Abstracts

The Propagation of Signals Along a Three-Layered Region: Microstrip

R.W.P. King. "The Propagation of Signals Along a Three-Layered Region: Microstrip." 1988 Transactions on Microwave Theory and Techniques 36.6 (Jun. 1988 [T-MTT]): 1080-1086.

The tangential components of the electric field on the air- substrate surface of a three-layered region such as microstrip are determined when the source is a unit electric dipole on that surface. This is done by integrating the rigorous Hankel transforms subject to the condition k²/sub 0/ < |k²/sub 1/| << |k²/sub 2/|, where k/sub 0/ is the wavenumber of air, k/sub 1/ of the substrate, and k/sub 2/ of the conductor. It is found that the field consists of lateral-wave terms and direct-wave terms with different wavenumbers and phase velocities. The significance of these characteristics is discussed with reference to dispersion and coupling.

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