Abstracts

14-GHz MIC 16-ns Delay Filter for Differentially Coherent QPSK Regenerative Repeater

Y.S. Lee. "14-GHz MIC 16-ns Delay Filter for Differentially Coherent QPSK Regenerative Repeater." 1978 MTT-S International Microwave Symposium Digest 78.1 (1978 [MWSYM]): 37-40.

A parallel-coupled microstrip fused silica filter at 14 GHz was developed as a 16-ns delay element for application to direct detection with a differentially coherent quaternary PSK (DQPSK) demodulator/regenerator module of an onboard regenerative repeater for future satellite-switched time-domain multiple-access (SS-TDMA) satellite communications systems. Design considerations, experimental results of the 14-GHz bandpass delay element, and a technique for precision measurement of the fused silica filter delay phase temperature coefficient are presented. In addition, the expected DQPSK demodulator performance is evaluated by simulation analysis using a comprehensive transmission channel modeling program.

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