Abstracts

A Computer-Aided Design of a Microwave Delay Equalizer

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The folded-tape meander-line configuration that has been used in the design of compression filters for chirp radar applications can also be used in the design of microwave delay equalizers for communication systems. Specifically, it can be utilized in the design of delay equalizers for use in the repeaters of a long distance waveguide transmission system. In this paper, the synthesis of such L-band delay equalizers using a general purpose successive approximation computer program, SUPROX is described. In this procedure, both the locations of the resonant frequencies and the number of meander-line turns at each of these resonant frequencies are optimized to give the final design. Linear as well as certain higher order delay characteristics have been synthesized with a high degree of accuracy. Experimental results show excellent agreement with the theoretical designs.

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