

# Abstracts

## Computer-Aided Analysis and Design of a Planar Multilayer Marchand Balun (Short Papers)

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*R. Schwindt and C. Nguyen. "Computer-Aided Analysis and Design of a Planar Multilayer Marchand Balun (Short Papers)." 1994 Transactions on Microwave Theory and Techniques 42.7 (Jul. 1994, Part II [T-MTT] (Special Issue on Filters and Multiplexers)): 1429-1434.*

Analytical expressions for the scattering (S) parameters for a planar multilayer Marchand balun, constructed of broadside-coupled microstriplines, are derived for the first time, based on the coupled-line quasi-TEM normal mode parameters. New design equations and a new design procedure for the balun based on the derived S-parameters and a circuit synthesis technique are presented. Calculated results for a GaAs microwave monolithic integrated circuit balun designed by this procedure are compared to a general full-wave planar analysis, and good performance and agreement are obtained.

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