Abstracts

Conductor loaded resonator filters with wide spurious-free stopbands

Chi Wang, K.A. Zaki, A.E. Atia and T.G. Dolan. "Conductor loaded resonator filters with wide spurious-free stopbands." 1997 Transactions on Microwave Theory and Techniques 45.12 (Dec. 1997, Part II [T-MTT] (1997 Symposium Issue)): 2387-2392.

A new configuration of conductor loaded resonator filters using two different size conductor loaded resonators and enclosures with significantly improved spurious performance Is presented. A rigorous mode-matching method is used to compute the resonant frequencies, unloaded Q, and the fields of the resonant modes of the conductor (solid or ring) loaded resonators. The coupling coefficients between two resonators are computed using small aperture coupling theory. The stopband characteristics of the filter are investigated. An eight-pole elliptic-function filter was designed, constructed, and tested. Extremely wide spurious-free stopband filter response was obtained which verified the theory.

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