

VPX3U-FGX-TK1-DUAL

FOUR CHANNEL HD-SDI FRAME GRABBER WITH DUAL NVIDIA® TEGRA® K1 PROCESSING

Key Features

- Dual NVIDIA Tegra K1 Embedded APUs
- Dual WOLF Frame Grabber eXtreme (FGX) Embedded FPGA capture engines
- 650 GFLOPs CUDA processing
- APU accelerated H.264 encoding
- Operating power configurable hard cap: 20 - 40W

Additional Features

- 2x NVIDIA® Tegra-K1 APUs each with:
 - ☐ 5 ARM processor cores
 - ☐ 192 Kepler GPGPU cores
 - ☐ 8GB DDR3L, 64-bit memory
 - ☐ 17 GB/s memory bandwidth
 - ☐ 32 GB embedded flash memory
- 4x HD-SDI inputs (SMPTE-292M)
- 4x HD-SDI outputs (SMPTE-292M)
- 2x HDMI outputs
- 2x USB 2.0 interfaces
- 4x UART interfaces
- 2x 10/100/1000 Ethernet interfaces (up to 480Mbps each)
- Alternate board configuration available with non-transparent bridge, PCIe x2 Gen2

Specifications

- High level of ruggedization
 - ☐ MIL-STD-810, IPC 6012 Class-3
 - ☐ Conduction-cooled or Rugged air-cooled
 - ☐ -40° to +85°C operating temperature
 - ☐ 40g, 11ms shock
 - ☐ 0.2g²/Hz@ 5 - 2000Hz vibration
- VPX 3U form factor: 160x100 mm
- Supported VPX configurations:
 - ☐ VPX REDI (ANSI/VITA 48.x)
 - ☐ OpenVPX (ANSI/VITA 65)

