

Coupling of Dielectric Resonators to Rectangular Waveguides

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A method for calculation of the coupling of a dielectric loaded resonator to a rectangular waveguide by means of a long thin slot is presented. Experimental measurements performed on several cases are compared to the calculations. Effect of the resonator's field variation on the coupling calculations are discussed. It is shown that the small aperture theory fails to predict the coupling coefficient variation as a function of the slot length. The actual (measured) variation is predicted properly by taking into account the field distribution in the resonator.

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