

iVPX7225 Series

3U VITA 46 VPX & VITA 65 OpenVPX Processor Board

Data Sheet

- 3rd generation Intel® Core™ i7 2.5 GHz dual-core integrated processor
- 8GB ECC-protected DDR3L-1600, soldered down
- Intel® QM77 platform controller hub (PCH)
- 1MByte F-RAM
- 4GB USB NAND Flash
- PCI Express Fat Pipe data plane
- 1000BASE-BX/KX control plane
- SATA, USB and serial interfaces
- Integrated 2D/3D graphics with digital and VGA output
- One XMC site
- Optional rear transition module
- Extended temperature -40 °C to +71 °C and rugged variants
- Air and conduction cooled
- VITA 48 REDI two-level maintenance (2LM)

One of first in a new line of VPX products from Artesyn Embedded Technologies, the 3U iVPX7225 features the dual-core 3rd generation Intel® Core™ i7 2.5 GHz processor with integrated graphics and memory controller and the mobile Intel® QM77 PCH chipset with leading edge I/O functionality. This high compute density platform offers both high speed fabric connectivity with PCI Express and Gigabit Ethernet control plane connectivity with data transfer rates up to 5Gbps. On-board memory includes 8GB DDR3L-1600 memory (designed for 16GB), embedded USB flash, and 1MByte non-volatile Ferroelectric Random Access Memory (F-RAM). Additional connectivity includes three USB 2.0 ports, two serial ports, three SATA ports, eight GPIO, DisplayPort, VGA and one XMC site for maximum flexibility.

The iVPX7225 is a fully rugged SBC for extreme environments with extended shock, vibration, temperatures and conduction cooling. It is designed for a range of industrial, communication and military/aerospace applications.

The iVPX7225 software support includes UEFI compliant BIOS with password protection and a wide range of operating systems including Wind River VxWorks 6.9 and Linux 3.x.

