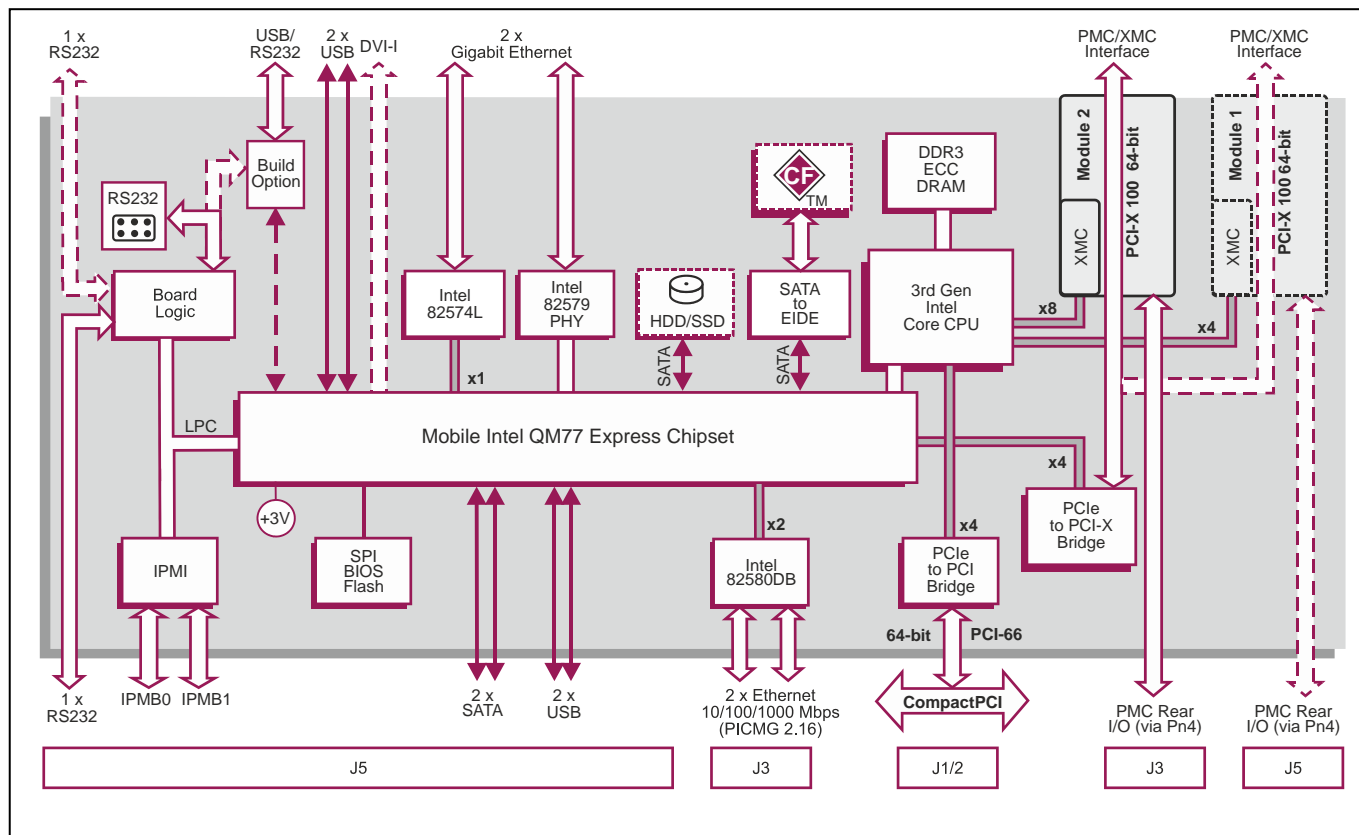
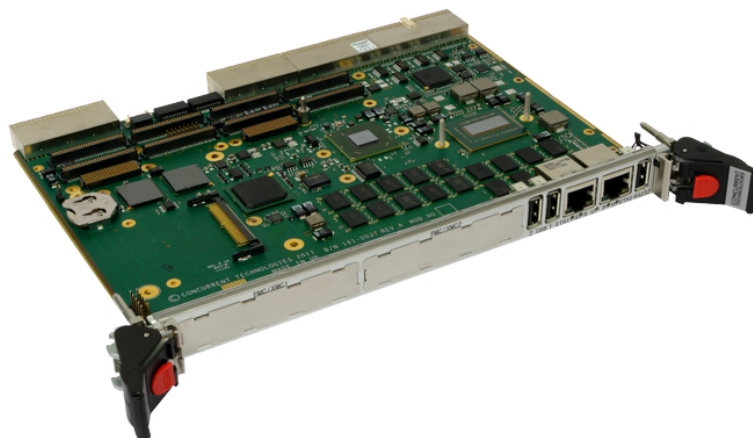


## 3<sup>rd</sup> Generation Intel® Core™ Processor Single/Dual PMC/XMC Carrier

### Key Features

The PP 93x/x1x is a PC-compatible, high performance, high functionality, CompactPCI® board supporting the 3<sup>rd</sup> generation Intel® Core™ processors

- A quad-core processor is available for high performance applications or a dual-core option for lower power consumption
- Features include:
  - up to 4x external SATA interfaces
  - optional on board 2.5-inch drive
  - 16 Gbytes of DRAM
  - Single or dual PMC/XMC site with front and rear I/O
- Support for Linux®, Windows® and VxWorks®
- Suitable for a range of applications:
  - industrial control, telecommunications, telemetry, scientific and aerospace industries



