Abstracts

Characterization of Microstrip Lines Near a Substrate Edge and Design Formulas of Edge-Compensated Microstrip Lines

E. Yamashita, H. Ohashi and K. Atsuki. "Characterization of Microstrip Lines Near a Substrate Edge and Design Formulas of Edge-Compensated Microstrip Lines." 1989 Transactions on Microwave Theory and Techniques 37.5 (May 1989 [T-MTT]): 890-896.

The proximity effects of microstrip lines near a substrate edge have been pointed out by Pucel as a problem for effectively designing high-packing-density MMIC's. Proximity effects of this type are analyzed by using the rectangular boundary division method. The concept of edge-compensated microstrip lines (ECM lines) is introduced, whereby we can circumvent the proximity effects on the characteristic impedance. The design parameters of the ECM lines are given in the form of simple polynomials together with numerical data. Some experimental results on the line capacitance agree with the theory, with errors of about 1 percent.

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