

Microwave Frequency Agile Active Filters for MIC and MMIC Applications

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The purpose of this paper is to present newly developed microwave frequency agile active resonators which, in a planar structure, may be realized using MIC or MMIC technologies. Consisting of a modified Hair pin resonator feedback by an amplifier and a phase shifter, these resonators offer extremely low loss and high Q value resonators. The use of varactors permits a tuning of the resonant frequency as well as the bandwidth. Using such resonator, a bandstop filter with a rejection of 45 dB and a lossless band pass filter with a return loss of 35 dB have been obtained at 3.1 GHz.

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