

Abstracts

A varactor-tuned RF filter

A.R. Brown and G.M. Rebeiz. "A varactor-tuned RF filter." 2000 Transactions on Microwave Theory and Techniques 48.7 (Jul. 2000, Part I [T-MTT]): 1157-1160.

An electronically tunable filter at 1 GHz is presented in this paper. The filter uses a suspended substrate design and commercially available varactors for filter tuning. The filter has a 60% tuning range from 700 MHz to 1.33 GHz with a low insertion loss (better than 3 dB from 1 to 1.33 GHz). This paper discusses the effects of the varactor series resistance and the electrical length of the distributed resonator on the overall resonator quality factor and filter insertion loss. The input third-order intermodulation product intercept point was measured to be better than 17 dBm across the entire tuning range.

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