

Design of peripheral communication applications with the XILINX CORE3S500E FPGA core.

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Abstract: This topic focuses on the design and implementation of peripheral communication applications on the Xilinx Core3S500E FPGA platform. With the rapid development of digital technology, optimizing peripheral communication has become a crucial requirement to enhance the performance and flexibility of digital systems. The objective is to build an experimental solution to evaluate the performance and applicability of the FPGA core in complex communication applications. The research methodology includes both theoretical and experimental approaches, utilizing FPGA design tools to deploy test applications. The topic aims to provide a foundation for the sustainable development of digital systems and contribute to the ongoing digital transformation process.

Keywords: FPGA, Xilinx Core3S500E, Peripheral interface, Application design, Experimental implementation