Abstracts

Low-cost dual-mode asymmetric filters in rectangular waveguide

M. Guglielmi, O. Roquebrun, P. Jarry, E. Kerherve, M. Capurso and M. Piloni. "Low-cost dual-mode asymmetric filters in rectangular waveguide." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 1787-1790 vol.3.

Dual-mode microwave filters are extensively used in modern communication equipment because they can implement sophisticated and selective filter transfer functions. Their most common implementation is based on circular-waveguide technology and generally requires a rather complex development procedure. In this paper we describe a new implementation of dual-mode filters in standard rectangular waveguide that can be used to produce asymmetric transfer functions. The proposed filter structure can be analyzed and optimized very efficiently using multimode equivalent network representations thus leading to a simple and rapid development procedure. In addition to theory, the measured performance of several filter structures are also presented thereby fully validating the proposed filter concept.

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