Abstracts

Analysis and Tuning Efficiency Optimization of Magnetically Tuned Printed E-Plane Circuit Filters

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The tuning efficiency of metal insert filter loaded with ferrite slabs is defined and analysed. Three parameters which dominate the filter tunability (ferrite slab thickness, distance to narrow waveguide wall and ferrite saturation magnetization) are discussed. An optimum combination of these parameters has been found and new filter design based on modal scattering method is presented. The improved filters can be tuned over 60-70% of a standard waveguide band with an insertion loss between 1 and 3 dB, depending on frequency.

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