying any or all such patent rights.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendment.

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 14302 Space systems — Electromagnetic compatibility requirements	Doc (22924) / ISO 14302 : 2022 Space systems — Electromagnetic compatibility requirements (<i>under development</i>)	Identical under dual numbering
ISO 15864 : 2004 Space systems — General test methods for space craft, subsystems and units	Doc (22939) / ISO 15864 : 2021 Space systems — General test methods for space craft, subsystems and units (<i>under development</i>)	Identical under dual numbering

The technical committee has reviewed the provisions of following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendment.

<i>International Standard</i>	<i>Title</i>
ISO 11221 : 2011	Space systems — Space solar panels — Spacecraft charging induced electrostatic discharge test methods
ISO 17566 : 2011	Space systems — General test documentation

SCOPE

This document provides test methods and test requirements for design qualification and/or acceptance of small spacecraft or units. It provides the minimum test requirements and test methods to qualify the design and manufacturing methods of commercial small spacecraft and their units and to accept the final products.

This document places emphasis on achieving reliability against infant mortality after satellite launch to orbit while maintaining low cost and fast delivery.

This document is applied to satellites whose development methods are different from the ones used for traditional satellites that have little room for risk tolerance. The scope of this document encompasses different categories of small spacecraft, so-called mini-, micro, nano-, pico-and femto-, as well as CubeSat, spacecraft. Therefore, for the sake of convenience, the term “small spacecraft” is used throughout this document as a generic term.

This document includes CubeSat, as long as it is developed with the untraditional processes.

This document does not cover satellite deployment mechanisms, such as POD, as the verification requirements are defined in the Interface Control Document (ICD) with the launcher, such as ISO 26869.

This document does not cover software testing, although some tests such as functional test, mission test and end-to-end test are inherently used to test the software installed in the hardware being tested. General requirements and processes of satellite software testing can be found in various references, such as ECSS-E-ST40.

This document does not cover requirements regarding safety nor debris mitigation. Appropriate documents such as ISO 14620–1 or ISO 24113 can be referred to.

FOR COMPLETE TEXT OF THE DOCUMENT KINDLY REFER ISO 19683 : 2017 or CONTACT:

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