Abstracts

Dual-mode filters with conductor-loaded dielectric resonators

I.C. Hunter, J.D. Rhodes and V. Dassonville. "Dual-mode filters with conductor-loaded dielectric resonators." 1999 Transactions on Microwave Theory and Techniques 47.12 (Dec. 1999 [T-MTT] (Special Issue on 1999 International Microwave Symposium)): 2304-2311.

In this paper, a new class of dual-mode microwave filters is presented. These devices use conductor-loaded dielectric resonators with unloaded Q-factors of 2000-8000 achievable in half the physical size of TEM filters and with good spurious performance. The basic properties of this resonator have been examined with the aid of a finite-element field-analysis package. Fundamental design rules for bandpass filters have been developed. A design example of a transmit filter for a ground-signal-metal cellular-radio base station is demonstrated.

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