Abstracts

Effects of Fringing Fields on the Capacitance of Circular Microstrip Disk

The effects of fringing fields on the capacitance of a circular microstrip disk are studied with the dual integral equation formalism for practical microstrip circuits when the substrate thickness is small. Approximations as well as exact numerical evaluations are made in the calculation of the capacitance. With a seminumerical approach, an approximate formula for the capacitance is obtained and shown to yield accurate results with the simple use of a calculator. Asymptotic lower bound and exact numerical computations are also carried out. The various techniques are illustrated and compared with numerical results.

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