Abstracts

Dispersion Characteristics for Wide Slotlines on Low-Permittivity Substrates (Short Papers)

R. Janaswamy and H.D. Schaubert. "Dispersion Characteristics for Wide Slotlines on Low-Permittivity Substrates (Short Papers)." 1985 Transactions on Microwave Theory and Techniques 33.8 (Aug. 1985 [T-MTT]): 723-726.

This paper provides additional dispersion data on slotlines not available in the literature to date. In particular, data are presented on wide slots etched on an electrically thin substrate of low-dielectric constant. The range of parameters covered in this paper are 0.006<= d/lambda/sub 0/ <=0.06, 0.005 <= W/lambda/sub 0/ <=2.0, and epsilon /sub r/ =2.22, 3.0, 3.8, 9.8. The problem is formulated using the spectral-domain technique, and the spectral Galerkin's method is employed to compute the slot wavelength. Numerical results are compared to the experimental data over 2-6 GHz for slotlines on a 1.57-mm substrate (epsilon/sub r/ = 2.55). Agreement to within 2.0 percent is obtained.

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