# RTCA Special Committee 209
# Working Group #1
# Mode S Transponder MOPS Development/Maintenance
# Meeting #3

## Engility Corporation, Washington DC

# Proposed Revisions
# To the
# Extended Squitter Test Section 2.5.4.6

**Presented and Presented by**
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**SUMMARY**

**The Extended Squitter functional test section, paragraph 2.5.4.6, needed to be revised. This paper presents those modifications.**

1.0 Introduction

This Working Paper provides recommended revisions or clarifications to the Extended Squitter performance test section, paragraph 2.5.4.6 of draft version 1.1 of DO-181D.

2.0 Proposed Paragraph 2.5.4.6 Changes

2.1 Extended Squitter register update rate:

Paragraphs 2.5.4.6.2.2: Steps 3, 4, 5, 6, 7 & Step 10: change update rate from one-half second update rate to ~~200 millisecond update rate to comply with ICAO update rates~~the rates as specified in Appendix B, Table B-1.

Paragraph 2.5.4.6.3: Step 1: change update rate from one-half second to the rates as specified in Appendix B, Table B-1~~200 millisecond update rate to comply with ICAO update rates~~.

2.2 Paragraph 2.5.4.6.2.2: Step 5: add to beginning: "Set ALT switch to ON". (Note: the previous step had shut off the Altitude reporting)

2.3 Paragraph 2.5.4.6.2.2: modify 3rd paragraph as follows:

Unless otherwise noted, for the following steps, setup the transponder ~~to not inhibit Acquisition squitters and~~ to report barometric pressure altitude in the airborne position report (subfield ATS equals ZERO). For transponders that support automatic detection of air/ground state, setup the transponder to airborne state.
(Note: No requirement to inhibit acquisition squitters while transmitting extended squitters).

(WG-1 – not agreed during meeting)

2.4 Paragraph 2.5.4.6.2.2: Step 7, 1st paragraph: remove first sentence: "Configure the transponder to inhibit Acquisition squitters when Extended Squitters are broadcast."
(Note: There are no requirements to suppress acquisition squitters while transmitting airborne position squitters. Acquisition squitters are suppressed when transmitting surface position squitters.)

(WG-1 – not agreed during meeting)

2.5 Paragraph 2.5.4.6.2.2: Step 7, 1st paragraph: remove last sentence: " Verify that the transponder does not broadcast Acquisition squitters."

(Note: There are no requirements to suppress acquisition squitters while transmitting airborne position squitters and this paragraph is checking airborne state.)

(WG-1 – not agreed during meeting)

2.6 Paragraph 2.5.4.6.2.2: Step 7, 2nd paragraph: remove the strikeout:

Set the ALT switch to the "off" position and stop update to GICB Registers $05_{16}$, $06_{16}$, $08_{16}$ and $09_{16}$. After 2 seconds, verify that the ME fields of the airborne position and airborne velocity squitters are ZERO. Interrogate with UF=4, RR=16, DI=7 and RRS=5, 6, 8 and 9, respectively. Verify that the MB fields of the replies match the data of the corresponding Extended Squitter reply. After 60 seconds, verify that Extended Squitter transmissions stop ~~and the transponder resumes Acquisition squitter broadcast~~.
(Note: There are no requirements to inhibit acquisition squitters while transmitting extended squitters.)

(WG-1 – not agreed during meeting)

2.7 Paragraph 2.5.4.6.2.2: Step 7, 3rd paragraph: remove last sentence: "Verify that the transponder continues to inhibit the broadcast of Acquisition squitters."
(Note: There is no requirement to inhibit/suppress acquisition squitters.)
(WG-1 – not agreed during meeting)

2.8 Paragraph 2.5.6.2.2: Step 8: Remove the last sentence in second paragraph: "Configure the transponder to not inhibit Acquisition squitters when Extended Squitters are broadcast."
(Note: There is no requirement to suppress acquisition squitters while transmitting extended squitters.)
(WG-1 – not agreed during meeting)

2.9 Paragraph 2.5.4.6.3: Squitter Control Verification: Step 1, 2nd paragraph and Step 2: Squitter Rate Control: 4th paragraph: these are the same and are duplicated – can one be removed?
(WG-1 – not agreed during meeting)