Abstracts

A Four-Pole Dual Mode Elliptic Filter Realized in Circular Cavity without Screws (Dec. 1996, Part II [T-MTT])

L. Accatino, G. Bertin and M. Mongiardo. "A Four-Pole Dual Mode Elliptic Filter Realized in Circular Cavity without Screws (Dec. 1996, Part II [T-MTT])." 1996 Transactions on Microwave Theory and Techniques 44.12 (Dec. 1996, Part II [T-MTT] (1996 Symposium Issue)): 2680-2687.

A four-pole dual mode elliptic filter is realized in circular cavity without screws. The desired coupling and tuning actions are achieved by using a novel arrangement consisting in the insertion of a short section of inclined rectangular waveguide in the middle of the cavity body. In this way we realize dual-mode filters by using only junctions of waveguides with rectangular and circular cross sections, thus enabling a very efficient CAD of such filters. This arrangement also proves particularly convenient from the manufacturing viewpoint. Measured response of a bread-board channel filter operating at Ku-Band shows good agreement with theoretical simulations; a sensitivity analysis confirms the validity of the proposed design.

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