U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: RTCA, Inc., Document RTCA/DO-178B **Date:** 1/11/93 **Initiated by:** AIR-100 **AC No:** 20-115B **Change:**

1. PURPOSE. This advisory circular calls attention to RTCA, Inc., (formerly the Radio Technical Commission for Aeronautics) Document RTCA/DO-178B, "Software Considerations in Airborne Systems and Equipment Certification," issued December 1992. It discusses how the document may be applied with Federal Aviation Administration technical standard order (TSO) authorizations, type certification (TC), or supplemental type certification (STC).

2. CANCELLATION. Advisory Circular 20-115A, Radio Technical Commission for Aeronautics (RTCA) Document RTCA/DO-178A, dated March 1985, is canceled.

3. RELATED FEDERAL AVIATION REGULATIONS (FAR). FAR Parts 21, 23, 25, 27, 29, and 33.

4. BACKGROUND. RTCA Document RTCA/DO-178B was developed to establish software considerations for developers, installers, and users when the aircraft equipment design is implemented using microcomputer techniques. It is expected that current and future avionics designs will make extensive use of this technology. The RTCA document outlines verification, validation, documentation, and software configuration management and quality assurance disciplines to be used in microcomputer systems.

5. USE OF RTCA/DO-178B PROCEDURES. An applicant for a TSO authorization, TC, or STC for any electronic equipment or system employing digital computer technology may use the considerations outlined in RTCA Document RTCA/DO-178B as a means, but not the only means, to secure FAA approval of the digital computer software. The FAA may publish advisory circulars for specific FAR's, outlining the relationship between the criticality of the software based systems and the appropriate "software level" as defined in RTCA/DO-178B. Those may differ from and will take precedence over the application of RTCA/DO-178B.

6. AVAILABILITY OF RTCA DOCUMENT RTCA/DO-178B. Copies may be purchased from RTCA, Inc., 1140 Connecticut Avenue, N. W., Suite 1020, Washington, D. C. 20036.

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