# Abstracts

## A Method for Calculating the Frequency-Dependent Properties of Microstrip Discontinuities

*W. Menzel and I. Wolff. "A Method for Calculating the Frequency-Dependent Properties of Microstrip Discontinuities." 1977 Transactions on Microwave Theory and Techniques 25.2 (Feb. 1977 [T-MTT]): 107-112.*

A method is described for calculating the dynamical (frequency-dependent) properties of various microstrip discontinuities such as unsymmetrical crossings, T junctions, right-angle bends, impedance steps, and filter elements. The method is applied to an unsymmetrical T junction with three different linewidths. Using a waveguide model with frequency-dependent parameters, a field matching method proposed by Kuhn is employed to compute the scattering matrix of the structures. The elements of the scattering matrix calculated in this way differ from those derived from static methods by a higher frequency dependence, especially for frequencies near the cutoff frequencies of the higher order modes on the microstrip lines. The theoretical results are compared with measurements, and theory and experiment are found to correspond closely.

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