Abstracts

Analysis of Thick Rectangular Waveguide Windows with Finite Conductivity

R.J. Luebbers and B.A. Munk. "Analysis of Thick Rectangular Waveguide Windows with Finite Conductivity." 1973 Transactions on Microwave Theory and Techniques 21.7 (Jul. 1973 [T-MTT]): 461-468.

The modal analysis method is used to calculate the reflection and transmission properties of a thick rectangular window centrally located in a rectangular waveguide. Excellent agreement is obtained between calculated and measured values for windows of intermediate thickness. For thicker windows made of finitely conducting materials, the results obtained using perfectly conducting waveguide modes are inaccurate. However, by modifying the modes so as to include some of the mode-coupling effects caused by the surface currents, good agreement between calculated and measured data is obtained for a very thick, finitely conducting window.

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