

# Abstracts

## Interdigitated Microstrip Coupler Design

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A. Presser. "Interdigitated Microstrip Coupler Design." 1978 *Transactions on Microwave Theory and Techniques* 26.10 (Oct. 1978 [T-MTT] (Special Issue on Microwave and Millimeter-Wave Integrated Circuits)): 801-805.

A design procedure for four-line interdigitated couplers is presented which provides excellent agreement between performance and actual coupler dimensions. The inclusion of a correction term for the finite metal thickness of the microstriplines is significant. Using existing odd-and-even mode impedance data of only two coupled lines in the array actual coupling coefficients in the 2.5-6.5-dB range are predictable to within  $\pm 0.05$  dB. Graphs are shown which relate fabrication tolerances of dielectric constant and physical fine dimensions to deviations in coupling and characteristic coupler impedance. The design was verified on 3-, 5-, and 6-dB couplers in the 1-5-GHz frequency range.

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