Abstracts

Solid-state 8 GHz transient signal digitizer characterization

A. Ghis, P. Ouvrier-Buffet, N. Rolland, A. Benlarbi-Delai, P.A. Rolland, D. Glay and D. Jaeger. "Solid-state 8 GHz transient signal digitizer characterization." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1673-1676 vol.3.

A new technique leading to an accurate sampling of single shot high frequency signals is described. This technique provides 20 GHz sampling of electrical pulses up to 8 GHz bandwidth with a 60 dB dynamic range. The prototype of a transient digitizer involving this new principle is tested, with the goal of a new product development. We present the theory of the sampling operations, the outline of the prototype, the design and fabrication of an innovative set of specific GaAs MMICs, the assembling of the complete system and the first results obtained in performance characterization.

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