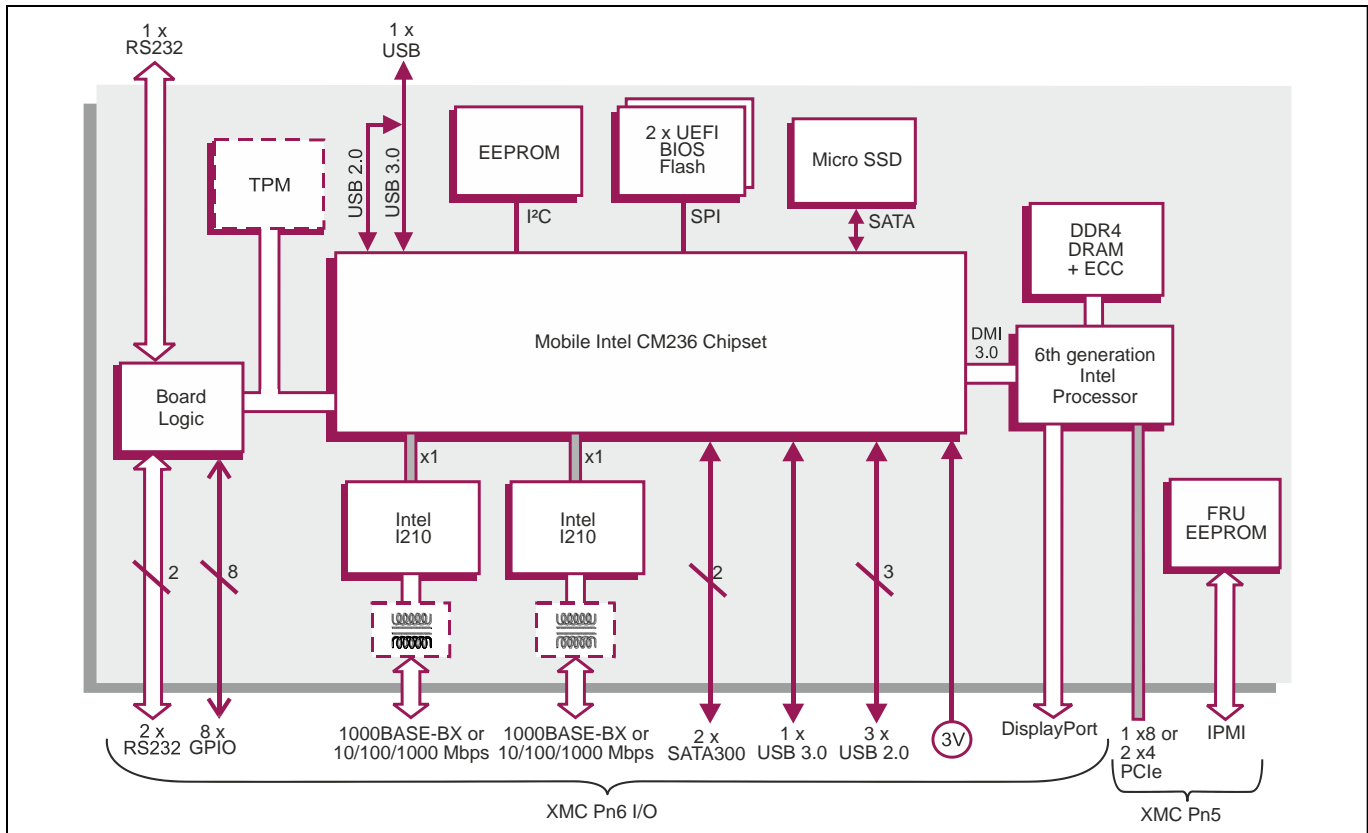
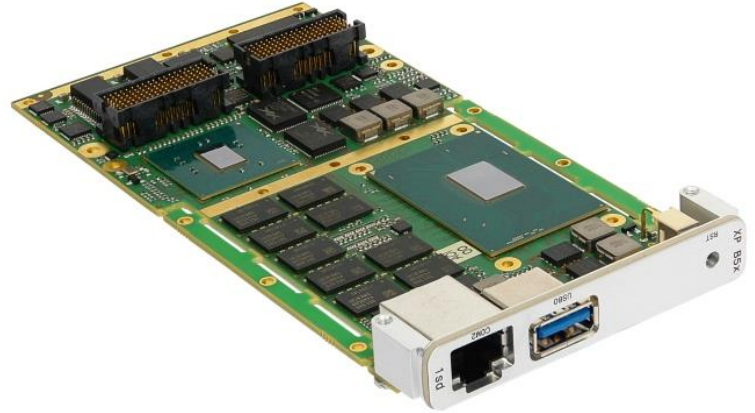


Processor XMC module based on 6th Generation Intel® Processor

Key Features

XP B5x/msd provides high performance control and management capability for any carrier card with an XMC site. Based on a low power 6th Generation Intel® processor, XP B5x/msd is suitable for rugged and extended temperature operating environments.

