Abstracts

The Design and Performance of Three-Line Microstrip Couplers

D. Pavlidis and H.L. Hartnagel. "The Design and Performance of Three-Line Microstrip Couplers." 1976 Transactions on Microwave Theory and Techniques 24.10 (Oct. 1976 [T-MTT]): 631-640.

An analysis is presented of microstrip-coupler circuits consisting of three parallel lines. The analysis is based on the existence of three mode impedances. Design equations describing the performance of this type of coupler are derived and allow the prediction of its matching and transmission properties. Numerical results using finite difference methods are presented for a three-line microstrip coupler made on an alumina substrate (k = 9.8). Experimental results for a 10-dB tbree-line coupler with a center frequency of 4 GHz show that its performance can be reasonably well predicted by the developed theory.

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