Abstracts

Modes in the Shielded Microstrip on a Ferrite Substrate Transversely Magnetized in the Plane of the Substrate

J.C. Minor and D.M. Bolle. "Modes in the Shielded Microstrip on a Ferrite Substrate Transversely Magnetized in the Plane of the Substrate." 1971 Transactions on Microwave Theory and Techniques 19.7 (Jul. 1971 [T-MTT] (Special Issue on Microwave Integrated Circuits)): 570-577.

The shielded microstrip on a ferrite substrate transversely magnetized in the plane of the substrate is analyzed using an appropriate modal expansion in each of the two media. The boundary conditions at the interface are then expressed in terms of two coupled integral equations which are subsequently solved by the method of moments. Information on the singularities in the fields near the edges is used in the computations to obtain the eigenvalue beta within an estimated 0.5-percent accuracy using matrices as small as 5x5. Comparison with various published results for the microstrip is made in the lid case of a dielectric substrate. An omega-beta plot is presented for one particular ferrite-loaded configuration which shows slight non-reciprocity in both the fundamental and higher order modes.

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