Abstracts

Characteristic Impedance and Effective Permittivity of Modified Microstrip Line for High Power Transmission

J. Zehentner. "Characteristic Impedance and Effective Permittivity of Modified Microstrip Line for High Power Transmission." 1987 Transactions on Microwave Theory and Techniques 35.7 (Jul. 1987 [T-MTT]): 615-620.

In a quasi-TEM approximation, the calculation of the characteristic impedance and effective permittivity of a modified microstrip line with the upper strip conductor edges turned up from the substrate is presented. Both these theoretically derived quantities are compared with experimental values. To further facilitate the analysis and synthesis of the modified microstrip line, closed-form approximations to the characteristic impedance and effective permittivity have been found containing elementary functions only. The modified microstrip can be used in the construction of lines capable of transmitting high power on substrates having high loss factor and low thermal conductivity, for example, on low-cost plastics.

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