

Press Release

SUNDANCE AND DILLON MARRY FASTEST FFT WITH FASTEST VIRTEX-5 LXT FPGA

Sundance and Dillon Engineering Merge Signal Processing Expertise and FFT IP to Deliver Benchmark Performance for Embedded Defense, Industrial, Geophysical & Medical Systems

London, UK and Edina, Minnesota - 24 November 2008 - Sundance, the leading supplier and manufacturer of advanced digital signal processing and reconfigurable FPGA systems, announced today that it has partnered with Dillon Engineering, the leading provider of embedded DSP algorithms IP and services, to deliver a joint solution that provides leadership in the fixed width and floating point FFT FPGA market. The solution makes available Dillon's benchmark portfolio of Fast Fourier Transform (FFT) IP on the Sundance SMT702 dual ADC, PXIe embedded computing module. By marrying Dillon's cores with Sundance leadership in modular FPGA design, developers have access to a uniquely configurable, cost effective and high performance embedded solution.

Area efficient, Dillon's FFT cores occupy fewer FPGA logic resources in terms of XtremeDSP slices and BRAMs than comparable off-the-shelf FFT cores. Dillon's IEEE-754 Floating-point FFT core sustains a rate up to 250Msps to deliver a 36 percent faster performance versus comparable cores. By offering a FFT length up to 64M points, Dillon's core sets the industry benchmark.

The joint solution is supported by design support from the 3L Diamond multiprocessor tool suite and a bit-accurate and MATLAB compatible C/C++ model, testbench, datasets and data generators. Dillon's FFT cores are initially available on the Sundance SMT702 module. They include pipelined for continuous processing; parallel and dual parallel for concurrent processing and extreme performance of over 25Gsps; ultralong using the SMT702s external DDR2 SDRAM for long transforms up to 64M points; parallel butterfly; mixed radix; and 2D/3D multi-dimensional FFT processing.

"Our highly parameterized cores can be quickly and easily tailored to meet the size, performance, and data processing needs of any application and any silicon target," said Tom Dillon, president of Dillon Engineering. "This capability, coupled with the cost benefit, feature set and modular format of the SMT702, delivers a compelling embedded computing solution that is distinct in its performance and flexibility."

The SMT702 is fitted with the fastest Xilinx Virtex-5 LX110T-3 FPGA and delivers data rates of up to 250Msps and up to 64M points IEEE-754 single precision FFT. Optimized for high-performance logic with low-power serial connectivity, the FPGA is supported by 2 banks of 64-bit 512Mb DDR2 SDRAM and dual 3GHz ADC that can be combined to deliver 6 Gsps. 8-lanes of PXI Express deliver 16Gb/s of effective bandwidth per direction and the module can plug in to any PXI Express peripheral slot or any PXI Express hybrid slot. Dillon Engineering's pipelined floating-point FFT uses modular Radix-2 FFT architecture to provide discrete transform on data frames or continuous data streams, with sample rates up to the maximum clock frequency. This efficient structure employs a single butterfly and single delay feedback path per rank for low localized memory usage. True IEEE-754 floating-point data is maintained throughout, supporting a large dynamic range of data without requiring complicated fixed-point analysis.

“By providing a home for Dillon’s cores on our SMT702 there is a clear path for PCIe and PXIe customers to access extreme FPGA FFT processing,” said Flemming Christensen, managing director of Sundance Multiprocessor Technology Ltd. “Their industry-leading performance metrics and compact footprint unlock system gates and logic blocks inside the FPGA to yield greater opportunity, flexibility and potential for the application designer.”

The SMT702 is immediately available with a number of different Dillon FFT IP options. Prices subject to FFT core and configuration. For more information email enquiries@sundance.com, contact your local Sundance sales office or visit www.sundance.com

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About Sundance

Sundance designs, develops, manufactures and markets internationally high performance signal processing and reconfigurable systems for original equipment manufacturers in the wireless and signal processing markets. Leveraging its multiprocessor expertise and experience, Sundance provides OEM with modular DSP and FPGA-based systems as well as data acquisition, I/O, communication and interconnectivity products that are essential to multiprocessor systems where scalability and performance are essential. With over fifty different modules and carriers for PCI, cPCI VME and Stand Alone platforms, Sundance is a solution provider to semiconductor, pharmaceutical and factory automation industries. Sundance, founded in 1989 by the current directors, is a member of the TI Third Party Program, Xilinx Alliance Partner and MathWorks' Connection programs. For more information visit www.sundance.com

About Dillon Engineering

Dillon Engineering is an engineering firm specializing in DSP algorithms implemented in FPGAs and ASICs. Founded in 1989, Dillon Engineering, Inc., offers a wide variety of custom design services, with particular emphasis on FPGA-based digital signal processing (DSP) algorithms and high-bandwidth, real-time digital signal and image processing applications. For more information visit www.DillonEng.com or email info@DillonEng.com.



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