



TriCore FPGA Signal Processor

Description

The TriCore FPGA Signal Processor converts analog input to digital, performs high speed signal processing in hardware, and output data in analog or digital form. The FPGA complex is well suited to performing FFTs, math co-processing (CORDIC, floating point), filtering, and waveform synthesis.

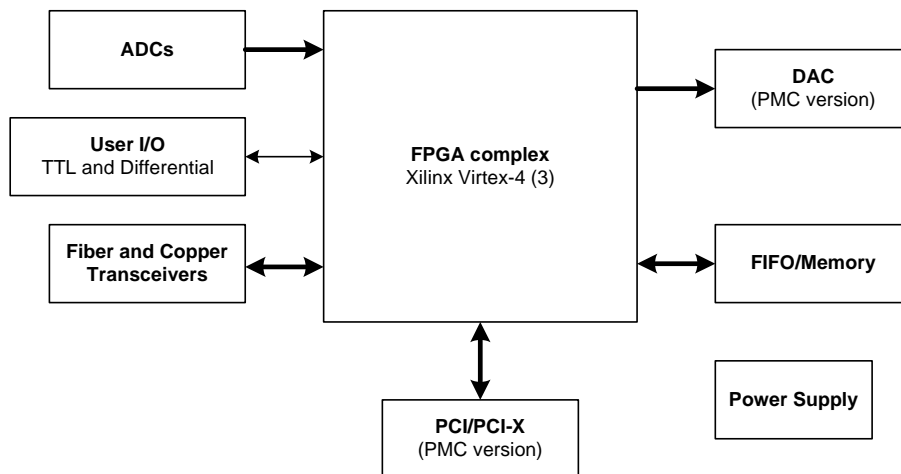
Versions are available in standalone or double-size PMC form factors.

Applications

The TriCore FPGA Signal Processor has been applied in radar and image processing applications. Potential applications include data mining and DSP co-processing.

Features

- Standalone or double-size PMC form factor
- FPGA complex
 - Multiple Xilinx Virtex-4 FPGAs
 - >100,000 FPGA logic elements
 - >200MHz processing
 - 12.8Gbps FPGA-FPGA interfaces
- Three 250MHz SRAMs for input FIFO or data storage
- Single or dual high speed ADC
- 14-bit 210MSPS DAC (standalone only)
- Serial and bus I/O formats
- Fiber optic interfaces via industry-standard SFF module
- External control/sync I/O



Feature Comparison

Feature	Double PMC (IEEE 1386)	Standalone
ADC	8-bit single-channel 1.5Gsps OR	One or two 14-bit 400MHz OR
	8-bit dual-channel 1.0Gsps	One or two 12-bit 500MHz
DAC	14-bit 200MHz, differential driver	No DAC
Control & data interfaces	PCI 32/64 33/66 (PCI-X expandable)	One Fast Ethernet
	3.3V signaling only	One Gigabit Ethernet
Connectors	All front I/O	Front LEDs and all rear I/O
	2 or 3 SMAs for ADC(s)	2 or 4 SMAs for ADC(s)
	36-pin Mini D Ribbon (for DAC)	Mil circular power connector
FPGAs	One Virtex-4 FX20	One Virtex-4 FX60
	Two Virtex-4 SX55	Two Virtex-4 SX55
SRAM	One 36Mb SRAM	Three 72Mb SRAM
	Two 72Mb SRAM	
Power	35W typ	35W typ.
Power Supply	3.3V 0.5A max	28V (18V-36V) 1.8A max
	5V 6.8A max	
Dimensions	149mm W x 149mm D x 13.5mm H	10.5" W x 9.0" D x 2.5" H (housing)
Other		Integrated fans

I/O

- Fiber optic interface: receptacle for industry-standard SFF module (duplex LC) up to 4.25 Gb/s
- TTL I/O and RS-422/RS-485 differential inputs for external control/sync
- 15-pin Micro D

Software

- Red Hat Enterprise Linux drivers (2.6 kernel)
- Application software examples

Power and Environmental

- 35W typ. power dissipation (requires forced air cooling)
- Designed for -40C/85C operation
- PMC version mounts on several commercially available carrier cards

Customization Options

Boards can be adapted to customer needs through GTS packaging and component population options.

Ordering Information

TCF-01 PMC form factor
TCF-02 Standalone form factor

About GTS

GTS is an energetic, innovative, and assertive Virginia corporation that specializes in providing technical services and high-tech product solutions in the areas of sensor technology and storage area networks. The signal processor was developed by the Information & Sensor Systems (ISS) Division in St. Petersburg, FL.

Contact Information

GTS Headquarters info@gtshq.com
(757) 468-8751

Steve Armil, ISS info@gtshq.com
Operations Director (727) 329-1500

Website <http://gtshq.com/>

01/2013

