Abstracts

Self Equalized, Equiripple Microwave Filter

A computer program for designing self-equalized equiripple, even order filters is presented. The program permits its operator to attempt to meet a given set of filter response specifications by positioning either the imaginary axis zeros (i.e., the insertion loss poles) or the complex plane zeros (i.e., the equalization poles) of $S_{21}(s)$, or both. Once the zeros are optimally located, the program will first synthesize a symmetric canonical, cross-coupled array filter from the two-port, short-circuit Y-parameters. Next, the program will convert this structure, by a series of plane rotations of the coupling matrix, into an assymmetric canonical configuration. Both calculated and measured response data are presented.

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