Abstracts

Insertion Loss of Magnetostatic Surface Wave Delay Lines

S.N. Bajpai, R.L. Carter and J.M. Owens. "Insertion Loss of Magnetostatic Surface Wave Delay Lines." 1988 Transactions on Microwave Theory and Techniques 36.1 (Jan. 1988 [T-MTT]): 132-136.

This paper presents an experimental and theoretical study of the insertion loss of magnetostatic surface wave delay line. The magnetostatic surface waves are excited by single microstrip transducer and propagate in a delay line consisting of conductor-dielectric-YIG-GGG. The effect of nonuniformity in microstrip current and the effect of finite width of YIG film are included in the theory. It is seen that an undesired notch seen in the insertion loss response of the surface wave delay line in the low-frequency region of the band can be explained by the present theory, which includes the finite width of the YIG film. Magnetostatic wave delay lines have potential applications in microwave signal processing and phased array antennas in the 1-20 GHz frequency range.

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