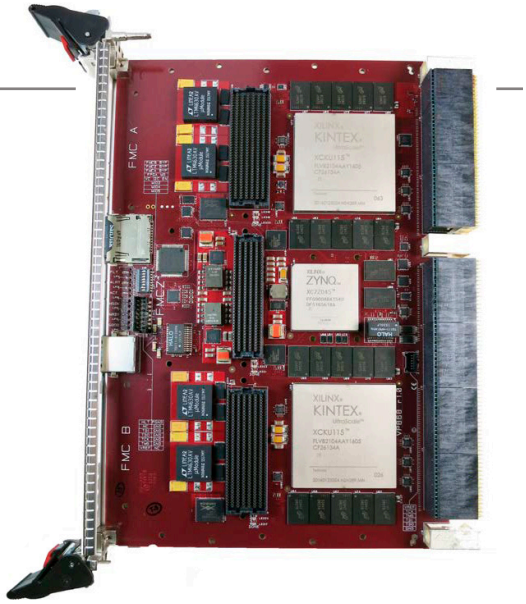


VP868 Dual UltraScale 6U VPX

Dual FMC+ Sites, on Board Zynq Processor, OpenVPX

The VP868 is a high-performance 6U Open VPX FPGA processing board featuring two Xilinx®UltraScale™ FPGAs and a Zynq® 7000 Series multiprocessor system-on-chip (MPSoC). It is designed for the most demanding mission critical military/defense/ industrial applications where extreme FPGA processing and I/O bandwidth capabilities are needed. Applications include electronic warfare, electronic intelligence, signal intelligence, radar/sonar, and High Performance Embedded Computing.

Extreme I/O Bandwidth

With 72 high speed serial lanes to the backplane, the VP868 is capable of extreme communication bandwidth up to 600Gb/s Duplex. The VP868 is customizable with two VITA 57.4 FMC+ sites. With the FMC+, users have access to 24 high speed serial lanes and 80 LVDS lanes per site, enabling advanced I/O with Abaco's wide portfolio of high performance FPGA mezzanine cards (FMC). Whether you need ultra-wideband low-latency analog interfaces for electronic warfare applications or high-density synchronous channels for synthetic aperture radar (SAR), the VP868 is powerful and flexible enough to accommodate a broad array of applications.

FEATURES:

- Dual Xilinx UltraScale FPGAs
- Kintex Ultrascale:
  - XCKU095, XCKU115,
- Virtex Ultrascale:
  - XCVU080, XCVU095, XCVU125, XCVU160, XCVU190
- Over 100 Gb/s Inter FPGA Communication Bandwidth
- Two FMC+ Sites (Vita 57.4)
- Support for Abaco FMC Modules
- Support for all Vita Compliant 3rd Party FMC Modules
- Embedded Zynq Processor with 1GB DDR3 Memory
- 2x GigaBit Ethernet, dual mode, 1000-T or 1000-BX.
- 18 GB Onboard DDR3 SDRAM Memory w/ ECC
- VITA 65 OpenVPX Compliant
- Expandable Storage with SSD Daughter Card
- High Performance Abaco Systems PCIe IP Engine
- Supported VPX Profile MOD6-PAY-4F1Q2U2T-12.2.1-4

abaco SYSTEMS

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Flexible and Upgradable

The VP868 was built with flexibility in mind. The two Ultrascale FPGAs can be configured with both Kintex™ and Virtex™ class devices, giving the user many options to choose from depending on performance, cost, and power constraints. Customers can migrate the new technologies with the compatible architecture of the VP869, which supports Ultrascale+™ devices at the two payload sites. In line with Abaco's commitment to maximizing return on customer investment and minimizing long term cost of ownership, the VP868 mitigates the impact of obsolescence for existing or future customers by allowing for rapid migration to future FPGA devices, while its adherence to industry standards assures both flexibility and longevity.

The Zynq 7000 device, in some applications, removes the need for a separate single board computer, reducing total system size weight and power (SWaP). The Zynq 7000 comes preloaded with a functional Linux operating system reference design.

For customers who don't require the entire breadth of bandwidth and processing power, the VP868 can be configured with a subset of on-board devices with the VP840 option.

Secure

The Zynq 7000 Series MPSoC, as well as the two Ultrascale+ devices, bring many security features to enable bit file encryption to protect the most sensitive and mission critical IP.

Ready for your innovation

The VP868 board support package is delivered with a complete set of open reference designs for each device and interface, giving you the ultimate control and flexibility to customize and integrate your IP and have a truly custom, optimized capability on a COTS platform.

Typical Applications.

