

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

N 8900.670

National Policy

Effective Date:
8/15/23

Cancellation Date:
8/15/24

SUBJ: 5G C-Band Radio Altimeter Tolerant Airplanes Affecting OpSpecs C048, C059, and C060 Under 14 CFR Part 129

1. Purpose of This Notice. This notice announces actions for principal inspector (PI) review of aircraft documentation for 5G C-Band radio altimeter tolerance for foreign air carriers operating under Title 14 of the Code of Federal Regulations (14 CFR) part 129. It also announces revised Federal Aviation Administration (FAA) Order 8900.1, Flight Standards Information Management System, guidance associated with the change.

2. Audience. The primary audience for this notice is the FAA International Field Offices' (IFO) Principal Operations Inspectors (POI), Principal Maintenance Inspectors (PMI), and Principal Avionics Inspectors (PAI) with oversight responsibility for operators issued operations specifications (OpSpecs) under part 129. The secondary audience includes the Office of Safety Standards (OSS).

3. Where You Can Find This Notice. You can find this notice on the MyFAA employee website at https://employees.faa.gov/tools_resources/orders_notices and the Dynamic Regulatory System (DRS) at <https://drs.faa.gov>. Operators and the public can find this notice on the FAA's website at https://www.faa.gov/regulations_policies/orders_notices and DRS.

4. Explanation of Policy Changes. The International Program Division (AFS-50), together with the Flight Technologies and Procedures Division (AFS-400), has amended Order 8900.1, Volume 12, Chapter 4, Section 4, Part 129 Part C Operations Specifications—Airplane Terminal Instrument Procedures and Airport Authorizations and Limitations, inspector guidance for the following OpSpecs to identify aircraft that are not 5G C-Band radio altimeter tolerant:

- OpSpec C048, Enhanced Flight Vision System (EFVS) Operations;
- OpSpec C059, Special Authorization Category I (SA CAT I) Instrument Approach and Landing Operations; and
- OpSpec C060, Category II and Category III Instrument Approach and Landing Operations—U.S. Airports.

5. Background and Issue. The FAA has identified an unsafe condition that resulted in the issuance of Airworthiness Directives (AD).¹ These ADs are not mandatory for foreign air carriers operating foreign-registered aircraft unless the AD is adopted by the State where the aircraft are registered.

a. A “radio altimeter tolerant airplane” (also known within the industry as a Group 4 airplane) is one for which the radio altimeter, as installed, demonstrates tolerance to radio altimeter interference at or above a specific power spectral density (PSD) curve threshold. A radio altimeter tolerant airplane also demonstrates tolerance to spurious emissions in the 4.2 to 4.4 gigahertz (GHz) frequency band at or above a spurious emissions PSD curve threshold.

b. 5G C-Band transmissions were initially limited to 3.7 to 3.8 GHz, but have expanded to 3.8 to 3.98 GHz. These higher frequencies are nearer to the spectrum allocation where radio altimeters operate (4.2 to 4.4 GHz), which means that the potential for interference to radio altimeters from in-band (3.7 to 3.98 GHz) and spurious emissions (e.g., lower power emissions in the 4.2 to 4.4 GHz range) will be more likely. In addition, the FAA expects that approximately 19 additional telecommunication companies, in addition to AT&T and Verizon, will begin transmitting in the C-Band at some point after June 2023. As the 21 telecommunication companies authorized to transmit 5G C-Band continue to expand transmissions throughout the country, using Notices to Air Missions (NOTAM) to identify affected areas will become untenable. NOTAMs are temporary means of disseminating information until the information can be publicized by other means, but 5G C-Band signals are not expected to be temporary and 5G signals will cover the contiguous United States. Therefore, NOTAMs are no longer the best means of communicating the location of the 5G C-Band environment.

c. Some radio altimeters may already demonstrate tolerance to the 5G C-Band emissions without modification. Some may need to install filters between the radio altimeter and antenna to increase a radio altimeter’s tolerance. For others, the addition of a filter will not be sufficient to address interference susceptibility; therefore, the radio altimeter will need to be replaced with an upgraded radio altimeter. The FAA has determined that non-radio altimeter tolerant airplanes do not meet an acceptable level of safety for certain operations, including enhanced flight vision system (EFVS) operations to touchdown and rollout, Special Authorization (SA) Category I (CAT I), CAT II, SA CAT II, and CAT III.

6. Action. This change in guidance for OpSpecs C048, C059, and C060 affects PIs with responsibility for the issuance, amendment, and oversight of OpSpecs for part 129. All PIs will review the guidance in this notice and take appropriate action to ensure compliance with this notice. Failure of the part 129 foreign air carrier to provide the required information may result in amendments, suspension, or termination of OpSpecs C048, C059, and/or C060 in accordance with part 129, § 129.11.

a. Within 90 days of the publication of this notice, PIs will instruct part 129 foreign air carriers currently authorized C048, C059, and/or C060 to provide documentation that their aircraft performing these operations are 5G C-Band radio altimeter tolerant. Foreign air carriers

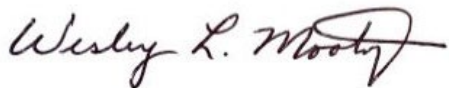
¹ Refer to AD 2023-01-02, AD 2023-12-05, AD 2023-12-10, AD 2023-12-11, AD 2023-12-12, AD 2023-12-13, AD 2023-12-14, AD 2023-12-15, AD 2023-13-15, AD 2023-14-01, and AD 2023-14-02.

may submit documentation showing that their Civil Aviation Authority (CAA) has adopted the FAA AD requirements. Aircraft Flight Manual (AFM) excerpts, supplements, or other manufacturer documentation showing the aircraft is 5G C-Band radio altimeter tolerant are also acceptable. The PI may provide a copy of this notice to the foreign air carrier.

b. PIs will review the documentation submitted by the operator to verify 5G C-Band radio altimeter tolerance for each aircraft. If any aircraft are found to be non-5G C-Band radio altimeter tolerant, the PIs will amend and reissue C048, C059, and/or C060 to list any specific aircraft that are not 5G C-Band radio altimeter tolerant in accordance with the revised guidance. Aircraft so listed will be excepted from the authorization granted in the applicable OpSpec. If the affected aircraft are 5G C-Band radio altimeter tolerant, no further action is required.

c. If the part 129 foreign air carrier has not responded or provided the necessary documentation, the PIs will work with the CAA of the State of the Operator to contact the operator. If the PIs are unsuccessful in obtaining the necessary documentation, the PIs will take steps to amend, suspend, or terminate the part 129 foreign air carrier's applicable OpSpecs in accordance with § 129.11 and Order 8900.1, Volume 12, Chapter 4, Section 12, Compliance and Enforcement. Such amendments will be made in order to ensure that non-5G C-Band radio altimeter tolerant aircraft are not permitted to conduct operations restricted by ADs.

7. Disposition. We will incorporate the information in this notice into Order 8900.1, Volume 12, Chapter 4, Section 4 before this notice expires. Additionally, the Aeronautical Information Publication (AIP) will also incorporate this information during the normal cycle. Operators may also refer to Safety Alert for Operators (SAFO) 21007 for additional information. Direct questions or comments concerning the information in this notice to the International Operations Branch (AFS-52) at 202-267-0962 or 9-AWA-AVS-AFS-050-129@faa.gov.



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