

Efficient Coupling Patterns Design of Miniaturized Dielectric Filter Using EM Simulator and EPO Technique

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An efficient field theoretic CAD method is proposed for the design of a coupling pattern of a kind of circuits where the error parameter can be defined. In this method, the EM simulator is used in conjunction with EPO (Error Parameter Optimization) technique to expedite a coupling pattern design. The proposed technique is applied to the design of an asymmetric dielectric filter in 1900 MHz band. Only two or three iterations are needed for the coupling pattern design of a prototype filter satisfying the object response. This technique is shown to be simple and effective, and it dramatically saves computational time for electromagnetic pattern design.

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