VP780 Virtex™ 7 3U VPX

VITA 46 Compliant with FMC site and optional VITA 67 I/O

This product can be used in the VPX360, VPX361 and VPX362. The VP780 is a high-performance VITA 46 (VPX) compliant card with advanced digital signal processing capabilities. The design has been optimized for the implementation of complex FPGA algorithms with high throughput requirements. Optionally conduction-cooled, The VP780 is in the 3U VPX form factor, offering up to 10GBytes of DDR3 SDRAM and additional memory options on 2 BLAST sites.

A VITA 57 compliant FMC site makes it possible to easily integrate I/O cards with A/D, D/A, RF capabilities and more. The VP780 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-7 XC7VX485T, XC7VX690T,
- XC7VX980T, XC7VX1140T.
- 2GBytes of DDR3 SDRAM in 4 independent 8-bit banks.
- High density Memory Options using BLAST sites: additional DDR3 SDRAM (upto 8GB), QDR2+ SRAM (16MB), NAND FLASH.
- VPX VITA 46 Compliant
- Optional VITA 67 I/O
- Front Panel FPGA Mezzanine Card (FMC)
- Uart over USB

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 = 0.04g2/Hz 100 Hz to 1000 Hz PSD = 0.04 gs^2/Hz 1000 Hz to 2000 Hz PSD decreasing at 6 dB/octave	5Hz to 100H PSD = 0.04g2/Hz 100 Hz to 1000 Hz PSD = 0.04 gs^2/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 g2/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 g2/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

abaco
S Y S T E M S

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Specifications

Application
- 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.
- Up to 64M-point floating-point FFT processing.
- Event Processor & Recorder.

FPGA Mezzanine card options
- All Abaco Systems FMCs except FMC645 and FMC700
- Third-party FMCs that comply to the VITA 57.1 standard.
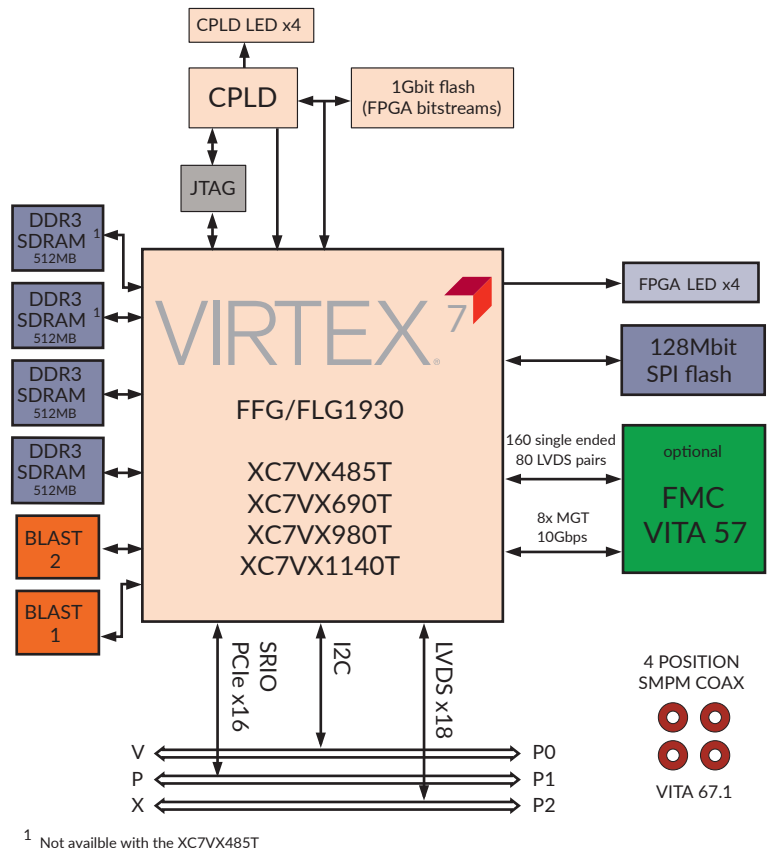
User Selectable Build Options
- Configure the VP780 board to meet your requirements.
- Please observe notes relative to BLAST & FMC Card Options.
- Your board will be built to the specifications you select in the part number options.
- Custom BLAST modules are available upon request.

Software support
- Stellar IP available for this product. A simple way to design FPGA firmware with automated code and bitstream generation.
- 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

1 Not availble with the XC7VX485T

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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Europe, Africa, & Middle East: +44 (0) 1327-359444

Locate an Abaco Systems Sales Representative visit: abaco.com/products/sales

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