FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SAIB: 2025-03
Date: February 26, 2025

SUBJ: Transponder System

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin is to raise awareness of the potential of the **uAvionix echoUAT ADS-B Transceiver** (echoUAT transceiver) failing to provide the barometric pressure altitude information in Automatic Dependent Service-Broadcast (ADS-B) Out message when installed in small experimental category aircraft, including light sport and amateur built.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

In conducting a review of ADS-B flight data, the FAA found anomalies in the barometric pressure altitude data captured for small experimental aircraft with the echoUAT transceiver installed. These anomalies included the repeated loss of barometric pressure altitude from the ADS-B Out message throughout a flight, and a mismatch between the barometric pressure altitude and geometric altitude in the 35 seconds before the barometric pressure altitude was dropped. These anomalies were found in the ADS-B flight data for multiple installations with the echoUAT transceiver installed.

The echoUAT transceiver was developed for the small experimental aircraft market and is not certified. As a result of reviewing the flight data, the echoUAT transceiver was found noncompliant to 14 CFR 91.227(d)(3), which requires "an indication of the aircraft's barometric pressure altitude" to be broadcast.

Furthermore, both §§ 91.225(i)(2)(iv) and 91.227(g)(2)(iv) identify Section 2 of RTCA/DO-282B as incorporated by reference for Minimum Operational Performance Requirements (MOPS) for ADS-B transceivers. With the ADS-B flight data showing a mismatch between the barometric pressure altitude and geometric altitude in the 35 seconds before, it was also determined that the echoUAT transceiver did not meet the MOPS required 2-second refresh rate specified in RTCA/DO-282B.

uAvionix has proactively worked with the FAA to correct the findings identified and verify performance requirements are being met with an implemented solution. The developed solution is provided in the latest revision of uAvionix echoUAT Service Bulletin UAV-1007864-001. This includes a software update and hardware installation of the uAvionix echoALT, which is an inline altitude encoder that provides pressure altitude data to the echoUAT transceiver.

Recommendation

The FAA recommends owners, operators, and maintainers incorporate uAvionix echoUAT Service Bulletin UAV-1007864-001 to update the software and complete the hardware installation.

For Further Information Contact

Jamie Peters, Aviation Safety Engineer; FAA, 2300 E Devon Avenue, Des Plaines, IL 60018; phone: (847) 294-7176; email: Jamie.C.Peters@faa.gov.

For uAvionix Service Information Contact

uAvionix Corporation; website: uavionix.com/support/echouat/; phone: (844) 827-2372.