THE SYSTEMC BEHAVIORAL MODEL OF IEEE 802.15.3 MAC PROTOCOL – DESIGN AND PROFILING

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Abstract: This paper summarizes our work on a SystemC model of the IEEE 802.15.3 medium access control (MAC) protocol. The starting point is our widely tested SDL model of this protocol. The final goal of our work is an implementation of this protocol as an embedded system. The SDL model does not provide any realistic information on performance/resource consumption, which is required for hardware/software partitioning. That leads us to SystemC as a step between the SDL behavioral model and our implementation – it provides more realistic performance information and allows modelling the hardware and software parts of the system. The complete SystemC model was profiled to make hardware/software partitioning decisions.

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