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**Minimum Operational Performance Standards
(MOPS) for Avionics Supporting Next Generation
Satellite Systems (NGSS)**

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Prepared by: SC-165
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FOREWORD

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1 PURPOSE AND SCOPE

1.1 Introduction

This document contains minimum operational performance standards (MOPS) for avionics that provide Aeronautical Mobile Satellite (R) Services (AMS(R)S) by means of satellite communications technologies scheduled to become operational after the year 2000. Each of these technologies is individually and collectively referred to as a "Next Generation Satellite System" (NGSS), and the NGSS nomenclature will be used throughout this document. This document does not apply to avionics that provide AMS(R)S in accordance with the Standards and Recommended Practices defined in ICAO Annex 10, Part I, Volume III, Chapter 4 (Chapter 4 SARPS). Such equipment is specified in the current version of RTCA DO-210.

Compliance with these standards is recommended as one means of assuring that NGSS avionics will perform its intended function(s) satisfactorily under all conditions normally encountered in routine aeronautical operations. Any regulatory application of this document is the sole responsibility of appropriate governmental agencies.

This document contains a generic description of a satellite communication system configuration including Ground Subnetworks; NGSS Satellite Subnetworks, of which the Aircraft Earth Station (AES) is one part; and Aircraft Subnetworks. However, the specified Minimum Operational Performance Standards in this document address only the AES portion of the Satellite Subnetwork.

To comply with the minimum requirements of this document, an NGSS applicant is required to submit information regarding the technical characteristics of the NGSS. These technology-specific technical requirements for each such system will become normative attachments to this document. It is anticipated that such technology-specific attachments will be added to this document as the particular NGSS becomes operational for AMS(R)S.

This document covers typical NGSS avionics requirements and tests for the aircraft avionics. It includes the purpose, scope and equipment performance requirements, recommended bench tests and other performance verification procedures, and installed-equipment tests and operational performance characteristics. Detailed requirements and test procedures are based on the technical characteristics documented in the normative attachments, as discussed in the previous paragraph.

A companion document, *Minimum Aviation System Performance Standards (MASPS) for the Aeronautical Mobile-Satellite (R) Service (AMS(R)S) as Used in Aeronautical Data Links*, should be available in early 2001. The MASPS should be consulted for operational requirements at the air/ground system level, and for details of specific systems providing AMS(R)S. RTCA documents DO-215A and DO-231 provide guidance on overall data and voice performance issues.

1.2 Document Overview

Section 1 of this document provides general background information needed to understand the NGSS equipment and system characteristics and requirements stated in the remaining sections. It describes typical applications and operational goals as