Development Platform Supports Spartan 6 FPGA on an SBC

Micro/sys has released a turn-key single-board-computer development environment for the Xilinx Spartan 6 FPGA aimed at accelerating development of FPGA-based applications for low-power embedded systems. The DK-FPGA1651 provides designers the option to develop and debug their FPGA firmware for porting to their own user-designed hardware or to keep the firmware on the validated COTS platform for their final application. With all the basic building blocks in one package, designers can leverage pre-validated hardware and software including FPGA firmware (VHDL and Verilog) examples to improve productivity, reduce R&D costs, and speed time to market.

The DK-FPGA1651 enables designers who intend to use the SBC as their target's hardware to use the Spartan 6 in various modes depending on the complexity of their application. For instance, FPGA users can begin by implementing "simple" on-board I/O such as UARTs, DIO, and/or CAN in the FPGA. This added I/O can interface to the outside world through 64 bi-directional signals mapped directly from the FPGA to headers. Additionally, there are four RS-232/RS485 transceivers and five differential LVDS signals to ease I/O expansion.

For more advanced, higher-level system designs, the integration between the Freescale Semiconductor's i.MX515 ARM Cortex-A8 processor and the FPGA enables developers to expand upon the SBC's feature set by adding IP cores in the FPGA which bring features such as DSP, gigabit Ethernet, SATA, or dual video to the SBC with firmware. Additionally, users can choose to implement yet another processor on-board such as the Xilinx Spartan 6 MicroBlaze for dedicated control independent of the SBC's CPU. Micro/sys provides the complex communication interfaces between the Spartan 6 MicroBlaze, the FPGA and the i.MX515 by implementing a fast memory bus interface and making IRQs available to the user. The user is free from having to develop and debug these complex interfaces and can focus his/her efforts on developing his/her unique firmware for the FPGA almost immediately.

Micro/sys
818-244-4600, www.embeddedsys.com
[1]

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