Abstracts

Analysis of Edge Coupled Strip Inset Dielectric Guide (Short Papers)

Z. Fan and Y.M.M. Antar. "Analysis of Edge Coupled Strip Inset Dielectric Guide (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.2 (Feb. 1996 [T-MTT]): 349-352.

The edge coupled strip inset dielectric guide is analyzed rising the extended spectral domain approach. This structure, as compared to microstrip line, has several interesting features and can be very useful for microwave and millimeter wave applications. Validity of the approach is established by comparing numerical results with measured data. As many structural and material parameters can be chosen, a wide fundamental mode bandwidth and a broad range of characteristic impedances can be achieved, leading to great flexibility. The dispersion in fundamental mode propagation constants and impedances is found to be very low. With suitable choice of different permittivities for two dielectric layers, the same propagation constants for two fundamental modes can be obtained. This property is desirable for directional coupler applications.

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