Abstracts

Propagation In Dielectric-Lined Square Waveguides

Symmetric structures such as circular and square waveguides may conveniently be used for dual polarization application. In this work the square waveguide with a dielectric lining of the same geometry is analyzed using a Galerkin-type method, with experimental verification. Modal characteristics, propagation constants, and bandwidth (BW) properties are outlined. Some interesting variations, depending on whether the value of the dielectric constant of the lining is higher or lower than that of the included material, are described and quantified to the extent possible by the accuracy of the method.

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