New USB 3.0 SuperSpeed Interface Board for Altera FPGAs

Cypress Semiconductor Corp. and Nuvation Research Corp. today announced the production release of a rapid-prototyping solution that simplifies streaming video, images and other data from Altera FPGAs to a host processor at speeds up to 400 Megabytes per second. This solution includes a SuperSpeed USB 3.0 device interface board that connects to Arrow Electronics' BeMicro SDK (Software Development Kit), the popular FPGA evaluation platform featuring an Altera Cyclone IV FPGA. This new USB 3.0 expansion board enables BeMicro users to prototype a simpler, uncompressed, cost-effective alternative to traditional slower interfaces such as USB 2.0 and Gigabit Ethernet.

Designed to provide a seamless link out of the box, the new interface board from Cypress and Nuvation (a Cypress Platinum Design Partner) is called BeUSB 3.0, and is available exclusively from Arrow Electronics. It utilizes Cypress's programmable EZ-USB® FX3™ USB 3.0 device controller to implement the SuperSpeed USB 3.0 standard. The interface board attaches to the BeMicro SDK and comes with a standard cable to connect to a USB 3.0 PC host, which provides up to 900 mA for bus-power. This BeUSB 3.0 board is a great vehicle to start development for systems needing high quality streaming video and imaging, data acquisition systems, and other applications that require FPGAs to interface with USB 3.0.

The EZ-USB FX3 peripheral controller on the BeUSB 3.0 expansion board is equipped with Cypress's second generation configurable General Programmable Interface (GPIF™ II), capable of supporting data rates up to 400 Megabytes per second (MBps). GPIF II enables FX3 to interface directly with any processor, ASIC or FPGA by using the GPIF II Designer™, a graphical user interface (GUI) tool. The easy-to-use GUI helps system designers to configure the GPIF II interface to their needs by selecting one of several popular interfaces such as asynchronous and synchronous slave FIFO or, SRAM. They can also design their own interface using an intuitive state machine canvas. The on-chip ARM9® CPU core with 512KB RAM delivers 200 MIPS of computational power for applications that require local data processing. FX3 provides highly flexible and integrated features that enable developers to add USB 3.0 connectivity to any system. More information on EZ-USB FX3 is available at http://www.cypress.com/fx3 [1].

"We are glad to see a Cypress platinum design partner such as Nuvation team with us and a global distribution leader such as Arrow Electronics to help system designers meet their customers' growing bandwidth requirements with an easy-to-use SuperSpeed USB 3.0 solution," said Mark Fu, Senior Marketing Director of Cypress's SuperSpeed USB Business Unit. "The BeUSB 3.0 interface card will enable Altera FPGA and BeMicro users to expedite designs by providing a seamless connection between FX3 and Altera FPGAs."

“Arrow Electronics is excited about the opportunity to collaborate with Cypress to take the FX3 SuperSpeed USB 3.0 solution to the marketplace. The Cypress solution will open new markets for both companies and provide customers with leading-edge technology required to solve their various video-, imaging- and data-transfer requirements. We are also glad to see Nuvation, a premier member of the Arrow Consulting Engineering Services (ACES) program, be a part of this effort," said David West, vice president of supplier marketing and asset management for Arrow Electronics.

More information on the BeUSB 3.0 board is available at http://arrownac.com/CypressFX3 [2]. This board is used in conjunction with the BeMicro SDK board and both boards can be purchased from Arrow Electronics. A free web-based seminar about USB 3.0 and the new BeUSB 3.0 board will be hosted by Arrow Electronics and EE Times on June 27 at 11 a.m. PST. Registration information is available at http://seminar2.techonline.com/s/arrow_jun271 [3]2.

www.cypress.com [4]

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