Abstracts

Side-Wall-Coupled, Strip-Transmission-Line Magnetically Tunable Filters Employing Ferrimagnetic YIG Resonators

P.S. Carter. "Side-Wall-Coupled, Strip-Transmission-Line Magnetically Tunable Filters Employing Ferrimagnetic YIG Resonators." 1965 Transactions on Microwave Theory and Techniques 13.3 (May 1965 [T-MTT]): 306-315.

This paper describes a new type of band-pass filter configuration for multiple-coupled-resonator magnetically tunable microwave filters. For two or more resonators, this configuration, which employs a coupling slot in the common side wall between two strip-transmission lines, results in the smallest possible air gap and, therefore, the least amount of leakage or fringing flux, and the smallest ampere-turns requirement on the bias magnet. Response curves including pass band insertion-loss, bandwidth, stop-band rejection, spurious response levels and bandwidths, VSWR, and the effect of temperature on these characteristics are presented for a two-resonator band-pass filter of the type employing YIG resonators and making use of a ferrite core electromagnet to obtain the bias field. Performance data are also given for an experimental side-wall-coupled three-resonator filter.

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