Abstracts

Composite Coupler Design

T.C. Choinski. "Composite Coupler Design." 1984 Transactions on Microwave Theory and Techniques 32.6 (Jun. 1984 [T-MTT]): 613-620.

Unequal power splitters and combiners are generally limited by the line widths which can be practically synthesized in a given transmission medium. This practical limitation on the ratio of unequal power division can be extended by incorporating the same types of couplers into a composite design. The general composite design approach outlined in this paper rises three couplers (three terminal couplers) to generate a new three-terminal circuit. The design equations are derived for the composite approach and summarized in graphic form. The feasibility of the composite design approach is demonstrated by the construction of a 5.76-dB differential coupler rising intenally series-terminated Wilkinson couplers. The circuit was designed, analyzed via computer, and finally built and tested. The results from the composite design are compared to that of a single Wilkinson coupler design.

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