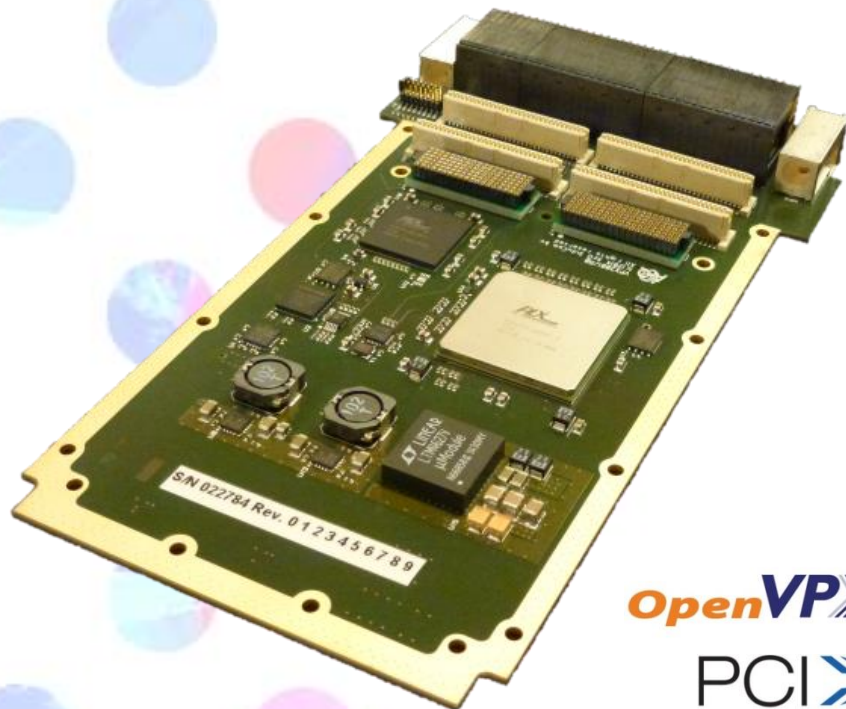# OpenVPX™ 3U PCIe Switch & XMC/PMC carrier

The VPX3001 PCI Express Switch and PMC/XMC carrier card allows easier system integration of single board computers and I/O modules in an OpenVPX™ system.
It provides a PCI Express Switch (Gen 1/2/3) and a mezzanine carrier slot.

The VPX3001 has a PCIe switch and a PCIe-to-PCI-X bridge.The XMC interface is connected to the PCIe switch (PCIe x8). The PCIe-to-PCI-X bridge is used to connect the PMC interface to the PCIe switch (PCIe x4). Also 16 PCIe lanes are available for a flexible and scalable interface configuration to the backplane.

The Gen3 switch offers maximum PCI Express switching speed on 8 GigaTransfers per second (GT/s) and is backwards compatible with Gen1 & Gen2 interfaces.

The PCIe lanes between switch and VPX™ backplane can be configured as:
- one Quad Fat Pipe (x16)
- two Double Fat Pipes (x8)
- four Fat Pipes (x4)
- four Thin Pipes (x2)
- four Ultra Thin Pipes (x1)

Populated with a processor XMC/PMC, the VPX3001 can act both as a system controller or as a non-system controller module.

Features

General

- Configurable and flexible Gen1/2/3 PCI Express switch
- Non-blocking PCI Express switch (depends on configuration)
- Supports non-transparent mode
- PMC/XMC carrier with rear I/O connection
- 16 lanes of PCI Express, up to 4 PCI Express switching ports available on VPX™ Data Plane
- IPMC Power Management on P0 Utility Plane

General

- PCI Express Gen 1/2/3 ready
- Configurable and flexible Gen1/2/3 PCI Express switch
- 16 lanes of PCI Express available on VPX™ Data Plane
- Up to 4 PCI Express switching ports for VPX™ use
- Configurable transparent or non-transparent port(s)
- Reverse mode supported for monarch / root-complex

PMC/XMC carrier

PMC carrier

- 4 lanes of PCI Express to PCI bridge
- PCI 3.0 support
- 32 and 64-bit support
- 66/50/33/25 MHz support
- 3V3 I/O signaling only
- Rear I/O to P2 connector

XMC carrier

- 8 lanes of Gen3-ready PCI Express to XMC
- Rear I/O to P2 connector

OpenVPX™ profiles and I/O

- Compatible with many OpenVPX™ profiles
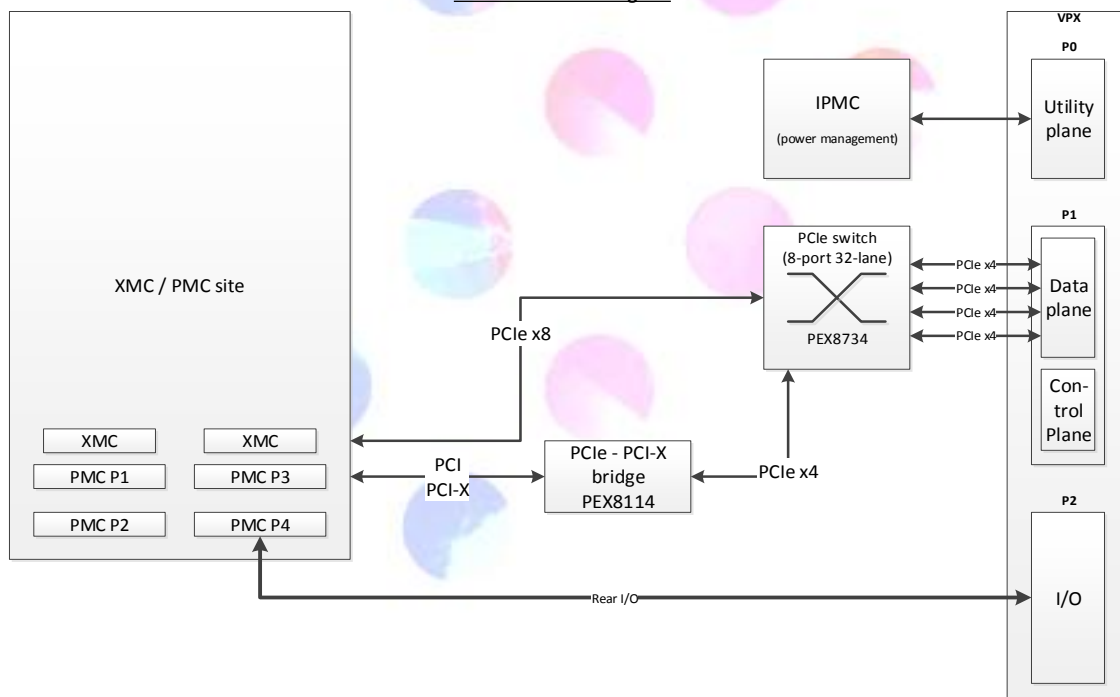- All I/O of the XMC/PMC site is routed to the P2 connector

Environmental

- Air-cooled
- Operation temperature of components is at least -40..+85º Celsius
- Optional: conformal coating
- Optional: conduction cooled

Ordering information

- VPX3001/T01 3U OpenVPX™ PCI Express Gen 1/2/3 switch and PMC/XMC carrier card

VPX3001 – Block diagram