Abstracts

A Parametric Study of the Attenuation Constant of Lossy Microstrip Lines (Short Papers)

L.P. Vakanas, A.C. Cangellaris and J.L. Prince. "A Parametric Study of the Attenuation Constant of Lossy Microstrip Lines (Short Papers)." 1990 Transactions on Microwave Theory and Techniques 38.8 (Aug. 1990 [T-MTT]): 1136-1139.

In high-density, high-speed electronic circuits, the conductor and dielectric losses in microstrip-type interconnections are of particular concern. The attenuation constant of a microstrip line with finite strip conductivity and strip thickness comparable to the skin depth is investigated at a frequency of 1 GHz, and its dependence on the width of the strip and the thickness of the dielectric substrate (epsilon/sub r/ =11) is examined. It is found that the minimum in the attenuation constant predicted by earlier studies, when the conductor thickness is about two skin depths, occurs only for microstrips with impractical strip width to substrate thickness ratios.

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