Abstracts

Leaky Dominant Modes and Microwave Circuit Coupling in Layered Symmetric Coupled Lines

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The leaky dominant modes on symmetric coupled microstrips with and without super-stmte have been investigated in details, which indicate that the generic mode spectra of the leaky dominant modes are rather similar to those of much simpler guided-wave structure such as a microstrip line. The rigorous full-wave mode-matching analyses take into account the conductor losses and finite metal thickness. Measured results of a special test circuit clearly reveal that the leaky dominant modes are responsible for circuit coupling at a higher frequency range beyond certain threshold frequency that separates the spectral gap region (nonphysical) and the leaky dominant mode region (improper but physical).

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