## Central Processor

- 3<sup>rd</sup> Generation Intel® Core™ processors:
  - 4-core 2.1 GHz Intel® Core™ i7-3612QE processor
  - 2-core 2.5 GHz Intel® Core™ i7-3555LE processor
  - 2-core 1.7 GHz Intel® Core™ i7-3517UE processor
  - up to 6 Mbytes Last-Level Cache
- utilizes Mobile Intel® QM77 Express Chipset

## DRAM

- up to 16 Gbytes DDR3-1600 ECC DRAM:
  - single bit error correction
  - peak bandwidth of 25 Gbytes/s
  - dual channel architecture
- accessible from processor or CompactPCI® bus

## Mass Storage Interfaces

- 2 x SATA300 ports via J5
- optional on-board 2.5-inch SATA600 mass storage drive :
  - uses PMC/XMC site 1
- support for on-board CompactFlash™ socket

## Ethernet Interfaces

- 2 x Gigabit Ethernet interfaces via front panel RJ45 connectors
- 2 x Gigabit Ethernet interfaces via J5 build option configured to support either:
  - dual Gigabit Packet Switching Backplane (PICMG 2.16)
  - or dual Ethernet via Rear Transition Module

## PMC/XMC Interfaces

- build option for 1 or 2 PMC/XMC sites:
  - front panel I/O
  - Pn4 rear I/O via J3 or via J3 and J5
- PMC interface(s) support:
  - 32/64-bit, 33/66MHz PCI bus
  - 64-bit PCI-X bus up to 100MHz
  - 5V and 3.3V signaling
- XMC interface(s) support:
  - x4 and x8 PCI Express® (Gen 1 and Gen 2)
  - XMC sites powered from 5V supply

## Serial Interfaces

- up to 3 x serial interfaces
- build option for 1 x RS232 interface via front panel USB 2.0 Type A connector:
  - support for Tx/D, Rx/D
  - USB Type A to DB9 cable supplied
  - also available via on-board header supporting Tx/D, Rx/D, CTS, RTS, DTR, DSR, DCD, RI
- build option for 1 x RS232 interface via front panel DB9 connector (uses PMC/XMC site 1):
  - supporting Tx/D, Rx/D, CTS, RTS, DTR, DSR, DCD, RI
- 1 x RS232 interface via J5 :
  - supporting Tx/D, Rx/D, CTS, RTS, DTR, DSR, DCD, RI
- 16550 compatible UARTs

## Graphics Interfaces

- build option for DVI-I via front panel DVI-I connector (uses PMC/XMC site 1):
  - digital, up to 1600 x 1200, 16M colors
  - analog, up to 2048 x 1536, 16M colors
- support for Microsoft® DirectX 10
- support for OpenGL 2.0, Windows and Linux

## Other Peripheral Interfaces

- up to 5 x USB 2.0 ports:
  - 2 x USB ports accessed via J5
  - up to 3 x USB ports accessed via front panel
- PC Real Time Clock
- long duration timer; watchdog timer

## Software Support

- supports Linux®, Windows® 7 and VxWorks®

## Firmware Support

- Insyde Software InsydeH20™ BIOS:
  - includes Compatibility Support Module
- based upon Intel® Platform Innovation Framework for EFI
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included

## SPI Flash EPROM

- 8 Mbytes of BIOS SPI Flash EPROM

## IPMI

- PICMG 2.9 R1.0 (System Management Specification):
  - implements the IPMB0 and IPMB1 interfaces
- on-board Baseboard Management Controller
- monitors CPU temperature and voltages
- supports 8 Kbytes of non-volatile memory

## CompactPCI Interface

- universal signaling support, compliant with PICMG® 2.0 R3.0; 3.3V or 5V signaling levels
- 33/66 MHz; 32-bit interface accessed via J1/J2:
  - includes support for DMA
- operates as a System Slot controller (supporting up to 7 peripheral slots) or operates in a Peripheral Slot
- PICMG 2.1 R2.0 Hot Swap Compliant
- option to disable CompactPCI® interface (Satellite Mode):
  - receives power from CompactPCI® bus
  - board can be hot swapped

## Safety

- PCB (PWB) manufactured with flammability rating of UL 94V-0

## Electrical Specification

- typical current figures with 2.1 GHz 4-Core i7-3612QE CPU, 8 GBytes DRAM:
  - +5V @ 6.0A
  - +3.3V @ 5.0A
- +5V and +3.3V voltages are tolerant to +5%/-3%
- +12V and -12V not required but routed to PMC/XMC sites

## Environmental Specification

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

## Mechanical Specification

- 6U form-factor:
  - 9.2 inches x 6.3 inches (233mm x 160mm)
- single slot:
  - 0.8 inches (20.3mm)
- connectors: IEC-1076-4-101 for J1-J5
- operating shock: 20g, 11ms, ½ sine
- operating vibration:
  - 5Hz-2000Hz at 2g, 0.38mm peak displacement

## I/O Compatible with PP 83x/x9x

- rear I/O compatible with the popular PP 83x/x9x family

## I/O Compatible with PP 432/05x

- rear I/O compatible with the popular PP 432/05x family (note that the LPC interface to the RTM is not supported)