Abstracts

A new class of multisection 180/spl deg/ hybrids based on cascadable hybrid-ring couplers

Kian Sen Ang, Yoke Choy Leong and Chee How Lee. "A new class of multisection 180/spl deg/ hybrids based on cascadable hybrid-ring couplers." 2002 Transactions on Microwave Theory and Techniques 50.9 (Sep. 2002 [T-MTT]): 2147-2152.

A new class of multisection 180/spl deg/ hybrids is presented in this paper. It is based on the hybrid-ring coupler that has been reconfigured such that multiple sections can be conveniently cascaded together. The main limitations of the conventional hybrid-ring coupler are its limited bandwidth, large size, and the impracticably high-impedance levels required for large power-split ratios. These limitations are readily overcome using the multisection cascadable 180/spl deg/ hybrids. Simple design equations based on the scattering matrix and experimental verifications of the theoretical results for two-section 180/spl deg/ hybrids are presented.

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