

Two Methods for the Measurement of Substrate Dielectric Constant

N.K. Das, S.M. Voda and D.M. Pozar. "Two Methods for the Measurement of Substrate Dielectric Constant." 1987 Transactions on Microwave Theory and Techniques 35.7 (Jul. 1987 [T-MTT]): 636-642.

Two methods for the accurate and convenient measurement of the dielectric constant of a microwave substrate are proposed. Both methods use the precision measurement capability of the HP-8510 Network Analyzer system and a rigorous theoretical analysis of multilayer transmission lines, and hence can also be used for the measurement of the frequency dependence of the relative dielectric constant. Accuracy on the order of 1.0 percent can be obtained by use of these techniques. Measurements were done for various substrates and gave results as predicted.

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