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Supporting Information for DO-178C and DO-278A

RTCA DO-248C
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FOREWORD

This document was prepared by RTCA Special Committee 205 (SC-205) and EUROCAE Working Group 71 (WG-71) and approved by the RTCA Program Management Committee (PMC) on December 13, 2011.

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- analyzing and recommending solutions to the system technical issues that aviation faces as it continues to pursue increased safety, system capacity, and efficiency;

- 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

- assisting in developing the appropriate technical material upon which positions for the International Civil Aviation Organization and the International Telecommunication Union and other appropriate international organizations can be based.

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1.0 INTRODUCTION

DO-178C, "Software Considerations in Airborne Systems and Equipment Certification," provides recommendations for the production of software for airborne systems and equipment that performs its intended function with a level of confidence in safety that complies with airworthiness requirements. DO-278A, "Software Integrity Assurance Considerations for Communication, Navigation, Surveillance, and Air Traffic Management (CNS/ATM) Systems," provides similar guidance for the CNS/ATM ground-based community. DO-178C and DO-278A are based on DO-178B; therefore, many of the questions that were raised by the aviation community against DO-178B are also relevant to DO-178C and DO-278A.

This document addresses the questions of both the industry and authorities. It contains frequently asked questions (FAQs), discussion papers (DPs), and rationale. Many of the FAQs and DPs are based on DO-248B; however, some have been modified to address changes from DO-178B to DO-178C and to make applicable to DO-278A. Additionally, some new FAQs and DPs have been added to provide additional clarification on DO-178C and/or DO-278A. The errata against DO-178B (which were in section 2 of DO-248B) have been deleted, since they have been incorporated into DO-178C and are no longer relevant. The rationale for DO-178C and DO-278A objectives has also been added to DO-248C.

Note: Prior to using this document, it is recommended that the reader consider section 1.3, "How to Use This Document".

1.1 Purpose

This document provides clarification of the guidance material in DO-178C and DO-278A. In order to accomplish this clarification the following products have been generated:

- Frequently Asked Question (FAQ) – Section 3: The purpose of a FAQ is to provide short and concise responses to questions that are frequently asked by industry concerning the material of DO-178C and/or DO-278A. These questions are frequently posed to certification authorities or others who provide interpretation of DO-178C and/or DO-278A. A FAQ contains no new guidance material. A FAQ is typically no longer than two pages.

- Discussion Paper (DP) – Section 4: The purpose of a Discussion Paper is to provide clarification for certain sections of DO-178C and/or DO-278A in cases where the clarification requires more than a short answer to a question. A DP contains no new guidance material.

- Rationale – Section 5: The purpose of the rationale is to document some items considered when developing DO-178B and then DO-178C and DO-278A. The rationale is only intended to be background information to aid the reader's understanding of DO-178C and DO-278A — especially of those sections and objectives that industry feedback has shown might benefit from additional clarification. The rationale contains no guidance material.

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