Abstracts

Multiport Vector Network Analyzer Calibration: A General Formulation

A. Ferrero, F. Sanpietro and U. Pisani. "Multiport Vector Network Analyzer Calibration: A General Formulation." 1994 Transactions on Microwave Theory and Techniques 42.12 (Dec. 1994, Part II [T-MTT] (1994 Symposium Issue)): 2455-2461.

An overall calibration theory for Multiport Network Analyzers (MNWA) is presented. A general algorithm is developed to exploit the redundancy inherent in MNWA self-calibration. Linear dependency conditions given by using one-port or two-port standards to calibrate a MNWA are analyzed, by deriving novel criteria for multiport self-calibration. It is theoretically and experimentally demonstrated that an n-port test set can be calibrated by using only one two-port standard and one load. The excellent accuracy reached by means of this new theory opens new alternatives to a metrological qualification of MNWA for n-port device testing.

❑ Return to main document.