Abstracts

Software tool for the design of narrow band band-pass filters

A. Garcia-Lamperez, M. Salazar-Palma, M. Padilla and I. Hidalgo-Carpintero. "Software tool for the design of narrow band band-pass filters." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 2103-2106 vol.3.

An efficient and versatile CAD tool for the design and synthesis of narrow band, band-pass microwave filters with generalized Chebyshev transfer function has been developed. The program allows transfer function zeros at prescribed positions to be synthesized. Thus, it is suitable for asymmetric response or self-equalized filters. The location of the zeros can be optimized in order to comply with insertion loss and/or group delay specification masks. Subsequent band-pass prototypes may be obtained with several topologies, namely canonical, in-line, cascaded triplets, cascaded quadruplets and combinations of them. In certain particular cases, some properties (symmetry, even degree) are exploited to simplify and improve the results. The software is specially meant for space filter applications with strict selectivity requirements. Some of its features are very well suited for predistortion techniques and easy tuning of dielectric resonator filters.

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