

Quasi-Lumped-Element 3- and 4-Port Networks for MIC and MMIC Applications

R.K. Gupta and W.J. Getsinger. "Quasi-Lumped-Element 3- and 4-Port Networks for MIC and MMIC Applications." 1984 MTT-S International Microwave Symposium Digest 84.1 (1984 [MWSYM]): 409-411.

Design and analysis techniques are presented for quasi-lumped-element Wilkinson divider/combiner networks (3-port) and branch-line couplers (4-port) for MIC/MMIC applications. The circuit area is reduced to less than 20 percent of conventional transmission line realizations at 4 GHz. Test results are presented for a CPW 10-dB coupler (2 x 2 mm) and an MIC 3-dB Wilkinson divider/combiner circuit (1.75 x 2.75 mm). Good agreement is obtained between measured and modeled results.

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