

Calibration Methods for Time Domain Network Analysis

L.A. Hayden and V.K. Tripathi. "Calibration Methods for Time Domain Network Analysis." 1993 Transactions on Microwave Theory and Techniques 41.3 (Mar. 1993 [T-MTT]): 415-420.

Accurate calibration techniques for the characterization of general one-and two-port networks using Time Domain Reflection/Transmission (TDR/T) measurements are presented. Simple one-port open-short-match corrections formulated in reference are generalized for three arbitrary known loads and extended to the two-port case. Known general frequency-domain techniques are shown to be directly applicable to the time-domain measurements including the use of redundancy to reduce the number of required calibration standards. A time-domain thru-matchshort method similar to the well known TRL method is presented. Examples of the measured results for typical one- and two-port devices are included and compared with Vector Network Analyzer measurements to validate the Time Domain Network Analysis algorithms.

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