- 6th generation Intel processor suitable for long life cycle deployments
- Built in Solid State Drive for reliable storage
- Wide range of I/O interfaces available on XMC connectors
- Extended temperature and rugged versions available
- Support for Linux®, Windows® and VxWorks®



Processor XMC Module

- utilizes 6th generation Intel® processor
- XMC Pn6 and Pn5 connectors (build option), select:
 - VITA 42 XMC (color black)
 - VITA 61 XMC 2.0 (color white)
- configurable PCI Express® interface via Pn5
- range of I/O interfaces via Pn6
- front panel I/O interface connectors
- rugged conduction-cooled variants available:
 - see separate XP B5x/msd-RC datasheet

Central Processor

- 4-core Intel® Xeon® processor E3-1505L v5:
 - 8 Mbytes Smart Cache, 2.0 GHz
 - Intel® HD Graphics P530
- 2-core Intel® Core™ i3-6102E processor:
 - 3 Mbytes Last Level Cache, 1.9 GHz
 - Intel® HD Graphics 530
- utilizes the Mobile Intel® CM236 Chipset

DRAM

- up to 16 Gbytes soldered DDR4 DRAM:
 - dual channel architecture
 - bus speed 2133MHz
- accessible from local processor and base board

XMC Interface

- configurable PCI Express (PCIe®) interface via XMC Pn5 connector supports:
 - 1 x8 or 2 x4 PCIe ports
 - PCIe Gen 1, Gen 2 and Gen 3
- XMC Pn5 connector type (build option) determines the maximum PCIe operational speed:
 - up to Gen 2, VITA 42 connector
 - up to Gen 3, VITA 61 connector
- supports Root Complex operation
- supports IPMI Interface

Gigabit Ethernet Interfaces

- 2 x Gigabit Ethernet interfaces via Pn6
- factory build option for 2 x 1000BASE-BX ports
- alternative factory build option for 2 x 10/100/1000 Mbps Ethernet ports:
 - 10BASE-T, 100BASE-TX, 1000BASE-T
 - optional on-board magnetics
- support for IEEE 1588 precision clock
- implemented by two Intel® Ethernet Controller I210 devices via x1 PCIe ports

Mass Storage Interfaces

- 2 x SATA300 interfaces via XMC Pn6 connector
- 64 Gbytes soldered Micro SSD

Serial Interfaces

- 3 x RS232 serial ports:
 - port 1 supports Tx, Rx, RTS, CTS, DSR, DCD, DTR, RI via Pn6
 - port 2 supports Tx, Rx, RTS, CTS, DSR, DCD, DTR, via front panel
 - port 3 supports Tx, Rx, RTS, CTS via Pn6
- 16550 compatible UARTs

Graphics Interface

- DisplayPort™ interface:
 - 4096 x 2034 @ 60Hz
- accessible via Pn6
- support for Microsoft® DirectX 11.1 on Windows®
- support for OpenGL 4.4 on Microsoft® Windows® and Linux®

Other Peripheral Interfaces

- watchdog timer, 1 x 32-bit Long Duration Timer
- PC Real-Time Clock (no on-board battery):
 - VBAT can be supplied via Pn6
- 4 x USB ports via Pn6:
 - 1 x USB 3.0 port
 - 3 x USB 2.0 ports
- 1 x USB 3.0/2.0 port via front panel
- 8 x GPIO signals via Pn6:
 - processor interrupt capability

Flash EPROM

- dual 16 Mbytes of BIOS Flash EEPROM

Board Security Features

- option for Trusted Platform Module (TPM 2.0)
- option for Sanitization Utility Software Package

Firmware Support

- UEFI 2.4 boot firmware (BIOS) :
 - UEFI 2.4 support
 - includes Compatibility Support Module
 - implements Secure Boot
- LAN boot firmware included

Software Support

- support for Linux®, Windows® and VxWorks®

Optional Built-In Test (BIT) Support

- Power-on BIT (PBIT), Initiated BIT (IBIT), Continuous BIT (CBIT)

Electrical Specification

- typical current figure (1.9 GHz, 8 Gbytes DRAM):
 - +5V @ 4.0A
- +5V VPWR, voltage +5% / -5%
- +12V VPWR is not supported
- supports board power management, under software control

Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

Environmental Specification

- operating temperatures:
 - 0°C to +55°C (N-Series)
 - -25°C to +70°C (E-Series)
 - -40°C to +75°C (K-Series)
- non-operating temperature: -40°C to +85°C
- 5% to 95% relative humidity, non-condensing:
 - K-Series includes humidity sealant

Mechanical Specification

- single-width CMC (Common Mezzanine Card) IEEE 1386 form factor: (74mm x 149mm)
- 10mm height stack module