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ASIC IMPLEMENTATION OF HIGH EFFICIENCY 8-BIT 'OCTALYNX' RISC MICROPROCESSOR

ABSTRACT *The paper presents structure of 8-bit RISC microcontroller with 16-bit address bus called OctaLynx. The processor behavior is described by Verilog hardware description language and was fabricated as ASIC in CMOS LF 0.15 μm (1.8 V) technology. Before fabrication FPGA tests were run. The integrated circuit consists of the core and some peripherals (8-bit general purpose input-output ports, timers/counters, USART, SPI). The controller was designed for tests of the dynamic power management systems.*

Keywords: *Microcontroller, RISC, ASIC, CMOS, ALU, Timers/Counters, USART, SPI, Verilog*