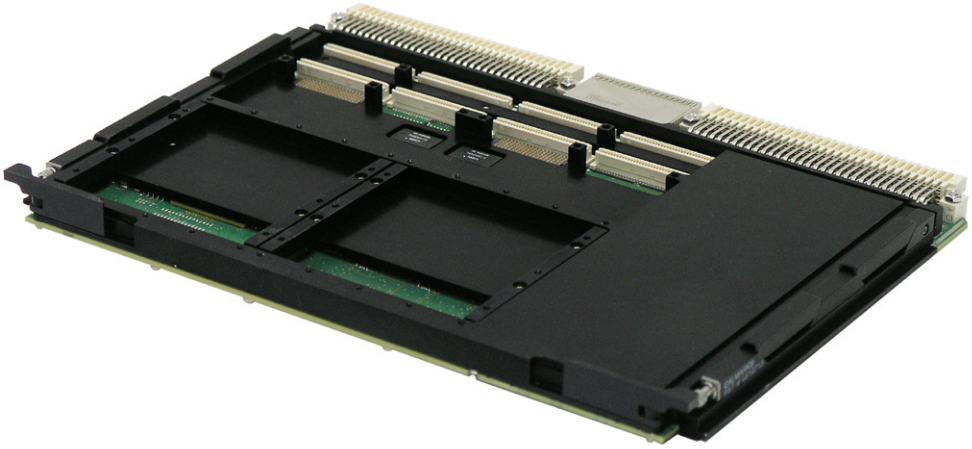


PPC11A

NXP QorIQ T2081/T1042-based Rugged 6U VME Single Board Computer

The PPC11A is the latest NXP QorIQ™-based product to join Abaco's PowerXtreme family of rugged 6U VME single board computers.

Technology insertion roadmap minimizes integration effort

The PPC11A supports the same technology insertion pin-out as previous members of the PowerXtreme family including popular boards such as the PPC4A, PPC7A, PPC9A and PPC10A, minimizing integration time and effort for legacy upgrades.

Power/performance options offer optimum application effectiveness

The PPC11A offers a high performance option based on the T2081 processor and a low power option based on the T1042 processor, allowing the user to select a solution tailored to the application.

- The T2081 brings the benefits of AltiVec™ co-processing to a 4-core platform, each of which is dual threaded, offering eight virtual cores, consuming up to 25W.
- The T1042 is optimized for lower power consumption applications, offering four single threaded cores consuming less than 7.5W.

Flexible I/O configurations satisfy a wide range of application requirements

Incremental system resource expansion is provided by two mezzanine sites, both of which are XMC/PMC capable, and offer the option of having XMC I/O (Site 1 only) and/or PMC I/O routed to the VME backplane connectors.

Combined with an extensive and flexible range of I/O options, including Gigabit Ethernet, serial COM ports, USB 2.0, SATA, MIL-STD-1553 and GPIO, the PPC11A is ideal for a wide range of mil/aero applications.

Long term support built in

The PPC11A supports Abaco's recently-announced Vivo FPGA-based VME bridging solution which offers customers long term assurance against obsolescence. This IP-based solution is hosted on a long term supported FPGA, but is also readily portable to new FPGA platforms if needed. For customers specifically interested in maintaining a Universe IID based solution, the PPC11A is also available with this IDT chipset as a build option.

Fully rugged by design

Designed specifically for harsh environments, the PPC11A is ideal for applications where high reliability and survivability are a must. Available in five air- and conduction-cooled ruggedization levels, the PPC11A offers a straightforward upgrade path for both new customers and existing PowerXtreme users looking to modernize existing systems

Software and firmware support eases integration, guarantees high reliability

The PPC11A is fully supported by comprehensive Deployed Test Software (BIT and BCS) with operating system support planned for VxWorks™ 6.x, VxWorks 7 including Virtualization Profile, Yocto Linux®, and INTEGRITY™.

FEATURES:

- 6U VME single board computer
- Power Architecture™ AMP (advanced multiprocessing) CPUs
- T1042 (four e5500 cores)
- T2081 (eight e6500 virtual cores)
- DDR3L with ECC (up to 8 GB)
- 512 MB NOR Flash
- 32 GB NAND Flash solid-state drive
- 512 kB non-volatile nvSRAM
- Host/slave, VME64-compliant + 2eSST support
- 2x independent PMC/XMC sites
- 2x 10/100/1000BASE-T Ethernet + 2x optional 10/100/1000BASE-T Ethernet
- 2x or 4x RS232 ports
- 4x RS232/422/485 async
- 2x serial ATA (3 Gb/s)
- 2x USB 2.0
- Up to 19x single-ended GPIO (5V tolerant)
- Baseboard Management Module (BMM)

