

RTCA Special Committee 186

Working Group 3

ADS-B 1090ES MOPS Corrigenda

Extended Squitter Monitoring

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Summary

This working paper presents an inconsistency found in DO-260B. There is a test procedure for Extended Squitter monitoring that specifies how the monitor must work. The corresponding requirement section left the implementation up to the manufacturer. The test procedure should be rewritten to align it with DO-181E.

Issue

I believe there is another inconsistency issue in DO-260B. This one stretches in DO-181E.

DO-260B, §2.2.11.2.1 states: “If the ADS-B Transmitting Subsystem is implemented as part of a Mode S Transponder, then the squitter monitor required by RTCA DO-181D, §2.2.10.2 (EUROCAE ED-73C, §3.14.2) is sufficient to ensure proper operation of the transmit chain.”

DO-181D/E, §2.2.10.2, states: “A squitter monitor shall be provided to verify that the Mode S transponder generates short and Extended Squitters at their nominal rates.” (i.e., the specific implementation is left to the manufacturer)

DO-260B, §2.4.11.2.1 contains a “shall” that requires the squitter monitor to “implement appropriate ‘debounce’ and recovery techniques provided for in Table 2-218.” By the way, the “Maximum Time to Declare Fail/Warn (seconds)” for rows 1, 2 and 5 does not conform to Note 1 under the table, as the values should be 1.3 instead of 1.9. Or else the “Number of Intervals to Declare Fail/Warn” should be “3” in each case.

I do not believe requirements should be dictated (hidden) in test procedures and in this case the two DO-260B sections are not in agreement.

My suggestion is to replace DO-260B, §2.4.11.2.1 with the wording from DO-181D/E, §2.4.2.9.1, “A specific test procedure for this function is not described in this subsection. Such a test requires that the manufacturer artificially disable the squitter generation function. The detailed procedure for proving this capability must be left to the discretion of the manufacturer.”

DO-260B, §2.4.11.2.2, should likewise be modified.

Summary

The Working Group is asked to consider the above issue for inclusion in the DO-260B Corrigenda.