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**Minimum Aviation System Performance
Standards (MASPS) for
ADS-B Traffic Surveillance Systems
and Applications (ATSSA)**

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FOREWORD

This document was prepared by Special Committee 186 (SC-186) and approved by the RTCA Program Management Committee (PMC) on June 13, 2012.

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1 PURPOSE AND SCOPE

1.1 Introduction

This document contains Minimum Aviation System Performance Standards (MASPS) for ADS-B Traffic Surveillance Systems and Applications (ATSSA). This document is intended to specify requirements for and describe assumptions for all subsystems supporting the operational application of ATSSA, e.g., Automatic Dependent Surveillance - Broadcast (ADS-B), Traffic Information Service – Broadcast (TIS-B), Automatic Dependent Surveillance - Rebroadcast (ADS-R), Airborne Surveillance and Separation Assurance Processing (ASSAP), and Cockpit Display of Traffic Information (CDTI).

This document contains information previously provided in other MASPS: the MASPS for Aircraft Surveillance Applications (ASA) (RTCA DO-289 [48]), the MASPS for Automatic Dependent Surveillance – Broadcast (ADS-B) (RTCA DO-242A [31]) and the MASPS for Traffic Information Service – Broadcast (TIS-B) (RTCA DO-286B [47]). This document combines those MASPS and updates requirements consistent with ADS-B Version 2. Requirements have been added and revised as necessary from ADS-B Version 1 and are reflected in this document to support the operational applications. ADS-B Version 2 is also the basis for ADS-B equipage requirements in the United States and other parts of the world to support air traffic control (ATC) separation services.

These standards specify characteristics that should be useful to designers, installers, manufacturers, service providers and users for systems intended for operational use within the United States National Airspace System (NAS). Where systems are global in nature, the system may have international applications that are taken into consideration.

Compliance with these standards is recommended as one means of assuring that the system and each subsystem will perform its intended function(s) satisfactorily under conditions normally encountered in routine aeronautical operations for the environments intended. These MASPS may be implemented by one or more regulatory documents or advisory documents (e.g., certifications, authorizations, approvals, commissioning, advisory circulars, notices, etc.) and may be implemented in part or in total. Any regulatory application of this document is the sole responsibility of the appropriate governmental agencies.

Chapter 1 of this document describes the ADS-B Traffic Surveillance Systems and Applications and provides information needed to understand the rationale for function characteristics and requirements. This section describes typical applications and operational goals, as envisioned by members of RTCA Special Committee 186, and establishes the basis for the standards stated in Chapters 2 through 4. Definitions and assumptions (**ASSUMP #**) essential to the proper understanding of this document are also provided in this section, and are summarized in §3.7.1. Additional acronyms and definitions are provided in Appendix A.

Chapter 2 describes minimum system performance requirements for the ATSSA system under standard operating and environmental conditions. ATSSA functional requirements and associated performance requirements are provided.

Chapter 3 contains the minimum performance requirements for each subsystem that is a required element of the minimum system performance specified in Chapter 2, as well as