Abstracts

Multiway Uniform Combline Directional Couplers for Microwave Frequencies

S. Islam. "Multiway Uniform Combline Directional Couplers for Microwave Frequencies." 1988 Transactions on Microwave Theory and Techniques 36.6 (Jun. 1988 [T-MTT]): 985-993.

An improved optimization technique for multiway uniform forward directional couplers is presented using a previously published matrix theory of coupled transmission lines. With the help of the computer optimization method, microwave mode-interference combline directional couplers having an arbitrary number of lines can be designed for arbitrary power distribution. Theoretical designs ranging from two-way to nine-way couplers have been tested with success. The observed behavior of some of these couplers is briefly discussed. Typically these couplers exhibited octave bandwidth. A five-way design example of an equal power splitting combline coupler has been fabricated using an open microstripline configuration for operation within 1.6-3.2 GHz. The measured characteristics show good agreement with the computed values.

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