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**Minimum Aviation System Performance
Standard for AMS(R)S Data and Voice
Communications Supporting Required
Communications Performance (RCP) and
Required Surveillance Performance (RSP)**

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FOREWORD

This document was prepared by Special Committee 222 (SC-222) jointly with EUROCAE Working Group 82 (WG-82) and approved by the EUROCAE Council on June 22, 2021 and the RTCA Program Management Committee (PMC) on June 17, 2021.

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- developing consensus on the application of pertinent technology to fulfill user and provider requirements, including development of minimum operational performance standards for electronic systems and equipment that support aviation; and
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1 INTRODUCTION

1.1 Objective and Scope

This document contains Minimum Aviation System Performance Standards (MASPS) for Aeronautical Mobile Satellite (Route) Services (AMS(R)S) that provide safety communications to aircraft in airspace where 1) procedural separation is applied or 2) ATS surveillance services are provided. The performance defined in this document is intended to provide (1) data communication services that comply to the RCP130/A1, RCP240/A1, RCP400/A1 or RCP400/A2 standards of Required Communications Performance (RCP) for two-way, bidirectional, Controller Pilot Data Link Communications (CPDLC) and to the RSP160/A1, RSP180/A1 or RSP400/A1 standards of Required Surveillance Performance (RSP) for one-way aircraft-to-Air Navigation Service Provider surveillance-related information, and (2) voice communication services that comply to the RCP400/V_{RO} standard for two-way, bidirectional voice communications between pilots and controllers and to the RSP400/V_{RO} standards for one-way voice communications between pilots and controllers.

Note:

1. RCP400/V_{RO} and RSP400/V_{RO} is for airspace where procedural separation is applied.
2. The voice quality defined for AMS(R)S in this document (requirement V70) is consistent with the noise expected in a jet transport aircraft.

Requirements for data communication services are referenced to and refined from the RTCA DO-350()/EUROCAE ED-228() documents and requirements for voice services are referenced to and refined from the ICAO Performance Based Communication and Surveillance (PBCS) manual. In keeping with the intent of DO-350()/ED-228() and the PBCS manual, this document provides requirements at the Communication Service Provider (CSP) level. In addition, other requirements are refined from the ICAO AMS(R)S SARPs.

Note: This document recognises that data link communications meeting the RCP standard are traditionally associated with the surveillance community. However, at the CSP level, there is no fundamental distinction between traditional two-way communications and the one-way surveillance applications. Therefore, both RCP and RSP specifications are treated as data communications services in this document.

This document anticipates that more than one CSP may provide RCP/RSP-compliant services, and that the same CSP may also provide a different suite of services using a different satellite subnetwork for air-ground communications. Therefore, in addition to the technical requirements at the CSP level that apply to any and all of the CSPs, regardless of subnetwork, this document also provides instructions for the preparation of system-specific material related to CSP-level requirements and performance using an individual specific satellite service provider. Such system-specific information will become part of a system-specific attachment to this document.

Compliance with the standards in the main body and the related system-specific material of this document is recommended as one means of assuring that an air-to-ground/ground-to-air communications service based on a particular satellite service will perform its