Abstracts

Design Concept for Microwave Recursive and Transversal Filters Using Lange Couplers

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This study focuses on the use of Lange couplers in the design of passive recursive and transversal filters in the microwave frequency range. First, a simple numerical method for the computation of the filter parameters is described. A synthesis example is given to illustrate the techniques for the wideband filter case. We then show how Lange couplers can be effectively employed in the design of recursive and transversal filters. We present analytical, computer-simulated and experimental results for two passive band-pass filters which are implemented on a Duroid substate (epsilon/sub r/=2,43; h=500 µm) in the 3-5 GHz frequency range. Good agreement is obtained between the theoretical and the measured S-parameters for the filters.

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