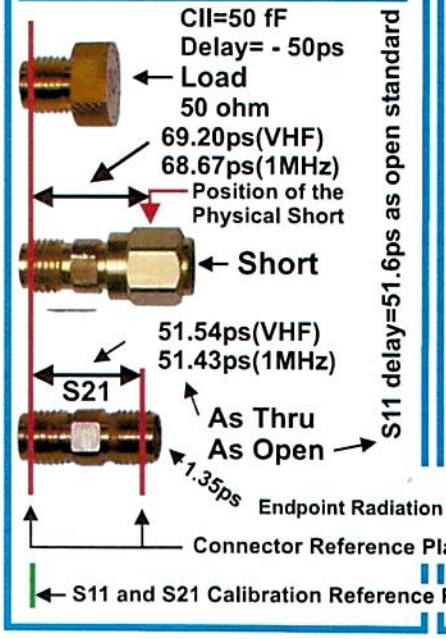
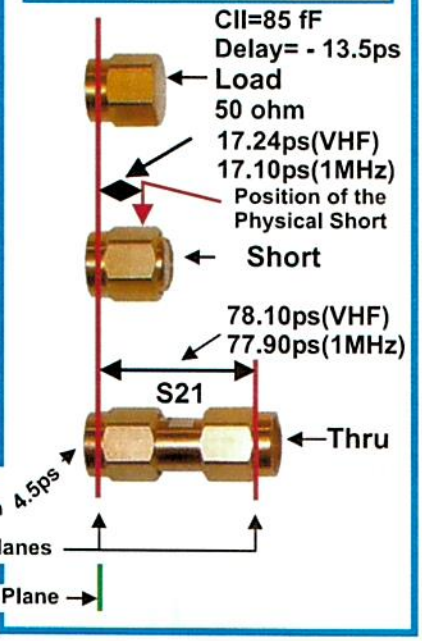
SDR-Kits - Amphenol Connex CAL Standards for the DG8SAQ VNWA

by Kurt Poulsen OZ7OU — Revision 5 May 28-2017 - Page1

Female Calibration Kit



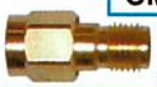
Male Calibration Kit



On this sheet you will find the settings required in "Calibration Settings" and "Simple SOLT" for the Reflection (S11/S22) and Transmission (S21/S12) calibrations. *Find on page 2 arbitrary calibration settings.*

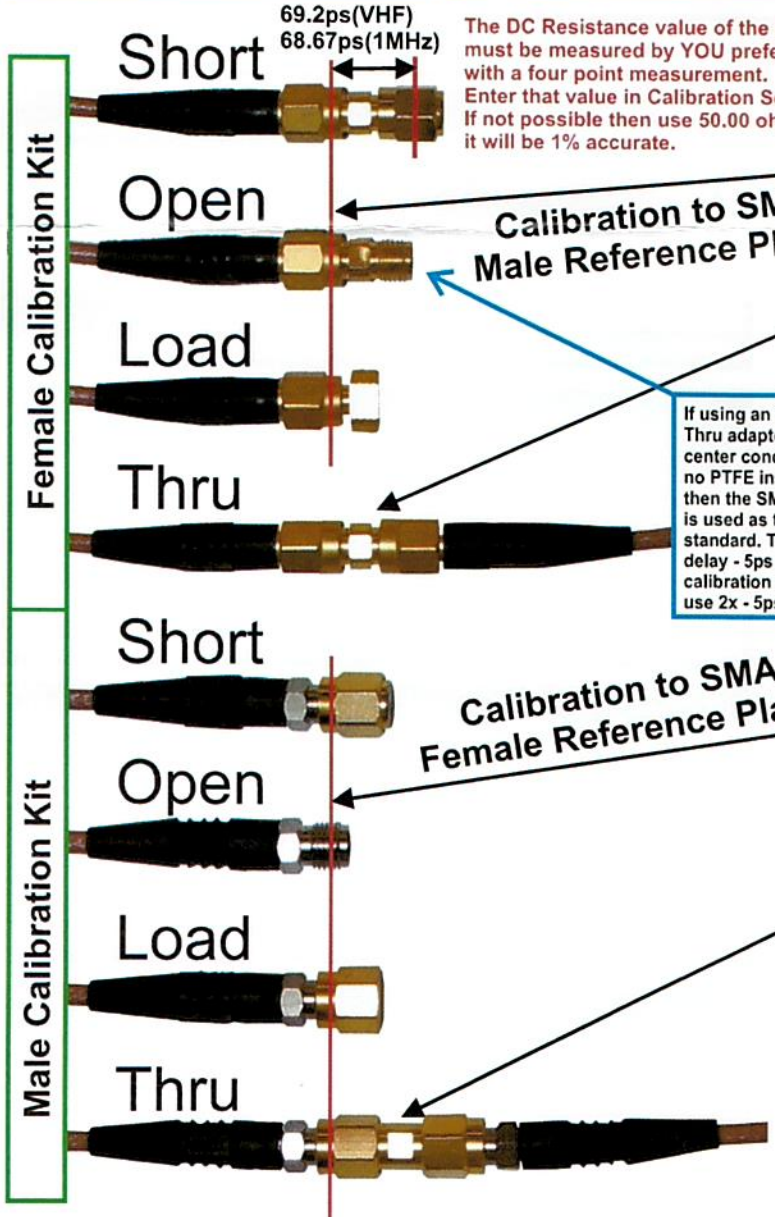
- Please note that if you want to calibrate to the Reference plane of the VNWA Female TX SMA connector on the cabinet, then use the settings for the "SMA Male Reference Plane".
- When using testcables and measuring both S11 and S21, then the Thru adaptor is used, during S21 calibration, but removed during real measurements. To compensate for the changed transmission delay between the TX and RX port, you have to enter the delay for the Thru adaptor in the calibration settings. When doing so the reference planes for both reflection and transmission remain "in sync" at the chosen testcable's calibration plane.
- When the test cables have male SMA at the testing end, the Female Calibration Kit data is used, and likewise for female SMA the Male Calibration Kit data is used.
- Do not use the Crosstalk Calibration for general use.