Electronic Warfare / Digital RF memory (DRFM)

- Multi-channel radar
- Synthetic Aperture Radar (SAR)
- High Performance Embedded Computing
- Communications processing

Specifications

Build Options
- 0.8" pitch convection cooled
- 1.0" pitch conduction cooled
- 1.0" pitch convection cooled

Virtex Ultrascale FPGA Options
- XCVU080
- XCVU095
- XCVU125
- XCVU160
- XCVU190

Kintex Ultrascale FPGA Options
- XCKU095
- XCKU115

Zynq 7000 Series MPSoC
- XC7Z045

Memory
- 18 GB DDR3 (Commercial Temperature)
- 18 GB DDR3 (Industrial Temperature)

Supported Slot Profiles.
- VITA-46.3 (SRIO) profile: MOD6-PAY-2D4F8T16U-12.2.1-12
- VITA-46.4 (PCIE) profile: MOD6-PAY-2D4F8T16U-12.2.1-4
- VITA-46.7 (GIGE) profile: MOD6-PAY-2D4F8T16U-12.2.1-8

Additional slot profiles are available depending on your configuration. Contact sales for more information

Board Support Package
- Board monitoring and confidence tests
- Sellar IP: Design Flow Assistant
- Open source firmware examples
- Open source software examples
- Driver support for Windows, Linux and VxWorks
- Xilinx Vivado example projects with Stellar IP

AS9100 Certified

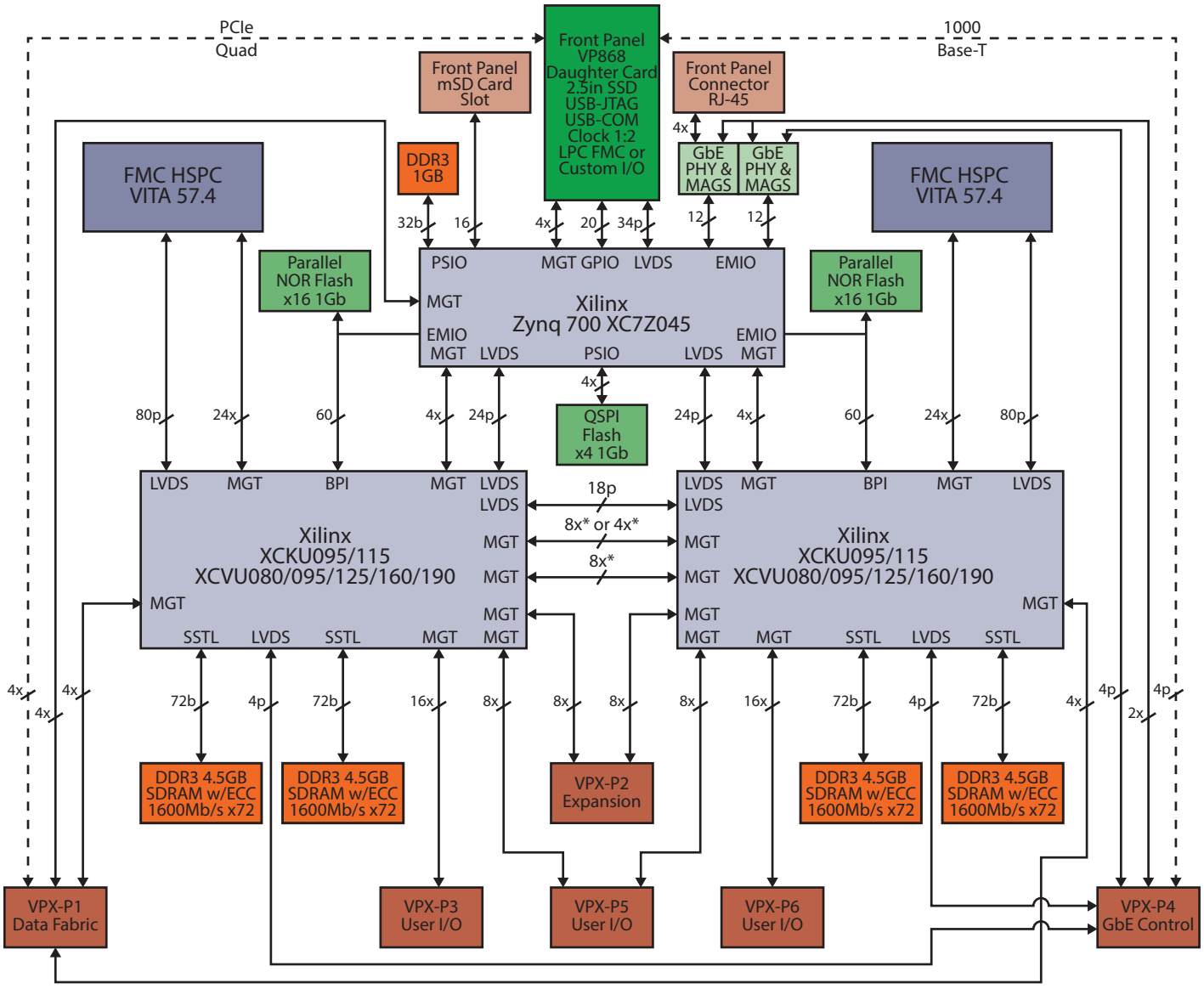
Xilinx and Zynq are registered trademarks, and UltraScale, Ultrascale+, Kintex and Virtex are trademarks, of Xilinx, Inc. All other trademarks are the property of their respective owners.

