Abstracts

Synthesis of Symmetrical Branch-Guide Directional Couplers

R. Levy and L.F. Lind. "Synthesis of Symmetrical Branch-Guide Directional Couplers." 1968 Transactions on Microwave Theory and Techniques 19.2 (Feb. 1968 [T-MTT]): 80-89.

A synthesis procedure is described for the design of branch-guide directional couplers which gives results showing a significant improvement over previous approximate methods. The synthesis technique adopted gives exact Butterworth characteristics and almost exact Chebyshev equal-ripple characteristics, the deviations in the latter case being so small that in most practical cases they may be neglected. The design of branch-guide couplers for bandwidths of greater than one octave is demonstrated. The design information for a large number of cases of practical interest is presented in tabular form, and experimental results for several branch-guide couplers constructed in waveguide and in stripline are in good agreement with the theory. The technique could prove valuable in the design of microminiature stripline hybrids and couplers.

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