Abstracts

Mode coupling and leakage effects in finite-size printed interconnects

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A multimode analysis is used to describe how leakage effects are manifested in general printed interconnects situated on substrates of finite size. In the vicinity of discrete frequencies, it is shown that the analysis reduces to classical coupled-mode theory. The general results are then specialized to the particular case of shielded microstrip on an anisotropic substrate, for which numerical and experimental mode-coupling results are presented. The numerical results are demonstrated in the form of dispersion curves and field plots, and are computed using the finite-element method and the spectral-domain technique. The experimental results are performed using a network analyzer, and are given in terms of scattering parameters.

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