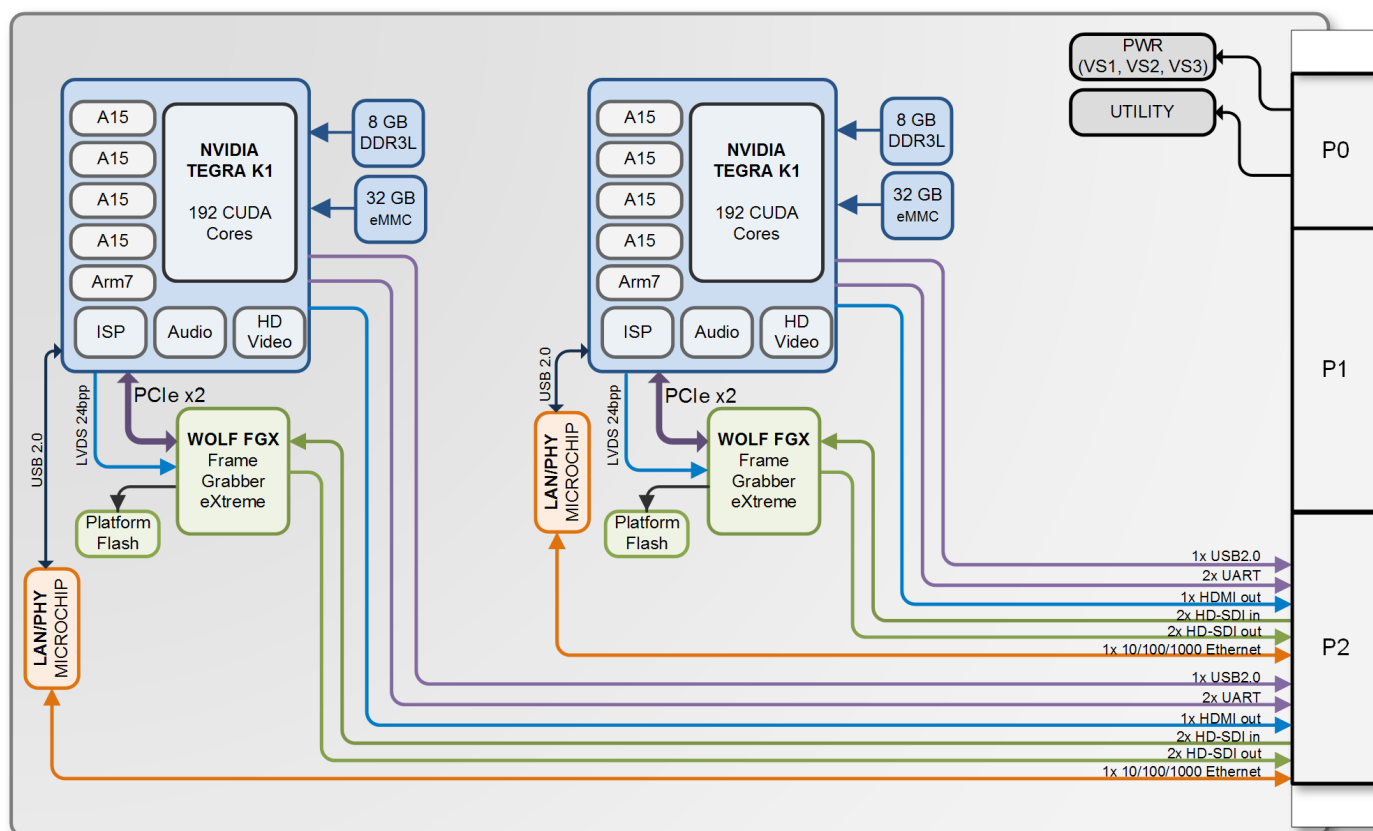
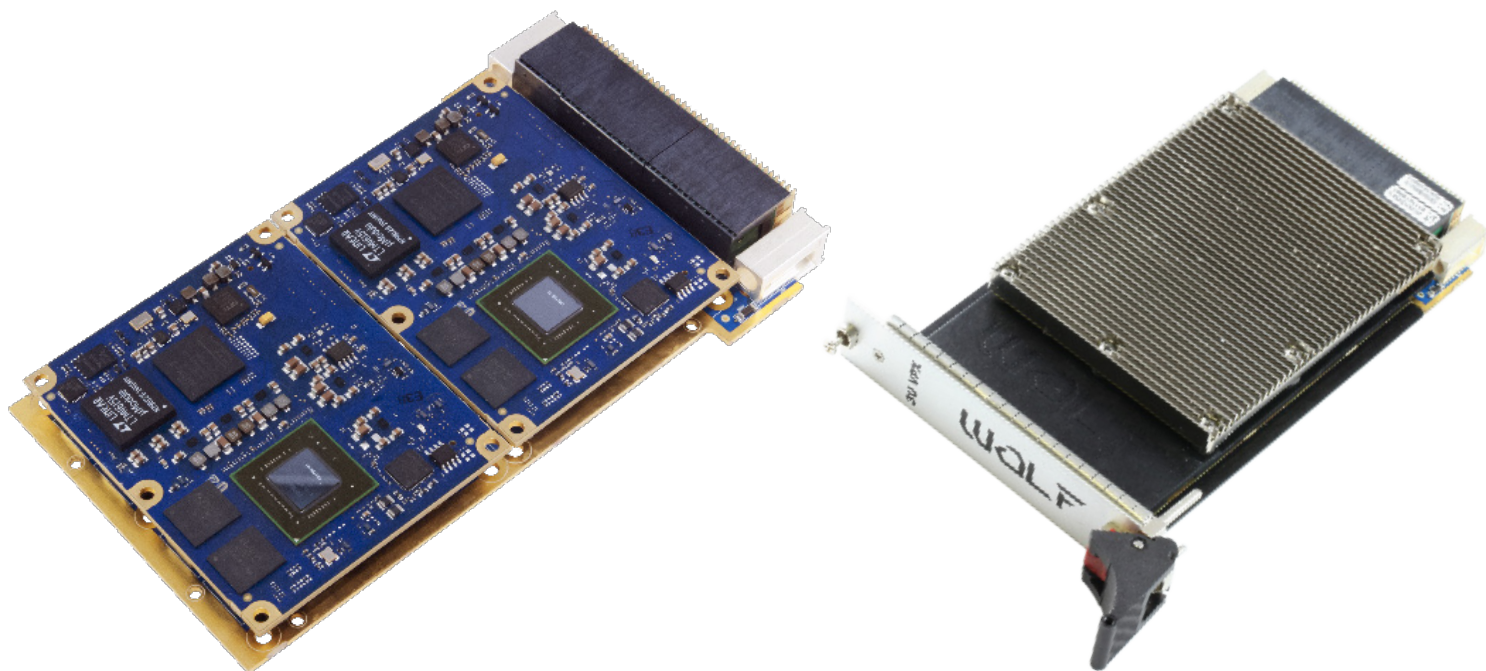
Overview

WOLF's VPX3U-FGX-TK1-DUAL is a revolution in image capture and processing for aerospace and defense. It includes two NVIDIA Kepler Tegra K1 APUs, with a combined 10 ARM cores, 16GB low voltage DDR3L memory and 650 GFLOPs of CUDA processing using as little as 20 Watts.

The WOLF Frame Grabber eXtreme (FGX) provides four HD-SDI (SMPTE-292M) video capture channels. The captured data can be sent to the Tegra K1 for complex analysis and processing independent of the host system. The Tegra K1 can be used to perform precision-intensive operations, such as image processing, video stabilization, filtering, terrain analytics, 3D visualization of geospatial data, object recognition and tracking. The image data can be encoded as an H.264 transport stream and can be displayed as HD-SDI or HDMI.

The standard configuration of this board offers asymmetrical multiprocessing capability only and does not provide PCIe connectivity with the host system. If a PCIe connection to the host system is required then WOLF can provide an alternate configuration of this board that employs a non-transparent bridge allowing a PCIe x2 Gen2 connection to the host system.





Please note that Cable drivers and equalizers are not present on this 3U VPX board. Please ensure your backplane, RTM or monitor has the necessary components installed.