



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: Designing and Demonstrating Aircraft
Tolerance to Portable Electronic Devices

Date: 07/30/2026

AC No: AC 20-164B

Initiated By: AIR-626

1 **PURPOSE.**

This advisory circular (AC) identifies RTCA Inc.¹, document, DO-307B, or later FAA-accepted revision, *Aircraft Design and Certification for Portable Electronic Device (PED) Tolerance*, as an acceptable means for designing and demonstrating aircraft tolerance to potential electromagnetic interference from portable electronic devices (PEDs).

2 **APPLICABILITY.**

- 2.1 The guidance provided in this AC is for aircraft manufacturers and modifiers who want to design and demonstrate that their aircraft can tolerate passengers and flight crew using PEDs without adverse electromagnetic interference to aircraft systems.
- 2.2 This is a guidance document. Its content is not legally binding in its own right and will not be relied upon by the Department as a separate basis for affirmative enforcement action or other administrative penalty. Conformity with the guidance document is voluntary only. Nonconformity will not affect rights and obligations under existing statutes and regulations.
- 2.3 The FAA will consider other means of demonstrating compliance that an applicant may elect to present. Terms such as “should,” “may,” and “must” are used only in the sense of ensuring the applicability of this particular method of compliance when the acceptable method of compliance in this document is used. If the FAA becomes aware of circumstances in which following this AC would not result in compliance with the applicable regulations, the FAA may require additional substantiation or design changes as a basis for finding compliance.

¹ RTCA Incorporated (Inc) was formerly known as the Radio Technical Communications for Aeronautics organization; it is now known as RTCA Inc. or RTCA.

- 2.4 The material contained in this AC does not change or create any additional regulatory requirement, nor does it authorize changes in, or permit deviations from, existing regulatory requirements.

3 CANCELLATION.

This AC cancels AC 20-164A, *Designing and Demonstrating Aircraft Tolerance to Portable Electronic Devices*, dated June 9, 2017.

4 RELATED MATERIALS.

4.1 Title 14, Code of Federal Regulations (14 CFR).

The following 14 CFR regulations are related to this AC. You can download the full text of these regulations from the Federal Register website at [Electronic Code of Federal Regulations \(eCFR\)](#).

- 23.1301 (through amendment 23-62), *Function and installation*.
- 23.1581 (through amendment 23-50), *General*.
- 23.2500 (amendment 23-64 or later), *Airplane level system requirements*.
- 23.2620 (amendment 23-64 or later), *Airplane flight manual*.
- 25.1309, *Equipment, systems, and installations*.
- 25.1581, *General*.
- 27.1309, *Equipment, systems, and installations*.
- 27.1581, *General*.
- 29.1309, *Equipment, systems, and installations*.
- 29.1581, *General*.
- 91.21, *Portable electronic devices*.
- 121.306, *Portable electronic devices*.
- 125.204, *Portable electronic devices*.
- 135.144, *Portable electronic devices*.

4.2 FAA Advisory Circular(s).

AC 91.21-1, *Use of Portable Electronic Devices Aboard Aircraft* is related to the guidance in this AC. The latest version of each policy statement referenced in this document is available on the FAA website at [FAA Advisory Circulars](#) and on the [Dynamic Regulatory System](#).

4.3 RTCA.

The following RTCA (formerly Radio Technical Commission for Aeronautics) documents are related to the guidance in this AC. Unless otherwise specified, use the latest FAA-accepted revision for guidance. If the document is revised after publication of this AC, you should verify that the FAA accepts the subsequent revision or update as an acceptable form of guidance. These documents can be ordered online at <https://www.rtca.org>.

- DO-307B, *Aircraft Design and Certification for Portable Electronic Device (PED) Tolerance*
- DO-363A, *Guidance for the Development of Portable Electronic Devices (PEDs) Tolerance for Civil Aircraft*.

5 RTCA/DO-307.

5.1 Scope of RTCA/DO-307.

The RTCA/DO-307 document establishes aircraft system immunity criteria and test methods for designing and demonstrating aircraft tolerance to potential electromagnetic interference from passenger and flight crew PEDs. PEDs may be transmitting or non-transmitting devices, and include mobile phones, wireless radio-frequency (RF) network devices such as tablet computers, DVD players, and laptop computers.

5.2 Changes to RTCA/DO-307.

The RTCA/DO-307B document addresses the RF spectrum expansion of the telecommunications 5G technology near the radio altimeter operating frequency band, including 5G PED transmitter risks.

