Abstracts

Branch-line couplers using unequal line lengths

C. Toker, M. Saglam, M. Ozme and N. Gunalp. "Branch-line couplers using unequal line lengths." 2001 Transactions on Microwave Theory and Techniques 49.4 (Apr. 2001, Part I [T-MTT]): 718-721.

General solutions for branch-line couplers using different line lengths are provided in this paper. Explicit expressions are derived with which a hybrid with any given power division ratio can be designed. In the design, one of the characteristic impedances or lengths of the branches can be chosen arbitrarily to suit a given design specification. This approach brings flexibility in choosing the characteristic impedances or the lengths of the branches, and is helpful especially in monolithic-microwave integrated-circuit applications where restrictions imposed on microstrip transmission lines do not allow the use of conventional branch-line couplers employing quarter-wave-long lines. However, the resultant bandwidth is narrower compared to that of the conventional coupler.

❑ Return to main document.