Abstracts

A Novel Clock Extraction Circuit Using a New NRZ-to-PRZ Converter and a Dielectric Resonator Filter for 10Gbit/s Optical Receiver

T.W. Yoo, J.H. Song, M.S. Park and C.S. Shim. "A Novel Clock Extraction Circuit Using a New NRZ-to-PRZ Converter and a Dielectric Resonator Filter for 10Gbit/s Optical Receiver." 1995 MTT-S International Microwave Symposium Digest 95.3 (1995 Vol. III [MWSYM]): 1395-1398.

We report a novel clock recovery circuit for 10Gbit/s lightwave transmission systems, which consists of a new NRZ-to-Pseudo-RZ converter for the generation of a clock signal from NRZ data. The new NRZ-to-PRZ converter generates both the differentiated and the phase-inverted differentiated signal of NRZ data and rectifies them, resulting in a discrete clock signal. The power of the clock signal obtained from a lVP-P 231-1 PRBS input data is -2 ldBm, which is 90dB above the noise spectral density at the clock frequency. The timing jitter of the clock signal extracted with a DR filter of the Q-value 800 is estimated to be 1.2ps.

❑ Return to main document.