Optimum CAD Procedure for Manifold Diplexers

In this paper a novel Computer Aided Design (CAD) procedure is described for the manufacture of the class of manifold diplexers which is based on filters implemented with thick inductive windows in rectangular waveguide. The procedure described essentially consists of decomposing the initial design task into four simpler sub tasks with clearly identified goals. Each sub task only involves the "software" (soft) tuning of a limited number of physical parameters so that the complete procedure can be executed very rapidly. The procedure described allows for the manufacturing of waveguide diplexers without any tuning elements and without any experimental characterization work thus substantially reducing production time and cost.

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