Abstracts

Modeling of conductor loaded resonators and filters in rectangular enclosures

Chi Wang, Hui-Wen Yao and K.A. Zaki. "Modeling of conductor loaded resonators and filters in rectangular enclosures." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 797-800.

Full wave modeling of conductor loaded resonators in rectangular enclosures and associated coupling structure is presented. The generalized scattering matrices of the planar conductor loaded resonator in rectangular waveguide are obtained. By applying the short condition and cascading procedure, resonant frequency, field distribution of the resonator, and coupling between two cavities through an iris are obtained. The computed results are compared with the measured data and both are in good agreement. A 4-pole dual mode elliptic function filter using a planar structure cavity is designed, constructed and tested. Excellent measured frequency responses of the filter are obtained.

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