SMA Male-Female Adaptor



Delay=56,75ps

For protection of the VNWA TX and RX Ports

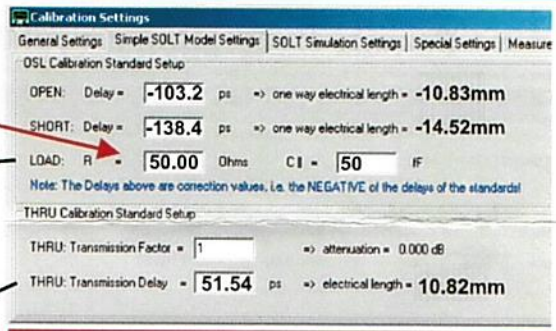


The DC Resistance value of the Load must be measured by YOU preferable with a four point measurement. Enter that value in Calibration Settings. If not possible then use 50.00 ohm and it will be 1% accurate.

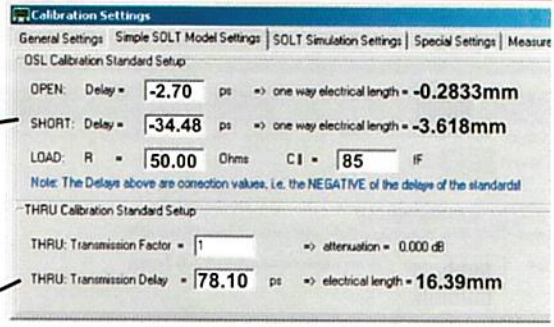
Calibration to SMA Male Reference Plane

If using an empty Thru adaptor (no center conductor no PTFE insert) then the SMA male is used as the Open standard. Thus the delay - 5ps used. In calibration setting use 2x - 5ps=-10ps.

Calibration to SMA Female Reference Plane

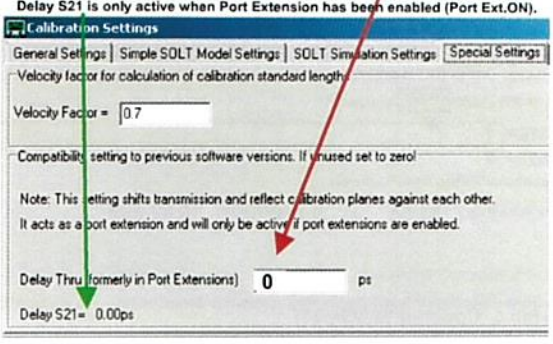


A few Hints:
The calibration Plane can be moved forward and backward by using Measure/Port Extensions.
Port 1 used for the forward direction (S11 and S21), and Port 2 used for the reverse direction (S22/S12).
During reverse direction the DUT is reversed.
For a positive delay the Calibration Plane is moved away from the TX port and Vice Versa.
If the TX level is changed the calibration is also changed slightly. *READ ALSO THE HELP FILE*



Please check Delay Thru is set to 0 ps

Delay S21 is only active when Port Extension has been enabled (Port Ext.ON).



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