Abstracts

Low-spurious coaxial-line bandpass filter with saucer-loaded stepped-impedance resonators

H. Uchida, Y. Furukawa and T. Ohwada. "Low-spurious coaxial-line bandpass filter with saucer-loaded stepped-impedance resonators." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1785-1787 vol.3.

A low-spurious coaxial-line bandpass filter (BPF) with saucer-loaded stepped-impedance resonators (SAUSIRs) has been developed. The SAUSIR consists of a conventional stepped-impedance resonator (SIR) and a thin metal saucer loaded in the SIR to control higher-order resonant frequencies of the resonator. By adjusting the positions of the saucers in SAUSIRs, higher-order resonant frequencies of the SAUSIRs in BPF can be scattered in frequency domain without shifting dominant resonant frequency, which results in suppression of spurious responses of the BPF for wide frequency range. A fabricated 4-stage coaxial-line L-band BPF with SAUSIRs has realized spurious responses less than -50 dB up to about 10 f/sub 0/, where f/sub 0/ is the center frequency of the BPF.

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