Abstracts

Correlation of calibration equations for test fixtures

N.H. Zhu and F. Auracher. "Correlation of calibration equations for test fixtures." 1999 Transactions on Microwave Theory and Techniques 47.10 (Oct. 1999 [T-MTT]): 1949-1953.

This paper begins from the thru-short-open (TSO) and thru-line-match (TLM) methods to investigate the correlation of the calibration equations of these two methods. The relations among the measurements with the corresponding standards are obtained. It is found that the line standard with zero length can be used instead of ideal open and short, in the case that two test fixtures are symmetrical. For asymmetrical fixtures, the measurements with the standards line, open and short are related at certain frequencies, and the matched load can be replaced by the line standards. The relations established are used to test short and match standards and analyze the frequency limits of the TSO method. Good agreement between theory and experiment is obtained. It is found that the TSO method becomes very poor when the insertion phase of the thru standard is near n/spl pi//4, and this method has a lower frequency limit. The TLM method is found unsuitable for calibrating asymmetrical fixtures.

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