

Overview

The DO-260B MOPS Test Option provides pre-loaded configuration files and special test screens that enable the user to easily perform specific MOPS required tests.

This option requires that the Multi-Receiver Option (ATCNGOPT03) has been purchased and installed on the ATC-5000NG.

Below are descriptions of special test screens/capabilities included in the DO-260B MOPS test option. Where applicable, we have included the RTCA/DO-260B Test Section paragraph numbers, where the tests to be performed can be found.

Special Test Screens Provided

- Normal
- Altered Preamble
- Bit Failures
- Overlapping Pulse
- Preamble Validation
- Confidence Test

Description of Special Test Screens

Normal

Used for setting up multiple Mode A, Mode C or Mode S (Squitter) targets. Transmissions can be routed to either the top or bottom RF ports. This screen can be used to easily set up jamming scenarios or to test the limits of a multi-receiver receiving many messages at a time. Numerous squitter types are available. Mode A, C or Squitter data can be randomly generated.

The following pre-configured files can be loaded for use in Normal Test:

- ADS-B & Mode S
- ADS-B & ModeA-ModeC
- Dual ADS-B
- Single ADS-B

Altered Preamble

Used for performing the tests outlined in paragraph 2.3.2.4.6: Criteria for ADS-B Message Transmission Pulse Detection. The test procedures in 2.3.2.4.6 verify that the ADS-B reply processor correctly detects the presence of a valid ADS-B preamble whose pulse characteristics are within the allowable limits and rejects preambles having pulse spacing and position characteristics that are outside the allowable limits.

The following pre-configured files can be loaded for use in the Measurement Procedure in paragraph 2.3.2.4.6.

- ADS-B Preamble_InputA
- ADS-B Preamble_InputB
- ADS-B Preamble_InputC
- ADS-B Preamble_InputD

Bit Failures

Used for performing the tests outlined in paragraph 2.3.2.4.7: Criteria for Data Block Acceptance in ADS-B Message Signals (2.2.4.3.4.7.3). This test procedure verifies that ADS-B Messages are accepted when DF field is 17 or 18 and when no more than seven consecutive bits fail the confidence test, as specified by 2.2.4.3.4.7.3.

The following pre-configured files can be loaded for use in the Measurement Procedure in paragraph 2.3.2.4.7.

- ADS-B Bad Chips
- ADS-B Bad Chips DF17 Energy in chips 33 thru 39
- ADS-B Bad Chips DF17 Energy in chips 33 thru 40
- ADS-B Bad Chips DF18 Energy in chips 33 thru 39

Overlapping Pulse

Used for performing verification of Re-Triggerable Reply Processor procedures (2.2.4.2.2), which verify the capability of the TCAS shared ADS-B receiver to detect overlapping Mode-S replies or ADS-B Messages in the TCAS level range.

The following pre-configured file(s) can be loaded for use in the Measurement Procedure in paragraph 2.2.4.2.2.

- ADS-B Pulse

Preamble Validation

This screen can be used for setting up "Preamble Validation Tests" which can be found in the following MOPS paragraphs:

- 2.4.4.4.2.1.3 Extended Squitter Signal Source Requirements
- 2.4.4.4.2.3 Preamble Validation Tests

The user is given the capability to put "energy" in user defined blocks of chips (i.e. from chip 10 to 50, Delta Amplitude: 5 dB). Or the user can put "No energy" in user defined blocks of chips.

The User can also select the period, number of transmissions, random start or random width.

Confidence Test

This screen can be used for setting up "Confidence Tests" which can be found in the following MOPS paragraphs:

- 2.2.4.3.4.7.3 Criteria for Data Block Acceptance in ADS-B Message Signals
- 2.3.2.4.7 Criteria for Data Block Acceptance in ADS-B Message Signals
- 2.4.4.3.4.7.3 Verification of Criteria for Data Block Acceptance in ADS-B Message Signals

From this screen energy can be placed in any 5 chips (1 thru 112) and Bad chips can be set for up to any 5 chips (1 thru 112).

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