Abstracts

Design of waveguide narrow-wall short-slot couplers

L.W. Hendrick and R. Levy. "Design of waveguide narrow-wall short-slot couplers." 2000 Transactions on Microwave Theory and Techniques 48.10 (Oct. 2000 [T-MTT]): 1771-1774.

It is shown that the broad-band coupling properties of narrow-wall short-slot directional couplers and hybrids are due to the effect of the evanescent TE/sub 30/ mode in the coupling region. This causes a change to the effective phase length of the even-mode circuit, especially when a central tuning element is used. Using the results of a previous paper on the formation of an equivalent circuit from the generalized scattering matrix, an equivalent circuit for the even mode of the coupler is formed, clearly depicting the effect of the TE/sub 30/ mode.

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