

Product Note 61

0.5 to 50GHz TRL VNA Calibration Kit with 2.4mm Connectors

Introduction

TRL Cal Kits provide the best calibration accuracy for VNAs which is essential for RF measurements especially of highly reflective devices, such as tuners.

Focus Microwave's Coaxial TRL (Through-Reflect-Line) Calibration Kits (calkits) are very accurate, robust and easy to use. They cover 0.04 to 50 GHz in different bands and connector types and provide state of the art calibrations of Network Analyzers.

The TRL calkits of Focus Microwaves are available in six connector types: GPC-7, -3.5, -2.9 (K®), -2.4, -N and 7/16. Focus calkits are compatible with all Hewlett-Packard® and Wiltron® network analyzers with the TRL, TRL*, LRL and LRM software option.



Description of the 2.4mm 50GHz TRL Calkit

The 2.4mm TRL calibration kit includes

- one precision coaxial Delay Line with a proprietary Connector Extender,
- two equal phase 2.4mm Shorts (one male and one female),
- two 50 Ω Loads (one male and one female) and
- three “equal-phase” male to female (x2) and female to female (x1) 2.4mm adapters
- one dynamometric connector wrench
- one floppy diskette with Calkit parameters and
- one Operation and Service Manual.

The male to female and female to female equal-phase adapters can be used to calibrate for and measure insertable or non-insertable devices after calibration.

The entire frequency range 0.5 to 50 GHz is covered with one single Delay Line standard, included in the calkit. There is no need for a second “low frequency” standard, as suggested by HP or the NIST. Excellend calibration results are obtained with the supplied standards alone (see figures 2 and 3 on page 2 of this note.

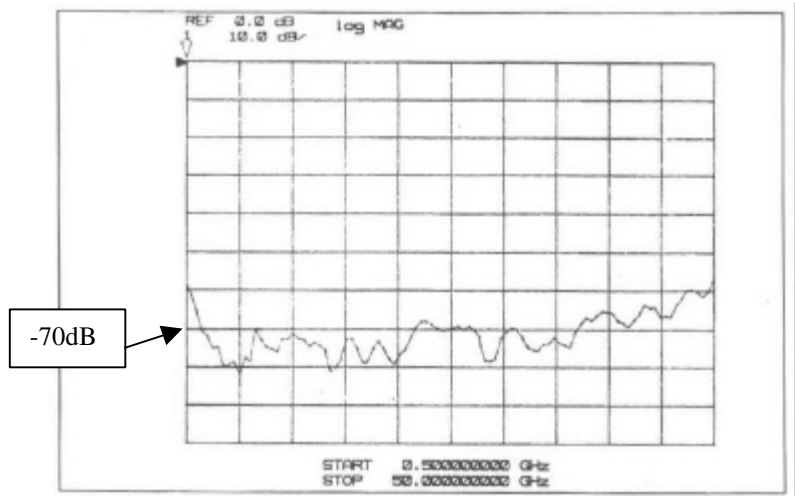


Figure 2: Residual Reflection (Source Match) verified using a Through Line connection after TRL calibration, 0.5 to 50 GHz

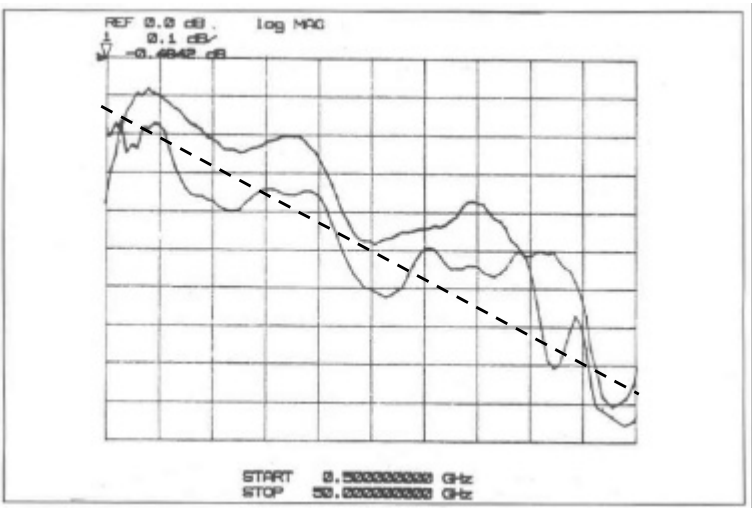


Figure 3: Offset Short Ripple (peak to peak < 0.2dB) 0.5 to 50 GHz