abaco SYSTEMS

PPC11A *NXP QorIQ T2081/T1042-based Rugged 6U VME Single Board Computer*

Specifications

Integrated Host Processor

- Support for T2081 or T1042 NXP QorIQ AMP CPU's
- T2081 up to 1.8 GHz
  - Eight e6500 virtual cores (4 cores, dual threaded and with AltiVec co-processing)
  - Double-precision floating-point support
  - 2 MB banked L2 cache, 512MB platform cache
- T1042 up to 1.4 GHz
  - Four e5500 cores (single threaded)
  - Double-precision floating-point support
  - 256 kB per core L2 cache, 256 MB platform cache

DDR3 SDRAM

- Up to 8 GB DDR3 SDRAM with ECC Single Bank

Flash Memory

- 512MB NOR Flash memory
- Protected BANC Boot Area
- 32 GB NAND Flash SATA Solid State Drive

Backplane

- Fully VME64 Host/slave capable with 2eSST support

Mezzanine Sites

- Two XMC/PMC sites with x4 PCI Express (Gen2) or 64-bit PCI-X at up to 133 MHz
- Available with VITA 42 connectors (contact factory for VITA 61 connectors)

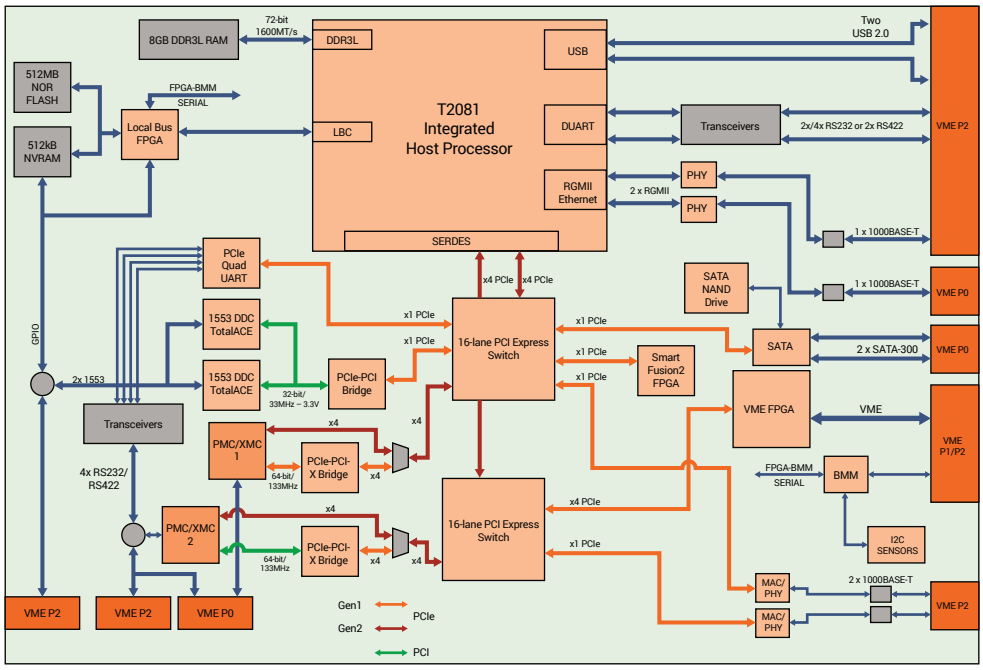
Gigabit Ethernet

- 2x 10/100/1000BASE-T Ethernet
- Additional 2x 10/100/1000BASE-T Ethernet ports as a build option.

Rear I/O

- 2x/4x RS-232 UART ports
- 4x RS-232/422/485 async ports
- 2x USB 2.0
- 2x Serial ATA (3 Gb/s) to P0
- 2x dual redundant MIL-STD-1553
- Up to 19, 5V-tolerant GPIO, each capable of generating an interrupt.

Block diagram



NVRAM / Real-Time Clock / Watchdog / ETI

- 512 kB non-volatile nvSRAM
- Real-time clock with 1 second resolution
- Avionics watchdog timer with windowed operation and independent
- Elapsed Time Indicator (records power cycles and on-time)

Security Hub

- Microsemi SmartFusion2 FPGA facilitates control of IO interfaces and supports IA / AT requirements

Transition Modules

- P25X605 (combined P0 and P2 RTM)

Temperature Sensors

- On-board ambient temperature and processor core temperature sensors

Power Requirements

- Operates from single +5V supply
- +5V stand-by optional, for RTC backup +/-12V only if required by mezzanine module

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