

Exact Calculation of Scattering Parameters of the Coplanar-Slot Transition in a Unilateral Finline Technology

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The dominant and higher order modes, in both a unilateral finline and coupled unilateral finlines in the even and odd modes, are accurately described from a thorough spectral-domain approach. Then, coupling coefficients between eigenmodes at a coplanar-slot transition in a unilateral finline technology, which are to be used in the generalized scattering matrix formulation are directly computed in the spectral domain. Scattering parameters of the dominant mode in the Ka band are presented for both even and odd mode excitation of the coupled unilateral finlines.

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