

RTCA Special Committee 209 / EUROCAE WG49

ATCRBS / Mode S Transponder MOPS Maintenance

**Joint Teleconference and WebEx Session
9 December 2010**

Future removal of P4 long

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SUMMARY

This working paper proposes to add a note to indicate that the ATCRBS/Mode S All Call interrogations may be removed in the future.

1 Introduction

It has been noted that some transponders generate more $DF=11_{II=0}$ replies than what is expected. It is considered that such replies are generated by incorrect detection of ATCRBS/All Call interrogations (P1-P3-P4_{LONG}) in existing interrogations. This may be because of multipath effect. Different options are envisaged to remove this useless pollution on 1090 MHz. One of them is to stop replying to P1-P3-P4_{LONG} interrogations. However, this can not be done now as a number of military interrogators use ATCRBS/Mode S All Call interrogations. Nevertheless it is the intention to stop servicing such interrogation in the future.

This Working Paper proposes to add a Note in the Transponder MOPS documents to keep the readers aware of this possible change in the future.

2 Proposal

Add the following note in DO-181 section §2.2.18.2.2.c interrogation acceptance Protocol (ED-73, §3.22.2.2.c) to indicate that ATCRBS/Mode S All Call processing may be disabled in the future.

- c. [ATCRBS/Mode S All-Call](#) – An ATCRBS/Mode S All-Call interrogation (1.6 microseconds P₄) **shall** be accepted unless the T_D timer is running or side lobe suppression is in effect.

Note: *The acceptance of ATCRBS/All Call interrogations may be disabled in a future version of these MOPS.*

3 Action

The meeting is invited to review the proposed addition to the transponder MOPS.