The RTCA/DO-307A document ensured consistency with the existing High Intensity Radiated Fields (HIRF) requirements and to incorporate industry lessons learned during application of the existing requirements in DO-307. The revisions clarified the requirements leading to determining whether an aircraft is PED tolerant.

The revisions to DO-307 were based on engineering assessments of the existing PED tolerance requirements and their relationship to existing HIRF regulations. The revisions also provided guidance on configuration control of modifications to previously PED tolerant certificated aircraft.

5.3 Use of RTCA/DO-307 for Guidance.

Use of the aircraft design standards in RTCA/DO-307B (or later FAA-accepted revision) allows the aircraft to be tolerant to adverse interference from PEDs, whether through intentional or inadvertent use. RTCA/DO-307B (or later FAA-accepted revision) includes separate aircraft design standards for transmitting and non-transmitting PEDs. Use of these standards may facilitate operator approval for both transmitting and non-transmitting PED operation on a particular aircraft model. The demonstrated aircraft tolerance to potential electromagnetic interference is not restricted to a particular type of PED.

5.4 **Use of AC 91.21-1 AND RTCA/DO-363 for Guidance.**

Advisory Circular 91.21-1 provides aircraft owners, operators, and the public with information and guidance for assistance in compliance with Title 14 of the Code of Federal Regulations (14 CFR) 91.21, 121.306, 125.204, and 135.144.

The RTCA/DO-363A², document provides specific recommendations for aircraft operators, aircraft manufacturers, equipment manufacturers, and maintenance service providers in how to establish an aircraft as PED tolerant and how to sustain the PED tolerance throughout the aircraft's lifecycle.

6 **HOW TO OBTAIN FAA APPROVAL OF A PED-TOLERANT AIRCRAFT DESIGN.**

- 6.1 The regulations in 14 CFR Parts 91, 121, 125 and 135 govern the use of PEDs on aircraft, and make the aircraft operator responsible for determining if PED use is acceptable.
- 6.2 Aircraft PED tolerance demonstrated by the type certification applicant can help the aircraft operator in showing compliance with 14 CFR 91.21, 121.306, 125.204, and 135.144. The type certification applicant may submit data of aircraft PED tolerance in accordance with RTCA/DO-307B (or later FAA-accepted revision) for approval by the responsible FAA aircraft certification branch (ACB). The type certification applicant should reference compliance with 14 CFR 25.1309(a), 27.1309(a) or 29.1309(a), which requires the applicant to demonstrate that the aircraft's equipment, systems, and installations must be designed to ensure they perform their intended functions under the aircraft operating and environmental conditions. Pursuant to 14 CFR Parts 25, 27, and 29, the FAA considers the RF environment created by the operation of PEDs within the aircraft as an operating condition. Applicants demonstrating PED tolerance for Part 23 airplanes should reference compliance with 14 CFR 23.1301 (through amendment 23-62), or 23.2500 to specify the environmental limits associated with PED tolerance.
- 6.3 When the type certification applicant intends to demonstrate PED tolerance in accordance with this AC, the applicant must demonstrate aircraft PED tolerance to intentional transmissions (section 3 of RTCA/DO-307B or later FAA-accepted revision), and spurious emissions (section 4 of RTCA/DO-307B or later FAA-accepted revision).

² RTCA/DO-363A, addresses the spectrum expansion of the 5G technology and the introduction of PED transmitting in the frequency spectrum above 5.9 GHz.

- 6.4 When the type certification applicant intends to demonstrate PED tolerance in accordance with this AC, the applicant must provide appropriate instructions regarding any operational limitations on the use of PEDs and the PED tolerance of the aircraft (see section 5 of RTCA/DO-307B or later FAA-accepted revision). To comply with 14 CFR 23.1581 (through amendment 23-50), 23.2620, 25.1581, 27.1581, or 29.1581, these limitations must be documented in the airplane/rotorcraft flight manual (or supplement). Any continued airworthiness instructions required to maintain the level of tolerance should be specified in the instructions for continuing airworthiness (see section 5 of RTCA/DO-307B or later FAA-accepted revision).

7 **AC FEEDBACK FORM.**

For your convenience, the AC Feedback Form is the last page of this AC. Note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this AC on the Feedback Form.

JAMES E
WILBORN

Digitally signed by
JAMES E WILBORN
Date: 2026.07.30
06:10:43 -07'00'

for

James D. Foltz
Aviation Safety
Acting Director, Policy and Standards Division, Aircraft Certification Service

Advisory Circular Feedback Form

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Subject: AC 20-164B

Date: 07/30/2026

Mark all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

☐ Other comments:

☐ I would like to discuss the above. Please contact me using the information below.

Submitted by: _____ Date: _____