

Abstracts

Millimeter-Wave Performance of Shielded Slot-Lines

A.-M.A. El-Sherbiny. "Millimeter-Wave Performance of Shielded Slot-Lines." 1982 *Transactions on Microwave Theory and Techniques* 30.5 (May 1982 [T-MTT]): 750-756.

The high frequency characteristics of shielded slot-lines are investigated using a modified Wiener-Hopf technique. The analysis includes the case of uniaxially anisotropic substrates when the principal axis is directed normal to the substrate. The obtained solution is especially useful at higher frequencies where other methods tend to be less effective. Numerical results are given for lines on high dielectric constant substrates over the full usable frequency range. It is shown that lines can be used as transmission elements up to a certain limiting frequency beyond which they will radiate. Physical aspects of the propagation in slot-lines are discussed and the effect of the shields on the properties of the guided modes is explained.

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