VPX3-1701
Dual ARM® Cortex® A7-based Single Board Computer

Features

- Dual ARM Cortex A7 core @ 1.0 GHz
  - ECC protected L1/L2 caches
  - NEON processor/core
- 2 GB DDR3 SDRAM w/ECC
- 16 GB main Flash bank
- 512 KB non-volatile memory
- One XMC site
  - PCI Express® (PCIe) Gen2 x4 interface on J15
  - VITA 46.9 X24s+X8d+X12d
- Two 10/100/1000 Ethernet ports
  - Base-T/Base-X
  - IEEE-1588 capable
- Four asynchronous serial channels
  - Two RS-232
  - Two RS-422
- Up to two USB host ports
- One SATA interface
- VPX™ interface
  - OpenVPX™ VITA 65 MOD3-PAY-2F2T-16.2.5-3
  - Two 4-lane PCIe fabric ports (can be configured into single 8-lane PCIe port)
- Power <15W
- Linux® and VxWorks® BSPs
- Pin compatible with VPX3-131, VPX3-133 and VPX3-1257
- Designed for harsh environment applications, both air-cooled and conduction-cooled

The VPX3-1701 brings the low power ARM processor to the rugged Single Board Computer (SBC) application space, providing unparalleled performance per watt that includes the required connectivity and I/O. The VPX3-1701 provides similar I/O interfaces and is pin-compatible with Curtiss-Wright Defense Solutions' other 3U VPX SBCs: the VPX3-131, VPX3-133 and VPX3-1257. With low power and low cost, the VPX3-1701 is ideal for customers looking to upgrade from CompactPCI® (cPCI). It is the first SBC of the Curtiss-Wright ARM SBC roadmap which includes both mid-range and high performance ARM SBCs with lower power than traditional Power Architecture® and Intel® based SBCs.

Our VPX3-1701 utilizes the performance, low power and advanced I/O capabilities of a highly integrated ARM Cortex A7 processor to provide a highly capable processing and data management platform for a wide range of harsh environment embedded applications. Designed for SWaP-C-constrained applications, the VPX3-1701 represents the latest step in processor evolution, bringing low power ARM processing to 3U VPX SBC combining the required I/O and system integration features with highly efficient performance.

The challenge of high density computing is to pack the greatest functionality into the smallest standard form factor, with the lowest power and as much flexibility as possible. In conjunction with its processing power, the VPX3-1701 easily meets this challenge by offering an impressive complement of I/O capability in order to satisfy the most demanding application needs.

ABOVE & BEYOND

CURTISS-WRIGHT

VPX3-1701

The VPX3-1701's integral high-speed backplane and XMC connectivity enables multi-GB/s data flows from board-to-board through the backplane interface and from backplane to the XMC site supporting the acquisition, processing and distribution of sensor data such as video, radar and sonar data. With the SATA variant, the VPX3-1701 makes an ideal low power NAS controller.

A rich I/O complement includes:

◆ Two Gigabit Ethernet (GbE) ports (1000-x capable)
◆ Four serial ports
◆ One SATA interface
◆ Two Universal Serial Bus (USB) ports
◆ An XMC site supporting VITA 46.0
◆ X24s+X8d+X12d mapped to the backplane.

The VPX3-1701 is supported with Linux and Wind River® VxWorks Board Support Packages (BSP).

VPX3-1701 Block Diagram