Abstracts

Analysis and Design of Slot-Coupled Directional Couplers Between Double-Sided Substrate Microstrip Lines (1991 Vol. II [MWSYM])

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This paper proposes to study the characteristics of a slot-coupled directional coupler between two microstrip lines coupled through a rectangular slot in the common ground plane. Firstly, conformal mapping techniques are used to obtain analytic closed-form expressions for the coupler even and odd-mode impedances and propagation constants for any coupler configuration. Secondly, a full-wave analysis is performed using the spectral domain approach to determine the dispersion properties of coupler parameters. Theoretical and experimental results for a 10 dB coupler at 10 GHz are presented.

❑ Return to main document.