Abstracts

Modeling of couplings between double ridge waveguide and dielectric loaded resonator

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Full wave modeling of the coupling structure between a double ridge waveguide and dielectric resonator in a rectangular cavity through an iris is presented. Eigen modes of the double ridge waveguide, and the discontinuities of the structures are obtained by rigorous mode matching method. By applying the cascading procedure, the reflection coefficients of the coupling structure can be obtained. From the phase variation of the reflection coefficient and circuit theory, resonant frequency and input/output coupling of the structure are accurately determined. An equivalent circuit model of the resonant structure is established. The computed results are compared with those obtained by other methods and shown to be in good agreement, which verifies the theory.

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