

Abstracts

Three-Level 1 GS/s Digital Correlator for Wideband Polarimetric Radiometry

J.R. Piepmeier and A.J. Gasiewski. "Three-Level 1 GS/s Digital Correlator for Wideband Polarimetric Radiometry." 1996 MTT-S International Microwave Symposium Digest 96.3 (1996 Vol. III [MWSYM]): 1339-1342.

A 500-MHz bandwidth, three-level (1.6 bit) digital correlator operating at 1 GS/s was designed and fabricated. The digital circuit is comprised of discrete high-speed silicon emitter-coupled logic components. The use of digital microwave design techniques was necessary to accomplish proper clock distribution, impedance matching, and asynchronous signal propagation. The correlator is to be part of a fully polarimetric radiometer for air-borne application. Experimental results from a 400 MS/s prototype polarimetric radiometer are presented.

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