Abstracts

A miniaturized double-surface CPW bandpass filter improved spurious responses

T. Tsujiguchi, H. Matsumoto and T. Nishikawa. "A miniaturized double-surface CPW bandpass filter improved spurious responses." 2001 Transactions on Microwave Theory and Techniques 49.5 (May 2001 [T-MTT]): 879-885.

A novel miniaturized double-surface coplanar waveguide (CPW) filter has been developed. The filter is constructed by an electrode pattern of half-wavelength resonators on a double-sided circuit board with a high dielectric constant. A miniaturized pattern can be obtained by optimization of the electrode layout without any deterioration in unloaded Q. We use a particular pattern of via holes to reduce spurious responses. The filter is 38% smaller in size than the conventional /spl lambda//4 CPW filter. Spurious responses up to the third harmonic are suppressed by 13 dB, and satisfy the performance level required for industrial-scientific-medical band equipment. The measurement results agree well with the results of simulation.

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