

2.4.4.5.4.13 Verification of “OPERATIONAL MODES” Field Encoding (§2.2.4.5.4.13)

Appropriate test procedures required to validate the requirements of §2.2.4.5.4.13 are included in §2.4.4.5.4.13.1, §2.4.4.5.4.13.2, and §2.4.4.5.4.13.3.

2.4.4.5.4.13.1 Verification of “TCAS/ACAS Resolution Advisory” Flag (§2.2.4.5.4.13.1)

Purpose/Introduction:

A transmitting ADS-B participant **shall** set the TCAS/ACAS Resolution Advisory Active Flag (**byte 27, bit 3**) to ONE in the messages that it transmits to support the MS report so long as a TCAS/ACAS resolution advisory is in effect. Likewise, this Operational Mode code shall be set to ONE if the transmitting ADS-B equipment cannot ascertain whether the TCAS II or ACAS computer is currently issuing a Resolution Advisory. At all other times, the transmitting ADS-B participant **shall** set the TCAS/ACAS Resolution Advisory Active Flag to ZERO.

If the input for the “TCAS/ACAS Resolution Advisory” field-flag is “unavailable” for the “Data Lifetime” value listed for this input in [Table 2-98](#), then the “TCAS/ACAS Resolution Advisory” field-flag **shall** default to a value of ZEROONE.

Measurement Procedure:

Step 1: Verification of “TCAS/ACAS Resolution Advisory Flag – Affirmative

Set up the ADS-B Transmitting Subsystem to transmit ADS-B Messages. Set the TCAS/ACAS Resolution Advisory Active input to Affirmative. Verify that bit 3 of byte 27 is set to ONE (1).

Step 2: Verification of “TCAS/ACAS Resolution Advisory Flag – Negative

Set up the ADS-B Transmitting Subsystem to transmit ADS-B Messages. Set the TCAS/ACAS Resolution Advisory Active input to Negative. Verify that bit 3 of byte 27 is set to ZERO (0).

Step 3: Verification of Data Lifetime (§2.2.7.1)

Set up the ADS-B Transmitting Subsystem to enable transmission of ADS-B Messages that include the contents of the “TCAS/ACAS Resolution Advisory” flag. Disconnect “TCAS/ACAS Resolution Advisory” input and verify that, after 60 seconds, bit 3 of byte 27 in the next transmitted message is set to ZERO (0)ONE (1).

Resume “TCAS/ACAS Resolution Advisory” input with a value of “10” and verify that this value is reflected in the next transmitted message.