

## Accurate CAD of integrated band-pass and second harmonic band-reject microwave filters

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*M. Guglielmi. "Accurate CAD of integrated band-pass and second harmonic band-reject microwave filters." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 813-816.*

In this paper we describe a procedure for the design of integrated band-pass and band-reject filters in rectangular waveguide. Following the procedure described, each resonant cavity produces one transmission and one rejection pole that can be positioned in frequency independently from each other. As a result a band-reject transfer function of the same order of the pass-band filter can be implemented to eliminate the second harmonic of the filter without increasing the size of the hardware. In addition to theoretical results measured data are also presented, indicating how the procedure, described can be effectively used to manufacture microwave filters which exhibit substantial second harmonic suppression.

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