



U.S. Department
of Transportation

**Federal Aviation
Administration**

Advisory Circular

Subject: RTCA, INC. DOCUMENT
RTCA/DO-160E, ENVIRONMENTAL
CONDITIONS AND TEST PROCEDURES
FOR AIRBORNE EQUIPMENT

Date:
Initiated By: AIR-100

AC No: 21-16E
Change:

1. PURPOSE.

a. This advisory circular (AC) identifies RTCA, Inc. document RTCA/DO-160E, *Environmental Conditions and Test Procedures for Airborne Equipment*, dated December 9, 2004, as containing acceptable environmental qualifications for showing compliance with airworthiness requirements.

b. We wrote this AC to assist applicants seeking approval for type certificates, supplemental type certificates and technical standard order (TSO) authorizations. This AC provides guidance for applying minimum standard environmental test conditions and applicable test procedures for airborne equipments. In it, we describe acceptable means, but not the only means, to comply with airworthiness standards. If you use the means described in this AC, you must follow it in its entirety.

2. **CANCELLATION.** This AC cancels AC 21-16D, *RTCA Document DO-160D*, dated July 21, 1998.

3. **WHY USE RTCA/DO-160E?** RTCA/DO-160E defines standard environmental test conditions (categories) and applicable test procedures for airborne equipment. These tests provide a laboratory means of determining the performance characteristics of airborne equipment in environmental conditions that may be encountered in airborne operation of the equipment.

4. WHEN TO USE RTCA/DO-160E.

a. When applying for a technical standard order (TSO) authorization for airborne equipment, you may use the conditions and procedures in RTCA/DO-160E instead of the same conditions and procedures specified in a TSO, if:

- (1) Conditions and procedures used are those prescribed in RTCA/DO-160E.
- (2) The substitute test procedures from RTCA/DO-160E provide an equivalent level of safety, and
- (3) You request approval to deviate in accordance with the requirements of 14 CFR § 21.609.
 - b. An applicant for a type certificate or supplemental type certificate may use RTCA/DO-160E to show compliance with appropriate airworthiness requirements.

5. RELATED DOCUMENTS AND HOW TO GET THEM. - 2 -

- a. Order copies of RTCA documents from RTCA Inc, 1828 L Street, NW, Suite 805, Washington DC 20036-4007. Telephone (202) 833-3339, fax (202) 833-9434. You can also order copies from the RTCA Internet website at <http://www.rtca.org/>.
- b. Order copies of 14 CFR part 21 from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh PA 15250-7954. Telephone (202) 512-1800, fax (202) 512-2104. You can get free copies from the Government Printing Office Internet website at <http://www.gpoaccess.gov/ecfr/index.html>.

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