

Abstracts

A New Class of Microwave Active Filters

C. Rauscher. "A New Class of Microwave Active Filters." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 605-608.

The new active filter concept being presented employs band-limited directional signal channels that are connected in parallel to produce filtering action through controlled interference among respective signal components. Attributes of the technique include a convenient 50-ohm-based building-block-type design procedure, unconditional circuit stability, tolerance for passive circuit element losses, graceful performance degradation in the face of active element parameter changes, and an ability to realize both wideband and extremely narrowband high-Q filter circuits in planar, compact form. The concept is illustrated with an experimental 10-GHz bandpass filter of two percent bandwidth and an experimental 9.75-GHz notch filter of one quarter percent bandwidth.

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