

Safety Information Bulletin

Airworthiness - Operations

SIB No.: 2024-03

Issued: 06 February 2024

Subject: **Incorrect Processing of the Integrity Information Message by Collins Aerospace Satellite Based Augmentation Systems Receivers**

Ref. Publications:

None.

Applicability:

Design approval holders of a modification installing Collins Aerospace (Collins) Satellite Based Augmentation Systems (SBAS) receivers GPS-4000S, GLU-2100, GLUS-2100 and GLUS-2100A on aircraft.

A detailed list of affected part numbers is provided in Appendix 1 of this SIB.

Description:

Collins identified a potential issue in the Satellite Based Augmentation Systems (SBAS) receiver models GPS-4000S, GLU-2100, GLUS-2100 and GLUS-2100A. This issue refers to a non-compliance with respect to Radio Technical Commission for Aeronautics (RTCA) DO-229 standard, leading to a concern related to incorrect processing of the integrity information message (Message Type 6 (MT6)) sent by the SBAS system for a particular value of the fast correction issue of data (IODF) parameter, i.e. IODF=3. In such conditions, the Global Navigation Satellite System (GNSS) receivers may be unable to notify the flight crew when the integrity of the SBAS qualified GNSS position may be compromised.

This is especially relevant for European Geostationary Navigation Overlay Service (EGNOS) Signal In Space where a more extensive use of this IODF=3 parameter value in the MT6 message is applied to improve the integrity of the service. An EGNOS ground system update (v242B) that was performed on 15 November 2023 exposed this issue in the affected Collins receivers.

EASA is currently conducting an investigation to assess the potential effect on the navigation performance following the reception of an integrity information message with the above-mentioned IODF value, including the potential impact on integrity. Depending on the outcome of this investigation, further action beyond this SIB issuance may be taken by EASA.

At this time, this potential safety concern described in this SIB is not considered to be an unsafe condition that would warrant Airworthiness Directive (AD) action under Regulation (EU) [748/2012](#), Part 21.A.3B and that does not warrant the issuance of an operational directive under Regulation (EU) [965/2012](#), Annex II, ARO.GEN.135(c).

This is information only. Recommendations are not mandatory.



Recommendation(s):

The holders of designs using the affected SBAS receivers are recommended to:

1. Assess the impact of the incorrect processing of MT6 messages on the safety of the operations of the aircraft. This assessment should include any cascading effects on other systems.
2. Assess, based on the outcome of Step 1 above, whether any operational mitigations or limitations are necessary to ensure the continued safety of the aircraft when operating under EGNOS coverage.
3. Communicate the operational mitigations or limitations to the operators, using appropriate communication means, as applicable.
4. Prepare for future design changes aimed at rectifying the concern, should a solution become available.

Note 1: These recommendations are targeted for operations inside the EGNOS service area, as documented in EGNOS [SoL Service Definition Document \(SDD\)](#).

Contact(s):

For further information contact the EASA Safety Information Section, Certification Directorate.
E-mail: ADs@easa.europa.eu.

For any questions concerning the technical content of this SIB, please contact your local Collins Aerospace Customer Support Engineer, or Avionics Support Center.
Email: AvionicsSupport@Collins.com.

This is information only. Recommendations are not mandatory.



Appendix 1: Affected Part Numbers

This SIB applies to the following part numbers:

Equipment Type	Hardware (HW) Part Number	Software (SW) Part Number ¹
GPS-4000S	822-2189-100	Not applicable
	822-2189-101	
	822-2189-190	
GLU-2100 (HW) GLUS-2100 (SW)	822-2532-100	COL4B-0087-0703
		COL4C-0087-0003
		COL4D-0087-0002
		COL4E-0087-0001
		COL4E-0087-0010
		COL4F-0087-0011
		COL4F-0087-1001
		COL48-0087-0700
		COL49-0087-0701
GLU-2100 (HW) GLUS-2100A (SW)	822-2532-300	RCU4C0009000001
		RCU4F0009000002
		RCU4B0009000600

¹ For units with loadable software whose part number can evolve independently of the hardware part number. In that case, the unit is affected only when the listed software part number is loaded in the hardware part number.

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