

عنوان مقاله:

A Novel 2-Pole MEMS Tunable Bandpass Filter for Satellite Communication Applications

محل انتشار:

بیست و یکمین کنفرانس مهندسی برق ایران (سال: 1392)

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خلاصه مقاله:

Two low loss, high performance tunable microelectromechanical filters have been investigated for communications and satellite applications. The 2-pole bandpassfilter including two short folded resonators and two transmission zeros is considered. The folded resonators result in a small size of 2.4×2 mm². Two tunable capacitor switchbanks of MEMS switches are used to tune the center frequency. The first proposed switches are cantilever series switches and the second switches are shunt switches. The tuning range is from 4.075 GHz to 6.3 GHz with a bandwidth of 4% (200 MHz). The results show an insertion loss of 0.7 dB and return loss more than 24 dB over the tuning range of 44%.

کلمات کلیدی:

RF MEMS; Tunable bandpass filter; Microstrip filters; MEMS varactors; Cantilever and Shunt switches

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