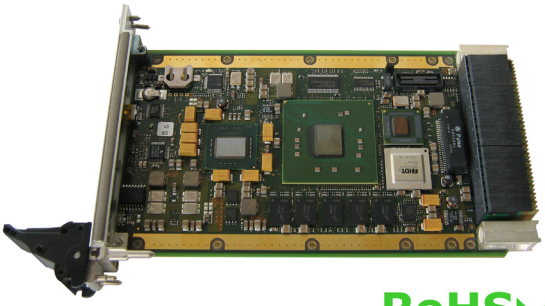
IC-DC2-VPX3a

Intel® Core™2 Duo SL9380 SBC

IC-DC2-VPX3a is based on the Intel® Core™2 Duo processor SL9380 (or SU930) associated to the Intel® 3100 Chipset.

Designed for applications requiring a very high level of performance in a compact 3U form factor, the **IC-DC2-VPX3a** board provides a flexible combination of interfaces, supporting VPX's high bandwith serial switched fabrics (PCI Express VITA 46.4).

The **IC-DC2-VPX3a** board builds in the Intel® Product Technologies for Embedded and Communications Applications to enhance performance, flexibility, reliability and security of demanding multi-tasking applications.



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Interface Concept is a General Member of the Intel® Embedded and Communications Alliance.

Description

The embedded Intel® Core™2 Duo processors, based on Intel® Core™ microarchitecture, deliver breakthrough energy-efficient performance for embedded platforms.
Intel® 45nm process technology makes possible to integrate two complete execution cores in one physical package, providing advancements in simultaneous computing.

This Dual-core processor notably includes the following technologies :
• Intel architecture with Intel® Wide Dynamic Execution
• Supports L1 cache-to-cache (C2C) transfer
• On-die, primary 32-KB instruction cache and 32-KB, write-back data cache in each core
• Advanced power management features including Enhanced Intel SpeedStep® Technology and dynamic FSB frequency switching
• Intel® 64 architecture
• enhanced Intel® Virtualization Technology
...

The SL9380 is coupled with the Intel® 3100 Chipset, single integrated chip that contains the functionality of a Memory Controller Hub and an I/O Controller Hub via the NSI interface bus.

The **IC-DC2-VPX3a** can act as a System or non-System Controller module in a VPX VITA 46.0 / 46.4 configuration.

The flexibility of the VPX standards for large mesh designs or designs passing heavy traffic on particular backplane segments is confirmed by the **IC-DC2-VPX3a**.
A PCI EXpress switch allows versatile coupling between the x8 lanes of the processor and the other slots.
The P1A and P1B x4 links can be aggregated to form a PCIe x8 link. In addition, a PCI-Express x4 link can also be provided on P1C or P2.

The **IC-DC2-VPX3a** board also provides two GigaEthernet ports which can be used on P1 as 1000BT or 1000KX interfaces, offering compliance with the Ethernet on VPX standard (VITA 46.9), and a wide range of serial interfaces.

Main features

Processor Unit

- one Intel® Core™2 Duo processor SL9380 (or SU9300)
  - Core speed = 1.8GHz (or 1.2GHz)
  - FSB speed = 800MHz
  - L2 cache = 6MB (3MB)
  - Thermal design power = 17W (10W)
- DDRII 400 with ECC (up to 2 GBytes)
- one boot flash memory (up to 16 Mbits)
- Up to 4GB of Soldered NAND flash.
- one Calendar clock with supercap backup
- one thermal monitoring sensor

Communication subsystem

- 8 lanes available as one PCIe x8 or two PCIe x4 links (hardware setting)
- 2*GigaEthernet ports available either as 2*1000BT interfaces or 2*1000KX (or SGMII) interfaces on P1 (factory setting)
- 2* RS232 UART
- 2 * USB2 ports
- 2 * SATA ports
- 8 GPIOs
- I2C bus

Accessories

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

The **IC-DC2-VPX3a** is a VPX 3U / 4HP (0.8") board compliant with 3U module definitions of the VITA 46.0 standard.

The **IC-DC2-VPX3a** is available in standard, extended, rugged and conduction-cooled grades.

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On-board firmware

Interface Concept Single Board Computers, based on Intel CPU, uses the new UEFI 2.1 firmware interface.
EFI is intended as a significantly improved replacement of the old legacy BIOS firmware interface historically used by all PC. The EFI specification was originally developed by Intel® and is now managed by the Unified EFI Forum, officially known as Unified EFI (UEFI).

