Abstracts

Small filters based on slotted cylindrical-ring resonators (Dec. 2001 [T-MTT])

R.F. Mostafavi, D. Mirshekar-Syahkal and Y.C.M. Lim. "Small filters based on slotted cylindrical-ring resonators (Dec. 2001 [T-MTT])." 2001 Transactions on Microwave Theory and Techniques 49.12 (Dec. 2001 [T-MTT] (Special Issue on 2001 International Microwave Symposium)): 2369-2375.

The realization of a small four-pole Chebyshev filter, using four matched slotted cylindrical-ring resonators, is explained. This filter, which does not need screws for tuning the resonators or couplings, is low-cost to manufacture and is suitable for mobile communications. The filter has a bandwidth of 75 MHz, centered at 1.73 GHz. To obtain the resonant frequency and Q-factor of the resonators as well as the coupling distances between the resonators, a new technique, the quasi-magneto-static finite-difference method, is used, which is also reported.

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