Abstracts

Miniaturized Hairpin Resonator Filters and Their Application to Receiver Front-End MIC's (Dec. 1989 [T-MTT])

M. Sagawa, K. Takahashi and M. Makimoto. "Miniaturized Hairpin Resonator Filters and Their Application to Receiver Front-End MIC's (Dec. 1989 [T-MTT])." 1989 Transactions on Microwave Theory and Techniques 37.12 (Dec. 1989 [T-MTT] (1989 Symposium Issue)): 1991-1997.

This paper describes the fundamental characteristics of newly developed miniaturized hairpin resonators having parallel coupled lines and shows their applications to bandpass filters and receiver front-end MIC's. A method for calculating filter coupling parameters using a general-purpose microwave circuit simulator is also presented. The bandpass filters using newly developed hairpin resonators have a suitable structure for microwave integrated circuits (MIC's), and the size of the experimental bandpass filters has been reduced to one half that of conventional hairpin resonators without increasing insertion losses. Trial receiver front-end MIC's using these filters have also been developed and have shown good characteristics, for example, low noise and a high image suppression ratio. They are considered to be applicable to a higher frequency range above the L-band.

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