

Abstracts

Effect of Loss and Frequency Dispersion on the Performance of Microstrip Directional Couplers and Coupled Line Filters (Short Papers)

B.R. Rao. "Effect of Loss and Frequency Dispersion on the Performance of Microstrip Directional Couplers and Coupled Line Filters (Short Papers)." 1974 Transactions on Microwave Theory and Techniques 22.7 (Jul. 1974 [T-MTT]): 747-750.

The effect of ohmic and dielectric losses, conductor thickness, and frequency dispersion on the performance of edge-coupled microstrip directional couplers and interdigital filters have been determined in this short paper. The odd- and even-mode attenuation constants due to ohmic losses in the conductor have been calculated using Wheeler's inductance formula. The theoretical results for the characteristic impedance and propagation constants are in good agreement with the experimental results of Napoli and Hughes. Among the parameters that can be calculated from this theory are the isolation, directivity, and coupling coefficients of lossy directional couplers and the midband insertion loss of interdigital filters.

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