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A low-cost platform for the prototyping and characterization of digital circuit IPs



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ABSTRACT

A novel low-cost platform for prototyping and characterizing the performance of digital circuit intellectual properties (IPs) has been developed. Comprised of several HW/SW components, it allows developers of circuit IPs to verify the functionality of any number of IPs on the same prototype chip and characterize their speeds without the need for any expensive test equipment special/custom IP-wrappers, or high-speed test board design. A complete prototype of the proposed platform has been realized and successfully used to test a prototype IC fabricated in a 150 nm technology with frequencies up to 2.1 GHz. Design conditions/constraints for portability to any fabrication process have been developed and verified using measurements from the fabricated IC.

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