

# VP680 Virtex™ 6 3U VPX

## VITA 46 Compliant FMC carrier

The VP680 is a high performance VITA 46 (VPX) standard compliant card with advanced digital signal processing capabilities. The design has been targeted for customer programmable implementations of complex FPGA algorithms for Digital Signal Processing (DSP) applications. The VP680 product is in the 3U VPX form factor, offering various direct on-board interface options that are closely

coupled to large - fast on-board memory resources of the Xilinx Virtex™-6 FPGA.

The VP680 is an excellent choice for high performance applications that require the use of accelerated frequency-domain algorithms such as with FFTs. Abaco Systems offers many off-the-shelf Intellectual Property (IP) cores for applications that require the highest level of performance.

### FEATURES:

- Virtex-6 LX130T, LX240T, LX365T, SX315T, SX315T, SX475T
- High density Memory Options using BLAST sites: DDR2 and DDR3 SDRAM, QDR2 SRAM, NAND FLASH.
- VPX VITA 46 Compliant
- Front Panel FPGA Mezzanine Card (FMC)
- UART over USB
- Gen 1 and Gen 2 PCI express
- VITA 48.2 compliant (1 inch Pitch)

ANSI/VITA 47	Air-cooled		Conduction-cooled	
	EAC4	EAC6	ECC1	ECC4
Operating temperature	0C to +55C	-40C to +70C	0C to +55C	-40C to +85C
Storage temperature	-40C to +85C	-50C to +100C	-40C to +85C	-55C to +105C
Humidity	95%	95%	95%	95%
Operating vibration	5Hz to 100Hz PSD = 0.04g <sup>2</sup> /Hz 100 Hz to 1000 Hz PSD = 0.04 gs <sup>2</sup> /Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave	5Hz to 100H PSD = 0.04g <sup>2</sup> /Hz 100 Hz to 1000 Hz PSD = 0.04 gs <sup>2</sup> /Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave	5 Hz to 100 Hz PSD increasing at 3 dB/octave 100 Hz to 1000 Hz PSD = 0.1 g <sup>2</sup> /Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave	5 Hz to 100 Hz PSD increasing at 3 dB/octave 100 Hz to 1000 Hz PSD = 0.1 g <sup>2</sup> /Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave
Operating shock	20g, 11 millisecond, half-sine or 20g, 11 millisecond, terminal sawtooth shock pulses in all three axes	20g, 11 millisecond, half-sine or 20g, 11 millisecond, terminal sawtooth shock pulses in all three axes	40g, 11 millisecond shock half-sine or 40g, 11 millisecond, terminal sawtooth shock pulses in all three axes	40g, 11 millisecond shock half-sine or 40g, 11 millisecond, terminal sawtooth shock pulses in all three axes
Operating altitude	-1500 ft to 60,000 ft (with airflow)	-1500 ft to 60,000 ft (with airflow)	-1500 ft to 60,000 ft	-1500 ft to 60,000 ft
Conformal coating	Optional	Optional	Optional	Optional

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## Specifications

### Application examples

- Software Defined Radio (SDR)
- RADAR/SONAR Image Processor
- Satellite communication systems
- RADAR & Radio Jamming
- JPEG2000 Video Image Processors
- Baseband Communication Transceivers
- Multi-Channel digital receivers
- 1M-point floating-point FFT processing
- Event Processor & Recorder

### FPGA Mezzanine card options

All Abaco Systems FMC cards are supported, check our website for more information: [www.Abaco Systems.com/FMC.php](http://www.Abaco Systems.com/FMC.php)

### User selectable build options

- Configure the VP680 board to meet your requirements
- Please observe notes relative to BLAST & FMC

### Card Options

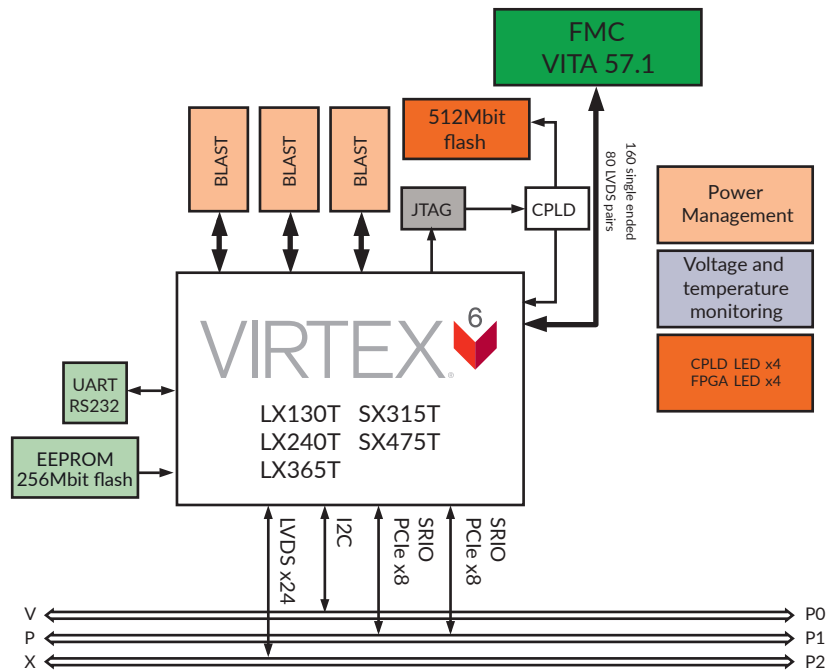
- Your board will be built to the specifications you select in the above part number options
- Custom BLAST modules are available upon request

### Software support

- Board control and monitoring tools
- Flash programming utility
- Confidence tests
- Host side API
- Software program example
- Xilinx ISE project
- Test firmware and VHDL source code
- Drivers for Windows, Linux, VxWorks

AS9100 Certified

## Block diagram



## Ordering information

Talk to us about your algorithmic requirements, Abaco Systems is a full-service firmware and software development house. We are a specialist at high performance FFT and Video Processing. Check with us, we may have IP Cores that meet requirements for your application, right off the shelf.



WE INNOVATE. WE DELIVER. YOU SUCCEED.

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