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.

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VP868 Block diagram



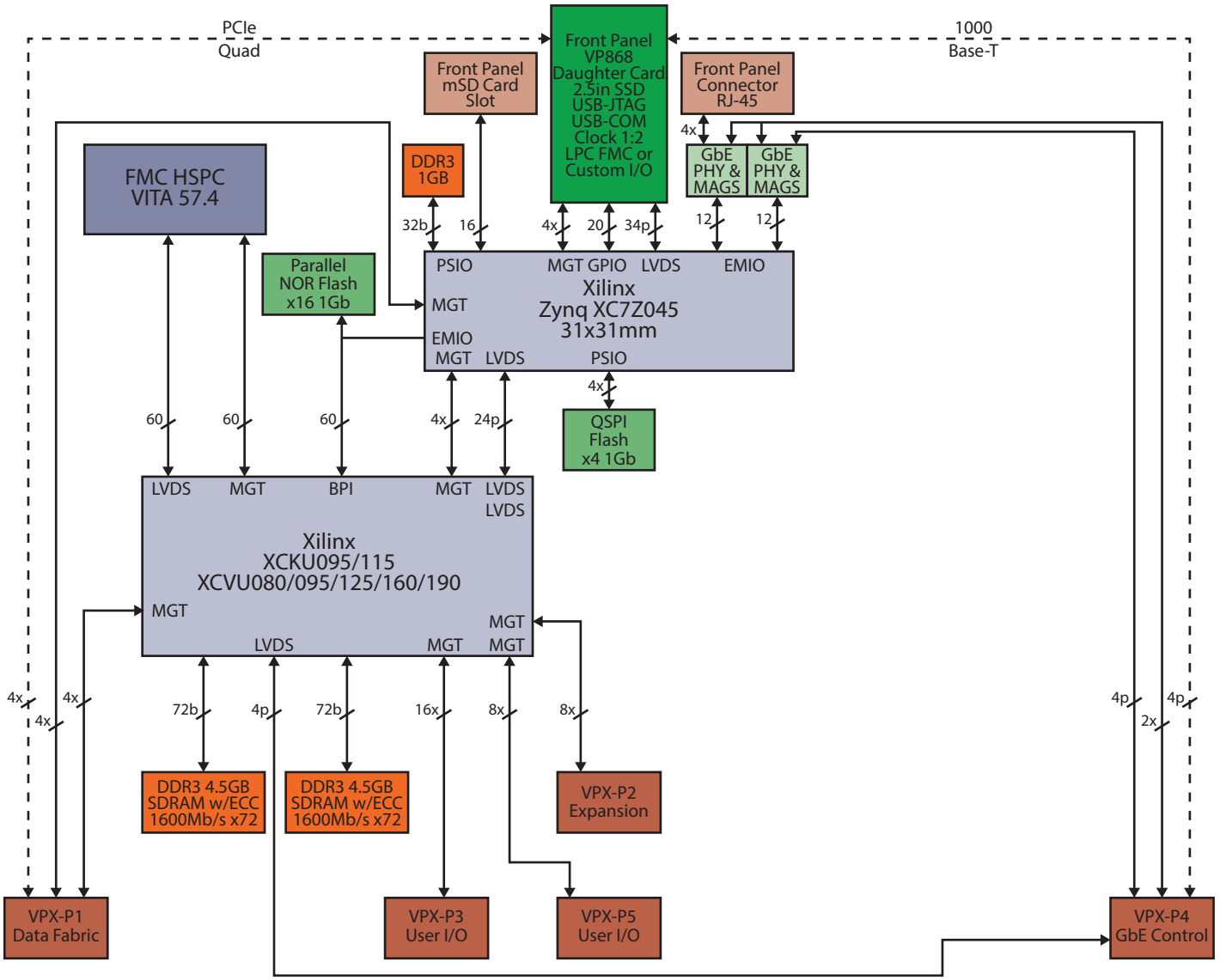
FPGA Backplane Connectivity Notes

*FPGA connectivity to the backplane varies depending on which FPGA device is selected.

- XCKU115 does not support VPX P2.
- XCKU115 does not support FPGA bus 8-11.
- XCKU095, XCVU080, and XCVU095 do not support FPGA bus 4-11.

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VP840 Block diagram



FPGA Backplane Connectivity Notes

FPGA connectivity to the backplane varies depending on which FPGA device is selected.

- XCKU115 does not support P2.

OpenVPX™ FMC MEMBER VITA Open Standards, Open Markets

WE INNOVATE. WE DELIVER. YOU SUCCEED.

Americas: 866-OK-ABACO or +1-866-652-2226 **Asia & Oceania:** +81-3-5544-3973

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

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