Abstracts

A Multiline Method of Network Analyzer Calibration

R.B. Marks. "A Multiline Method of Network Analyzer Calibration." 1991 Transactions on Microwave Theory and Techniques 39.7 (Jul. 1991 [T-MTT]): 1205-1215.

This paper presents a new method for the calibration of network analyzers. The essential feature is the use of multiple, redundant transmission line standards. The additional information provided by the redundant standards is used to minimize the effects of random errors, such as those caused by imperfect connector repeatability. The resulting method exhibits improvements in both accuracy and bandwidth over conventional methods. The basis of the statistical treatment is a linearized error analysis of the TRL (thru-reflect-line) calibration method. This analysis, presented here, is useful in the assessment of calibration accuracy. It also yields new results relevant to the choice of standards.

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