

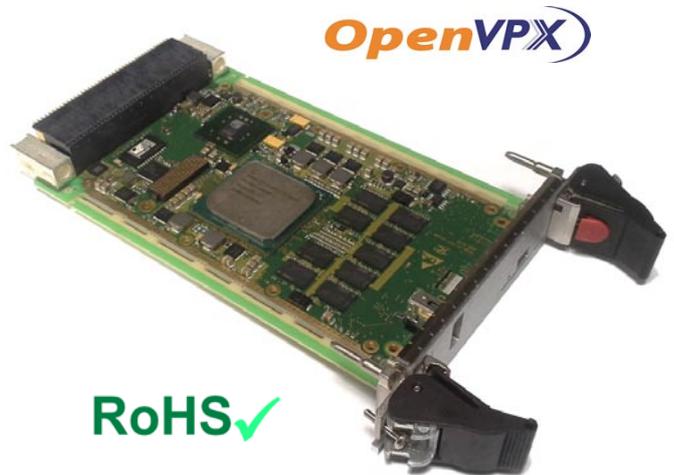
## IC-INT-VPX3d

### Intel® XEON (Broadwell-DE SoC) SBC

The **IC-INT-VPX3d** is a powerful OpenVPX 3U Single Board Computer (SBC) based on the Broadwell-DE processor – 14nm High Performance Chip of Intel's Low Power Spectrum.

Combined with IC's **ComEth 4580a** 10 Gigabit Ethernet router or hybrid **ComEth4410a** switch (PCIe & Ethernet) and other IC's Processor/FPGAs boards with IC's software / Firmware libraries, the **IC-INT-VPX3d** is the key building block of the next High Performance Embedded Computing systems (HPEC).

The **IC-INT-VPX3d** like any IC Intel® board, is delivered with IC's own UEFI. This capability to master Boot firmware allows Interface Concept to implement specific functions or services for secured and accurate power-up sequences.



### Description

The **IC-INT-VPX3d** is a 3U VPX SBC which can act as a System or non-System Controller module in a VPX platform.

The **IC-INT-VPX3d** provides:

- ▶ two 10GBase-KR Ethernet ports for Data Plane (on P1A/P1B),
- ▶ one PCIe x4 port for Expansion Plane on P1C,
- ▶ two GigaEthernet ports for Control Plane.

The PCIe port for Extension Plane supports Non-transparent Bridging (NTB) allowing Processor to Processor Communications. Moreover one PCIe Gen2 x4 port is available on P2 (which can be split in 4 \* x1 ports) with PCIe 100MHz reference clock.

The **IC-INT-VPX3d** also takes advantage of the media capabilities of the Intel SoC to provide a set of serial interfaces (USB and SATA ports) and GPIOs.

The board features one SATA Solid State Disk for storage.

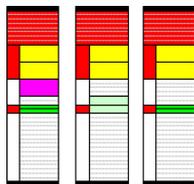
The **IC-INT-VPX3d** implements a FPGA interfaced with the SoC (PCIe x4) to add Core Functions, for which IC provides a variety of IPs (additional communications interfaces, GPIOs, video...) and performs the integration of specified customer services.

As an option, an XMC slot is also available to support Legacy mezzanines (PCIe x8) or custom designs (2 \* PCIe x4 / consult us).

Example of **OpenVPX** (VITA 65) slot profiles.

Our **IC-INT-VPX3d/e** is partially compliant with :

- SL3 - PAY - F1F2U
- SL3 - PAY - 2F2T
- SL3 - PAY - 2F2U



### Main features

#### Processor Unit

- ▶ One Intel® Xeon® Processor D-15xx
- ▶ Two banks of DDR4 with ECC (up to 8GB / Bank)
- ▶ Boot flash memory
- ▶ External independant RTC with supercap backup
- ▶ Thermal/voltage monitoring sensors
- ▶ One SATA NAND SSD (up to 16GB)

#### Communication subsystem

- ▶ 2 \* 10GBase-KR Ethernet ports
- ▶ 2 \* PCIe x4 ports (one on P1C, one on P2)
- ▶ 2 \* GigaEthernet ports (1000BT or 1000BX - factory setting)
- ▶ 1 \* RS232 console port (front or rear)
- ▶ 1 \* rear USB 3.0 ports
- ▶ 3 \* rear USB 2.0 ports (1 \* front exclusive with XMC / 2 \* rear)
- ▶ 4 \* rear SATA interfaces
- ▶ 6 \* GPIOs

#### Extension

- ▶ 1 \* **FPGA Kintex-7**
  - 1 RS232/RS422 serial port (rear)
  - GPIOs (X8d - on P2)
- ▶ 1 \* **XMC slot** PCIe x8 -or 2 \* x4 (Option, with restriction - consult us)

#### Miscellaneous

- ▶ Status Leds
- ▶ PIC µ-controller for System Management (VITA 46.11)

#### Accessories

- ▶ Engineering kit for debug : JTAG/COP, console,...
- ▶ 3U Rear Transition Module

The **IC-INT-VPX3d** is a 3U VPX board compliant with VITA 46.0 standard. It is available in air-cooled and conduction cooled versions (-40°C / up to +85°C, according to TDP configuration).

