WILDSTAR™

High-Speed DSP Board Performing 11.8 Gflops/Board

Annapolis Micro Systems recently announced the release of WILDSTAR, a new family of Commercial Off the Shelf (COTS) High Speed Digital Signal Processing boards, available in VME64X, Compact PCI, and PCI bus, capable of performing 11.8 GFLOPS/board (20-bit floating-point FFT) and 23.7 GOPS/board (16-bit fixed-point MACs).

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WILDSTAR uses three Virtex™ FPGAs as processors, combining the power and speed of a dedicated DSP processor, with the reprogrammability of FPGAs. When an application is downloaded into the FPGAs, the board becomes a customized parallel processing system with processors crafted for that particular application. In addition, because the processing elements are FPGAs, the system as a whole can be modified while the application is running. This allows the board to perform many different customized algorithms at hardware speeds.

Furthermore the WILDSTAR architecture is completely compatible with the Xilinx Internet Reconfigurable Logic (IRL) tools so that it can be easily updated over any network after it has been deployed in the field.

Specifications

The WILDSTAR family was designed to solve the most demanding DSP problems. WILDSTAR is delivered with a Multi-Radix FFT IP core binary file, which can compute a single 1K, 32-bit floating point FFT in approximately 25 microseconds, using only one of the three Virtex XCV1000 FPGAs on the board. Continuous processing can be streamed together, to achieve a time of approximately 20.5 microseconds to compute the same 1K 32-bit floating point FFT at up to 49 megasamples/second, still in one FPGA. If the continuous processing is streamed through two FPGAs, the average time to compute the 1K 32-bit floating point FFT becomes 10.3 microseconds, at up to 99 megasamples/second.

WILDSTAR has an I/O bandwidth of up to 1.6 gigabytes/second into the board, through optional I/O daughter cards. The 6U-sized VME64X and CompactPCI boards can take up to two I/O cards, including support for Myrinet™, Raceway™, and high speed matched impedance (MICTOR™) connectors.

The PCI WILDSTAR board will accept new PCI WILDSTAR I/O daughter cards, as well as all the I/O cards from the WILDFIRE™ Family. Annapolis Micro Systems supplies a variety of I/O cards for PCI, including analog and digital camera, RS422, E1, E3, T1, and a new card called the Virtex™ I/O card, which has a single Virtex™ XV300 part and adds 172 lines of high speed digital I/O.

Price and Availability

STARFIRE™ is a smaller version of the PCI WILDSTAR, with only one Virtex XCV1000 chip. WILDCARD™ is a Cardbus™ card, initially available with a Virtex XCV300 device. Annapolis Micro Systems, Inc. is currently taking orders for the WILDSTAR™, STARFIRE™, Virtex™ I/O, and WILDCARD™ boards. Initial pricing for the Virtex-based boards starts at $4,500 for the Virtex I/O card and approaches $50K for the larger WILDSTAR boards. Pricing for the XC4000XLA-based boards starts at $1,750.

For more information and pricing call Jane S. Donaldson or Bill Hulbert at (410)841-2514. You can reach us through email at wfinfo@annapmicro.com or visit our website at http://www.annapmicro.com. ∑

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