Abstracts

LSE/sub 20/-Mode Characteristics in Phase-Shifter Parametrization

G.N. Tsandoulas, F.G. Willwerth and W.J. Ince. "LSE/sub 20/-Mode Characteristics in Phase-Shifter Parametrization." 1972 Transactions on Microwave Theory and Techniques 20.4 (Apr. 1972 [T-MTT]): 253-258.

The validity of considering the LSE/sub 20/-mode propagation threshold as the limiting factor in selecting rectangular-wave-guide ferrite-phase-shifter dimensions is examined theoretically and experimentally using a dielectric model. Depending on the effective dielectric constant of the loading material, it is shown that the LSE/sub 20/-mode cutoff may, in many cases, be exceeded without introducing spurious mode resonances. In addition, the effect of magnetization on the y-independent modal cutoffs is investigated. It is concluded that the dielectric model represents a worst case condition as far as higher order mode propagation is concerned.

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