Abstracts

Dual Mode Coupling by Square Corner Cut in Resonators and Filters (1992 Vol. III [MWSYM])

X.-P. Liang and K.A. Zaki. "Dual Mode Coupling by Square Corner Cut in Resonators and Filters (1992 Vol. III [MWSYM])." 1992 MTT-S International Microwave Symposium Digest 92.3 (1992 Vol. III [MWSYM]): 1327-1330.

A new method for realization of dual mode coupling in rectangular waveguide cavities is described and analyzed. The new method completely replaces the coupling screw, and therefore can be used to eliminate the need for tuning in dual mode waveguide cavity filters. It also offers a wide range of coupling values and can achieve higher power handling capability than coupling screws. Mode matching method is used to calculate the mode chart of the infinite corner cut rectangular waveguide, the field distributions of each mode, and the resonant frequencies of the cavity. Dual mode coupling parameter is calculated from resonant frequencies and is verified by measurements. A C-band 4-pole dual mode elliptic function rectangular waveguide cavity filter using the new coupling method was constructed and tested. The experimental results showed excellent agreement with theory.

❑ Return to main document.