The embedded IC system firmware performs all the low level hardware initialization and power on built-in tests before loading and loading the EFI firmware. The EFI firmware is modular and extensible. It provides a standardized API with a development environment to personalize the interfaces. The EFI firmware loads and executes a bootloader from storage devices (CD, DVD, HDD, USB…) or network to launch the final OS.

When the operating systems is running, some parts of the EFI firmware remain in memory (Runtime services). This allows the user to access EFI variables for monitoring or setup operations. It also allows the user to call EFI runtime services from the Operating System.

OS support
Interface Concept provides ISP Linux® distributions (IC SDK, others...). For VxWorks® and Windows, please consult us.

Interface features

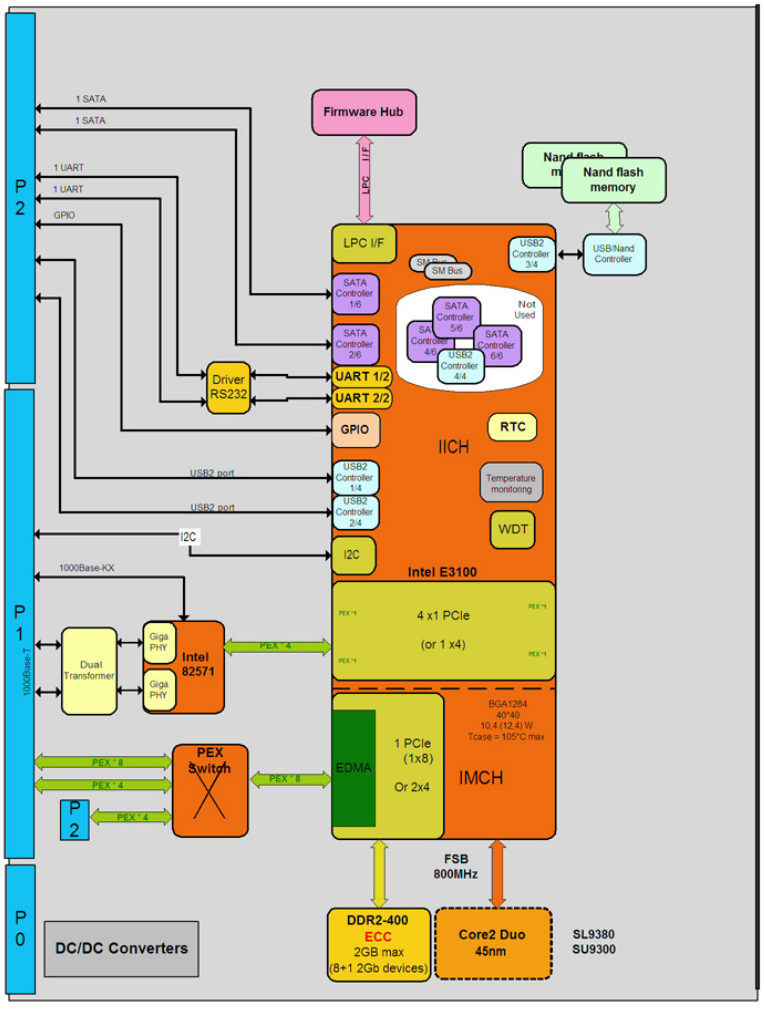
P1 connector

- 8 lanes available as one PCIe x8 or two PCIe x4 links (hardware setting)
- 2*GigaEthernet ports available either as 2*1000BT interfaces or 2*1000KX (or SGMII) interfaces on P1 (factory setting)
- I2C bus

P2 connector

- 2* RS232 UART
- 2 * USB2 ports
- 2 * SATA ports
- 8 GPIOs

Block Diagram



Environnement Specifications:

Please consult the **IC-DC2-VPX3a** page at **www.interfaceconcept.com**.

Ordering Information:

Please contact our sales department : tel. **+33 (0)2 98 573 030** - email : **info@interfaceconcept.com**

This document supersedes any earlier documentation relating to the products referred to herein. The information contained in this document is current at the date of publication. It may subsequently be updated or withdrawn without notice.

INTERFACE CONCEPT

Corporate Headquarters • 29510 BRIEC DE L'ODET • FRANCE • TEL +33 (0)2 98 573 030 • FAX +33 (0)2 98 573 000
info@interfaceconcept.com