Abstracts

A Printed-Circuit Hybrid-Ring Directional Coupler for Arbitrary Power Divisions

A.K. Agrawal and G.F. Mikucki. "A Printed-Circuit Hybrid-Ring Directional Coupler for Arbitrary Power Divisions." 1986 Transactions on Microwave Theory and Techniques 34.12 (Dec. 1986 [T-MTT] (1986 Symposium Issue)): 1401-1407.

A directional coupler in the form of a hybrid ring particularly suited for printed circuits is described. The maximum power-split ratio between the two output ports of a printed-circuit conventional hybrid-ring coupler is limited by the highest impedance line that can be realized. The hybrid-ring directional coupler described in this paper allows a larger power-split ratio for the same impedance lines, and thereby increases the range of the power-split ratio that can be realized for printed circuits. A theoretical analysis was conducted using the scattering matrix, and experimental verification of the theoretical results was achieved in a stripline configuration at Ku-band.

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