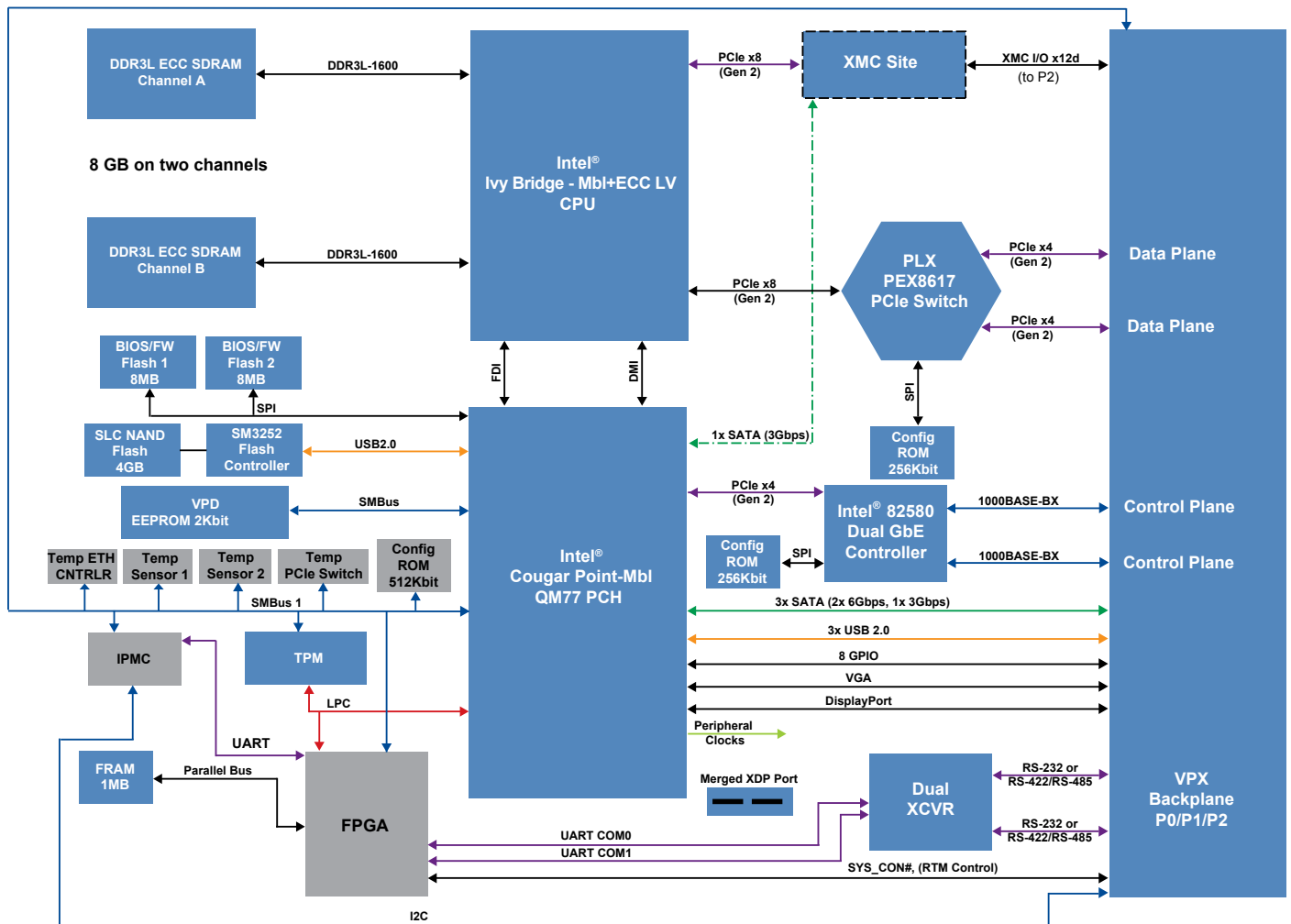


OpenVPX™

VPX™
REDI



iVPX7225 Block Diagram



Specifications

PROCESSOR

- Dual core 3rd generation Intel® Core™ i7 3555LE, 2.5GHz, 4MB L2 cache, 25W

MEMORY

- Dual channel DDR3L with ECC, soldered down
- Support for 8GBytes memory
- (designed to support up to 16GBytes)

USER FLASH/NVRAM MEMORY

- 4GByte embedded USB flash
- 1MByte F-RAM (NVRAM)

BOOT FLASH MEMORY

- Dual UEFI BIOS in dual 8MB SPI flash devices
- Support for crisis recovery

BACKPLANE I/O

- Two (2) 1000BASE-BX/KX Ethernet (Ultra Thin Pipe (control plane)
- Two (2) PCIe x4 Gen2 (Fat Pipe data plane)
 - One port configurable with non-transparent bridging capability
- One (1) Display Port
- One (1) VGA
- Three (3) USB 2.0
- Three (3) SATA (2x 6Gbps, 1x 3Gbps)
- Two (2) RS-232/RS-422/RS-485
- Eight (8) GPIO
- XMC X12d I/O (to P2; optional X8d)
- SMBus
- IPMC I²C
- Selective Read-Only Override pins
- RTM control signals

FRONT PANEL

- Air cooled
 - XMC front panel I/O
 - Reset switch
 - Status LEDs
- Conduction cooled
 - Reset switch
 - Status LEDs

ETHERNET CONTROLLERS

- PCIe x4 to 2X 1000BASE-BX/KX to OpenVPX backplane

EXPANSION I/O

- One (1) XMC expansion site with PCIe x8 Gen 2 and 1 x SATA 3Gbps connections

OPEN VPX PROFILES

- Payload module profile
 - MOD3-PAY-2F2U-16.2.3-2/3
 - MOD3-PAY-1F1F2U-16.2.4-3/4
- Payload slot profile
 - SLT3-PAY-2F2U-14.2.3
 - SLT3-PAY-1F1f2U-14.2.4

OPTIONAL TRANSITION MODULE

- eSATA, COM, USB and VGA plus a recessed reset button

OTHER FEATURES

- Watchdog unit
- Trusted Platform Module (TPM)
- Intel® vPro™ Technology capable (supports Intel® TXT, VT, and TPM)
- VITA 46.11 system management IPMI V1.5 compliant
- Multiple 32-bit timers
- Temperature sensors
- Status and user LEDs
- Reset switch
- Locking ejector handle

BIOS

- UEFI BIOS

POWER REQUIREMENTS

- Maximum for 2.5GHz, 8GByte memory variant
 - 5.0 V 58W (Estimated)

REGULATORY

- Intended for use in systems meeting the following regulations:
 - US: FCC Part 15, Subpart B, Class A (non-residential)
 - Canada: ICES-003, Class A (non-residential)

OTHER FEATURES

- Installation and User Manual: Front Board and RTM
- Hardware Release Notes
- Software Release Notes/Guides

ENP2 and ENP3 variants available for this product line.

Environmental Specifications

Ruggedization Level	ENP1	ENP2	ENP3	ENP4
Cooling Method	Forced Air	Forced Air	Conduction	Conduction
Operating Temperature	0 °C to +55 °C	-40 °C to +71 °C	-40 °C to +71 °C	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C	-50 °C to +100 °C	-50 °C to +100 °C	-50 °C to +125 °C
Vibration Sine (10 min/Axis)	2G, 5 to 2000 Hz	10G, 15 to 2000 Hz	10G, 15 to 2000 HZ	10G, 15 to 2000 Hz
Vibration Random (1 Hr/Axis)	0.01 g ² /Hz, 15 to 2000 Hz	0.04 g ² /Hz, 15 to 2000 Hz (8GRMS) ¹	0.1 g ² /Hz, 15 to 2000 Hz (12GRMS) ²	0.1 g ² /Hz, 15 to 2000 Hz (12GRMS) ²
Shock	20 g/11 ms	30 g/11 ms	40 g/11 ms	40 g/11 ms
Humidity	to 95% RH ³	to 100% RH ³	to 100% RH ³	to 100% RH ³
Conformal Coating	Optional	Optional	Optional	Optional

Note 1: Flat 15 - 1000 Hz, -6 db/octave 1000 - 2000 Hz [MIL-STD 810F Figure 514.5C-17]

Note 2: +3 db/octave 15 - 300 Hz, Flat .1g2 300 - 1000 Hz, -6 db/octave 1000 - 2000 Hz [MIL-STD 810F Figure 514.5C-8]

Note 3: Up to 100% RH with optional conformal coating

SOLUTION SERVICES

Artesyn Embedded Technologies provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

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