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**MINIMUM OPERATIONAL PERFORMANCE STANDARDS FOR GPS  
LOCAL AREA AUGMENTATION SYSTEM AIRBORNE EQUIPMENT**

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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 airborne navigation equipment using the Global Positioning System (GPS) augmented by the Local Area Augmentation System (LAAS). These standards are derived from the requirements specified in RTCA DO-245(), *Minimum Aviation System Performance Standards (MASPS) for the Local Area Augmentation System (LAAS)*. Throughout this document, the term “LAAS” is used as a generic reference to ground-based augmentation systems (GBAS) as defined by the International Civil Aviation Organization (ICAO), as the requirements in this standard are intended to comply with the ICAO Standards and Recommended Practices (SARPs) for the GBAS aircraft element.

The standards in this document define minimum performance requirements, functions and features for LAAS airborne equipment to support Category I (CAT I) precision approach operations. This standard also covers the computation and output of position, velocity, and time (PVT) to support area navigation and other applications.

*Note:* The requirements for area navigation systems continue to evolve. Applicable standards include RTCA/DO-236, RTCA/DO-229(), RTCA/DO-187 (as amended by TSO-C115()) and RTCA/DO-208 (as amended by TSO-C129()). Of these, only RTCA/DO-229() addresses the integration of precision approach with other area navigation functions. RNAV equipment that only meets the requirements of RTCA/DO-208 may be subject to operational restrictions due to a lack of compatibility with Required Navigation Performance (RNP) requirements.

Compliance with these standards by manufacturers, installers and users is recommended as a means of assuring that the equipment will satisfactorily perform its intended functions under conditions encountered in routine aeronautical operations.

The regulatory application of these standards is the responsibility of appropriate government agencies. In the United States, the Federal Aviation Administration (FAA) plans to publish two Technical Standard Orders (TSO) for GPS/LAAS equipment, one for the LAAS VHF Data Broadcast (VDB) receiver function and another for the LAAS Position And Navigation (PAN) function.

The word "equipment", as used in this document, includes all components or units necessary (as determined by the equipment manufacturer or installer) to properly perform its intended function.

In this document, the term “shall” is used to indicate requirements. An approved design would comply with every requirement, which can be assured by inspection, test, analysis, or demonstration. The term “must” is used to identify items which are important but are either duplicated somewhere else in the document as a “shall”, or are considered to be outside the scope of this document. The term “should” is used to denote a recommendation that would improve the LAAS equipment, but does not constitute a minimum requirement.

This document facilitates traceability by identifying each specific requirement with a requirement designator. The notation “[LAAS-xxx]”, where xxx is a three-digit number, identifies each specific requirement for traceability purposes.

Section 1 of this document provides information and assumptions needed to understand the rationale for equipment characteristics and requirements stated in the remaining sections. It describes typical equipment applications and operational goals and forms the basis for the standards stated in Sections 2 through 4.