87511A-02

S E R V I C E N O T E

Supersedes:
None

Agilent 87511A S-Parameter Test Set

Serial Numbers: All

New procedure and software for Effective Source Match Test

This service note provides the test program and procedure to perform 87511A Effective Source Match Test by using the 4395A Network/Spectrum/Impedance Analyzer instead of the recommended test equipment; the 8751A.

Parts Required: None

To Be Performed By: Agilent-Qualified Personnel and Customers

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:
INFORMATION ONLY
AUTHOR: HH PRODUCT LINE: WN
ADDITIONAL INFORMATION:

Agilent Technologies

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Situation:

The updated test program and procedure for 87511A Effective Source Match Test are provided hereby in order to use the 4395A as test equipment because the 8751A was discontinued.

Solution/Action:

The updated test program (SRCMATCH test program) can be executed by the IBASIC function of the 4395A. To perform the test with the 4395A, modify the test procedure given on Page 4-9 through 4-12 of the 87511A/B Operation and Service Manual as follows:

The default settings (Preset state) of the 4395A are different from the 8751A. Therefore, perform the following procedure after pressing **Preset** key at Step 2 of the Effective Source Match Test:

(1) Press **Meas** key (on 4395A front panel), ANALYZER TYPE and, NETWORK ANALYZER soft-keys to set the 4395A to Network Analyzer mode.
(2) Press **Display** key, MORE, DISP ALLOC and, HALF INST HALF BASIC soft-keys to get space for displaying I-Basic program in lower half area on the LCD screen.
(3) Press SWEEP **Start** key and enter 100 kHz to set the sweep range to 100 kHz – 500 MHz.
(4) Press **Bw/Avg** key, IF BW soft-key and enter 100 Hz to set IF Bandwidth to 100 Hz (in place of 200 Hz designated for the 8751A). (Note: 200 Hz IF BW is not available on the 4395A.)

The other control settings and subsequent 1-Port Calibration procedure are same as the 8751A.

At step 5, load the SRCMATCH test program in the 4395A as follows:

(1) Insert the SRCMATCH test program disk (floppy disk) into the FDD slot of the 4395A
(2) Press **System** key, IBASIC, MORE [2/3] and GET soft-keys. GET " " will be displayed in the lower left corner of the LCD screen.
(3) Enter the test program file name (SRCMATCH) from keyboard connected to the 4395A. Press Enter key to load the program in the 4395A.

Ignore step 6.

At step 7, run the test program as follows:

(1) Press MORE soft-key until Run soft-key label appears on the LCD screen.
(2) Press Run soft-key to execute the test program.
(3) Wait for approximately 15 seconds until the result of Effective Source Match test is displayed. An asterisk (*) is displayed in the lower right corner of the LCD screen while the test program is running.

SRCMATCH Test Program

Store the following program in a floppy disk.

```
10 REAL A(200,1)
20 DIM B(25),C(174)
30 OUTPUT 800;"FORM4"
40 OUTPUT 800;"OUTPCALC2?"
50 ENTER 800;A(*)
60 OUTPUT 800;"INPUDTRC ";A(*)
70 FOR I=0 TO 25
80 B(I)=-10*LGT(A(I,0)^2+A(I,1)^2)
90 NEXT I
100 FOR I=26 TO 200
110 C(I-26)=-10*LGT(A(I,0)^2+A(I,1)^2)
120 NEXT I
130 D=MIN(B(*))
140 E=MIN(C(*))
150 PRINT "Effective Source Match"
160 PRINT "100 kHz to 300 kHz:",D;"dB"
170 PRINT "300 kHz to 500 MHz:",E;"dB"
180 END
```

Note: Take a space after INPUDTRC in program line 60.