





<p>M S Surv ID / Testing..... (FAR 43, APDX F, Para (g))</p>	<p>Interrogates with UF5 and verifies a DF=5 reply with correct transponder 4096 code (i.e. 1200). The test set will display the Flight Status bit (AIR or GND). The test results show PASS.</p>	<p>M S Surv ID <input type="checkbox"/> Pass UUT Code _____ FS: AIR <input type="checkbox"/> Fail</p>
<p>M S Surv Alt / Testing..... (FAR 43, APDX F, Para (g))</p>	<p>Interrogates with UF4 and verifies a DF=4 reply with correct aircraft altitude (i.e. 975'), and the test results show PASS.</p>	<p>M S Surv Alt <input type="checkbox"/> Pass UUT Alt _____ft. <input type="checkbox"/> Fail</p>
<p>MS Surv Srt Testing..... (Operational Function Test)</p>	<p>Interrogates with UF0 Short Air to Air Surveillance. Replies with DF0 that contains Mode S Address (Hex or Octal) and Vertical Status Bit (AIR or GND). The Test Set will decode and display the Country Code and the Aircraft Tail Number (Not all tail numbers will be displayed as some countries do not assign Mode S Addresses with a computer algorithm based on aircraft tail number).</p>	<p>MS Address _____ (Hex - 6 bits) Vertical Status _____ (AIR or GND) <input type="checkbox"/> Pass <input type="checkbox"/> Fail</p>
<p>MS Comm ID / Testing..... (FAR 43, APDX F, Para (g))</p>	<p>Interrogates with UF5 with request for Mode S Communication DF21 ID reply with correct transponder 4096 code (i.e. 1200). The test set will display the Flight Status bit (AIR or GND). The test results show PASS.</p>	<p>M S Comm Id <input type="checkbox"/> Pass Code _____ FID _____ <input type="checkbox"/> Fail</p>
<p>M S Comm Alt / Testing..... (FAR 43, APDX F, Para (g))</p>	<p>Interrogates with UF4 with request for Mode S Communication DF20 Altitude reply with correct aircraft altitude (i.e. 975'), and the test results show PASS.</p>	<p>M S Comm Alt <input type="checkbox"/> Pass Alt _____ <input type="checkbox"/> Fail</p>
<p>Undesrd Rply / Testing..... (FAR 43, APDX F, Para (f))</p>	<p>The test set interrogates transponder with 3 incorrect Mode S addresses. Verify transponder does not reply to interrogations by showing a test result of PASS.</p>	<p>Undesrd Rply <input type="checkbox"/> Pass <input type="checkbox"/> Fail</p>
<p>Squitter / Testing..... (FAR 43, APDX F, Para (j))</p>	<p>The test set listens for Acquisition Squitter (DF=11) and Extended Squitter (DF=17). Verify PASS for each squitter type. If transponder is not capable of transmitting DF=17 squitters or if DF17 is not received, test set will show <b>NOT DETECTED</b>. A transponder that shows NOT DETECTED is not a failure).</p> <p><b>Note:</b> The SI Code (Surveillance Identifier) is a number between 0 and 64 and is assigned by the ground radar. SI: <u>0</u> is normal.</p>	<p>ACQ: PASS _____ms Mode S Add: _____ SI: _____</p> <hr/> <p>EXT: NOT DETECTED <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <hr/> <p>EXT: PASS _____ms ADD: _____ SI: _____</p> <hr/> <p>Squitter Test <input type="checkbox"/> Pass <input type="checkbox"/> Fail</p>

Max True Spd / Testing..... (Operational Function Test)	Interrogates with UF0 and displays the maximum true airspeed contained in the DF0 RI field. The airspeed displayed should be applicable to the aircraft UUT.	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Diversity / Testing..... (FAR 43, APDX F, Para (e) Test 1 & 2.)	<b>Where Applicable</b> For any class of Mode S transponder that incorporates diversity operation, verify the isolation of the selected antenna to be 20db or greater than the non-selected antenna, and show a test result of PASS. The test set will display the aircraft Mode S address and the diversity in dB.	Diversity ADD: _____ <input type="checkbox"/> Pass _____db Attenuation <input type="checkbox"/> Fail
Sensitivity / Testing..... (FAR 43, APDX F, Para (c) Tests 1(ii) & 2.)	Verify the sensitivity (MTL) for Modes A and C agrees within 1 db, and the test results show PASS.	A: - _____ db C: - _____ db <input type="checkbox"/> Pass S: - _____ db <b>Δ</b> _____ db <input type="checkbox"/> Fail
Power, Frequency / Testing..... (FAR 43, APDX F, Para (a) Tests 1, 2, 3, & 4) for RF Frequency. (FAR 43, APDX F, Para (d) Tests 1(i-v) & 2.) for Power.	Verify transponder transmitter power (results shown in dB or Watts depending on selection in SETUP) and frequency and the test result shows PASS. Frequency must be 1090 ± 3 MHz. The power must be minimum of 125 W (51 dBm) for ATCRBS/Mode S Class 1A, 2A, 3A, and 4; power must be 70 W (48.5 dBm) for ATCRBS/Mode S Class 1B, 2B, and 3B.	Power            Frequency _____db/wts       _____MHz <input type="checkbox"/> Pass <input type="checkbox"/> Fail

**Mode “S” Transponder Test Complete**

The Mode S Transponder Test Requirements of FAA FAR 43, Appendix F have been accomplished.