

Continued Airworthiness Notification to the International Community

To: Civil Aviation Authorities

Date: January 14, 2022

From: Federal Aviation Administration
Aircraft Certification Service
Compliance & Airworthiness Division

Subject: This message is to advise you of the FAA's ongoing continued operational safety activities related to 5G C-Band interference with airplane systems using radio (also known as radar) altimeter data during landing on Boeing Model 787-8, 787-9, and 787-10 airplanes.

Situation description: The FAA issued airworthiness directive (AD) 2021-23-12 on December 9, 2021, for all transport and commuter category airplanes equipped with a radio altimeter. AD 2021-23-12 requires revising the limitations section of the existing airplane flight manual (AFM) to incorporate limitations prohibiting certain operations, which require radio altimeter data to land in low visibility conditions, when in the presence of 5G C-Band interference as identified by Notices to Air Missions (NOTAMs).

Since the FAA issued AD 2021-23-12, Boeing issued Boeing Multi Operator Message (MOM) MOM-22-0001-01B, dated January 3, 2022, and Boeing Flight Crew Operations Manual Bulletin TBC-119, "Radio Altimeter Anomalies due to 5G C-Band Wireless Broadband Interference in the United States," dated January 5, 2022.

The FAA determined anomalies on Boeing Model 787-8, 787-9, and 787-10 airplanes due to 5G C-Band interference which may affect multiple airplane systems using radio altimeter data, regardless of the approach type or weather. These anomalies may not be evident until the airplane is at low altitude during approach. Impacted systems include, but are not limited to: autopilot flight director system; autothrottle system; engines; thrust reversers; flight controls; flight instruments; traffic alert and collision avoidance system (TCAS); ground proximity warning system (GPWS); and configuration warnings.

During landing, this interference could prevent proper transition from AIR to GROUND mode, which may have multiple effects. As a result, lack of thrust reverser and speedbrake deployment and increased idle thrust may occur; and brakes may be the only means to slow the airplane. Therefore, the presence of 5G C-Band interference can result in degraded deceleration performance, increased landing distance, and runway excursion.

Aircraft/engine make, model, and series: The Boeing Company Model 787-8, 787-9, and 787-10 airplanes

U.S.-registered fleet: 137 airplanes; **Worldwide fleet:** 1,010 airplanes

Operators: See attached list

Ongoing activities: The FAA intends to issue an immediately adopted rule (IAR) to address the unsafe condition on the affected airplanes. The FAA is analyzing data from other Boeing model airplanes to determine if a similar unsafe condition exists, and will consider additional rulemaking if warranted.

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A0B: ATLANTIS AVIATION CORPORATION	LAN: LATAM AIRLINES GROUP
AAL: AMERICAN AIRLINES	LOT: LOT POLISH AIRLINES
ABD: PRESIDENTIAL FLIGHT	MA5: MERX AVIATION SERVICING LIMITED
ACN: AIR CANADA	MXG: GOVERNMENT OF MEXICO
AFA: AIR FRANCE	NBE: ARCTIC AVIATION ASSETS DAC
AHY: AZERBAIJAN AIRLINES	NE2: NEXUS FLIGHT OPERATIONS SERVICES
AIN: AIR INDIA	NEO: NEOS AIR
AMX: AEROMEXICO	NKA: MG AVIATION LIMITED
ANA: ALL NIPPON AIRWAYS CO., LTD.	NLH: NORWEGIAN AIR INTERNATIONAL
ANZ: AIR NEW ZEALAND	NPD: SCOOT TIGERAIR PTE LTD
AP2: AIR PREMIA	NUI: AIR TAHITI NUI
ARE: AIR EUROPA	OAV: COMLUX ARUBA NV
AUX: AIR AUSTRAL	OMR: OMAN AIR (SAOC)
AVI: AVIANCA	OXA: ORIX AVIATION
BAB: BRITISH AIRWAYS	QAN: QANTAS AIRWAYS
BEJ: AIR CHINA	QTR: QATAR AIRWAYS
BMO: BAMBOO AIRWAYS	RAM: ROYAL AIR MAROC
BNG: BIMAN BANGLADESH AIRLINES	RBA: ROYAL BRUNEI AIRLINES
BRI: TUI AIRWAYS	RJA: ROYAL JORDANIAN
BWN: HIS MAJESTY THE SULTAN'S FLIGHT	RJT: ROYAL JET, LLC
CEA: CHINA EASTERN AIRLINES	SHA: SHANGHAI AIRLINES
CKE: CRYSTAL AIR LLC	SIA: SINGAPORE AIRLINES
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DEA: AERCAP	SIQ: GLOBAL JET LUXEMBOURG
DVB: DVB BANK	SQT: VISTARA
EEX: JUNEYAO AIR CO., LTD.	SRF: SAUDIA ROYAL FLEET
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ETI: ETIHAD AIRWAYS	TLB: TUI FLY BELGIUM
EVA: EVA AIR	TNS: TUI FLY NORDIC
GEF: GECAS	TNZ: AIR TANZANIA
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