Abstracts

Generation of High-Speed Pseudo-Random Sequences Using Multiplex-Techniques (1996 Vol. III [MWSYM])

F. Sinnesbichler, A. Ebberg, A. Felder and R. Weigel. "Generation of High-Speed Pseudo-Random Sequences Using Multiplex-Techniques (1996 Vol. III [MWSYM])." 1996 MTT-S International Microwave Symposium Digest 96.3 (1996 Vol. III [MWSYM]): 1351-1354.

We report on the design and performance of high-speed pseudo-random sequence generators for NRZ-signals. The hardware is based on multiplexer circuits that multiply the data rate of a 5 Gbit/s pseudo-random sequence to respectively 10 Gbit/s and 20 Gbit/s. We used multiplex-techniques based on the "cycle-and-add property" of pseudo-random sequences. Using both microstrip and coplanar waveguide technology, the circuitry incorporates special high-speed silicon chips. The experimental results demonstrate the feasibility of our approach.

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