VPX7668
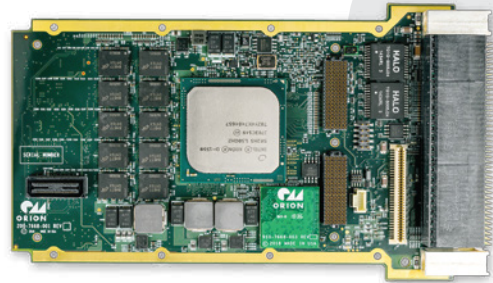
3U VPX Intel® Xeon® D
Single Board Computer
(Air or Conduction Cooled)

Your Partner in Embedded Solutions

Features

Intel® Xeon® D Processor up to 16 Core

Extended temperature and rugged REDI (Vita 48.2)

On-board temperature monitoring

Up to 16GB of soldered DDR4 SDRAM with ECC

Up to 64GB of on-board NAND Flash

One 8-lane PCIe 3.0 XMC slot (Vita 42.3)

Two x4-lane PCIe 3.0 expansion on P1

Up to four configurable serial ports

Eight configurable general purpose I/O

Two USB 3.0/ 2.0 and One USB 2.0

Five available SATA 6.0 Gb/s ports

Trusted Platform Module 2.0

Various Board Support Packages (BSP's) available including
Linux, WindRiver VxWorks & Windows

Anti-Tamper features available

For a more in-depth analysis visit our website at
www.oriontechnologies.com

Ordering Options

VPX7668-ABCD

A - Processor Options
   1 = Xeon® D-1529 (4 Core, 1.3GHz)
   2 = Xeon® D-1539 (8 Core, 1.6GHz)
   3 = Xeon® D-1559 (12 Core, 1.5GHz)
   4 = Xeon® D-1577 (16 Core, 1.3GHz)*

B - Memory Options
   1 = 8GB RAM, 16GB NAND
   2 = 16GB RAM, No NAND
   3 = 16GB RAM, 16GB NAND
   4 = 16GB RAM, 64GB NAND

C - Pin-out Options (Based on Personality Module)
   1 = 5x SATA, 2x USB 3.0/ 2.0, 2x RS-232, 2x RS-422,
       8x GPIO
   2 = 5x SATA, 2x USB 3.0/ 2.0, 1x RS-232, 1x RS-422,
       8x GPIO, 6 Single-Ended XMC
   3 = 1x USB 2.0, 1x USB 3.0/ 2.0, 4x RS-422, 8x GPIO,
       20 Differential XMC

D - Environmental
   1 = Air-cooled, 0 to +55°C Operating Temp.
   2 = Air-cooled, -40 to +55°C Operating Temp.
   3 = Air-cooled, -40 to +70°C Operating Temp.
   4 = Conduction-cooled, -40 to +70°C Operating Temp.
   5 = Conduction-cooled, -40 to +85°C Operating Temp.
   6 = Secondary side conduction-cooled,
       -40 to +85°C Operating Temp.

*16 core processor not supported across all temperature
 ranges. Contact factory for more information.

*Orion has successfully generated products utilizing an extensive assortment
of microprocessors since 1990. Our single board computer product offering
includes both custom and standard form factors such as VPX, VME,
Compact PCI, XMC, and PMC.*

*Whether it's a small quantity, one-time requirement or a high volume product
for years to come, we would like to be your partner in embedded solutions.*

MEMBER
VITA
Open Standards, Open Markets

Certified System
SAI GLOBAL
AS9100
Aerospace

Block Diagram

SmartFusion® 2

| 128Mb BOOT FLASH |

PCIe 2.0 | I²C | SPI | GPIO | LPC | IPMI

x1

I²C | SPI | GPIO | LPC

Intel® Xeon® D

PCIe 2.0

UART

UART

USB v2.0

USB v3.0

GPIO

PCIe 2.0

1x8 PCIe 3.0

5 SATA 6Gb/s

MAC

LAN

x1 PCIe

x1 PCIe

x1 PCIe

x1 PCIe

1x16 PCIe 3.0

SATA NAND — SATA

TPM — SPI

Clocks/ Reset — Clocks

32.768 Khz — RTC

Anti-Tamper Sensors | Temp Sensor — SMB

8GB DDR4 — DDR (CH B)

8GB DDR4 — DDR (CH A)

SMBus

Serial — RS232 XRVR — RS232

Serial

1x USB 2.0 — USB TRFM — 1x USB 2.0

2x USB 3.0/2.0 — 2x USB 3.0/2.0

8x GPIO

x1 — PCIe to Serial — 4x Serial — Personality Module

x8 — XMC (P15 P16) — Reset — 24s

Reset

24s

10d — 10d

5x SATA — Mux — XMC I/O

8x GPIO

24 SE I/O

10GBase-KR

10GBase-KR

x1 — I210 — MAG — 1GBase-T

x1 — I210 — MAG — 1GBase-T

x1 — I210 — 1000Base-X

x1 — I210 — 1000Base-X

x8 — 2x Fat Pipes

Power

VPX P0 | VPX P1 | VPX P2