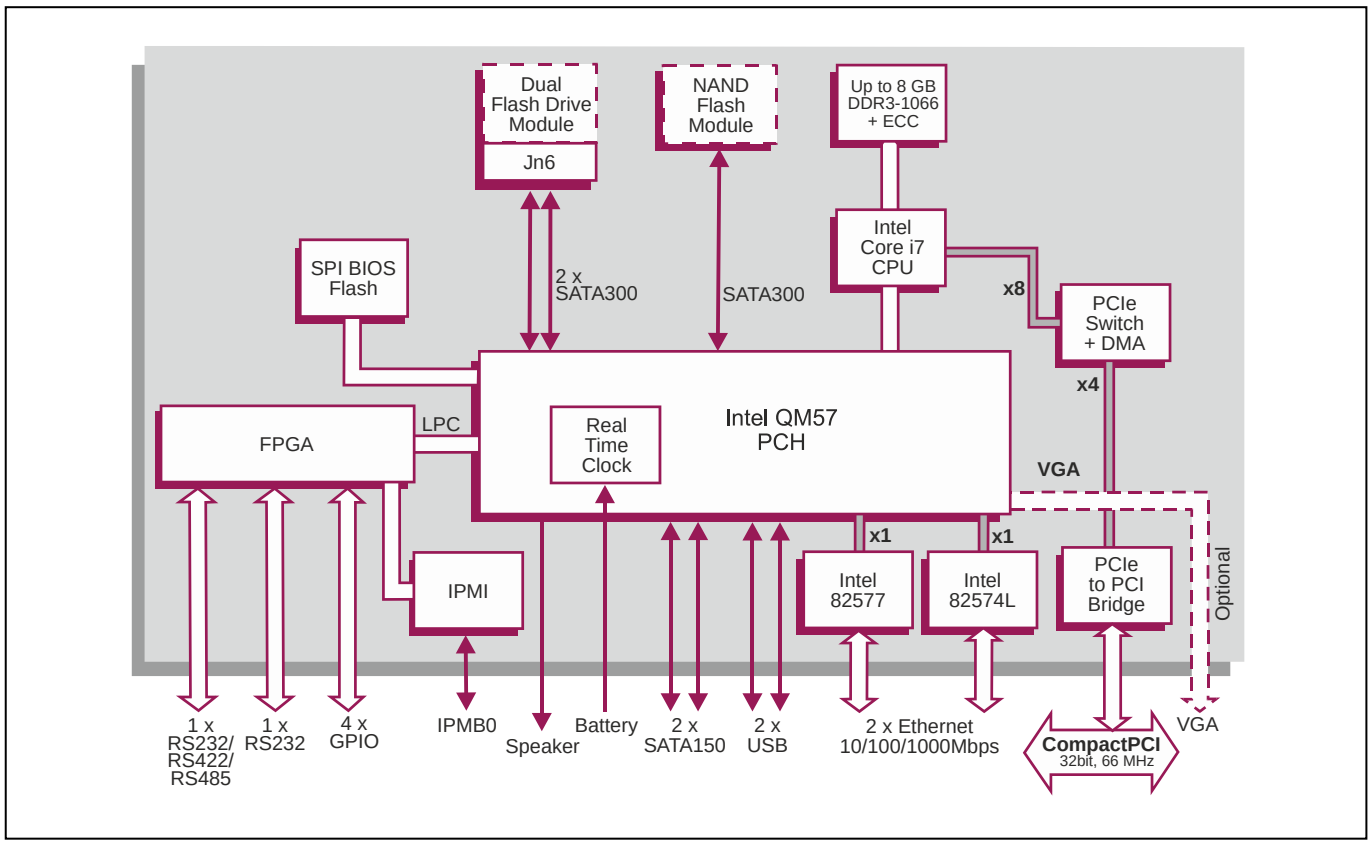
3U CompactPCI® board based on Intel® Core™ i7 Processor

Key Features

TP 702/38x is a high functionality 3U CompactPCI® board based on an Intel® Core™ i7 processor.

- Dual-core processor options for higher performance or lower power consumption
- Options for on-board solid state storage providing reliable operation
- Extended temperature and rugged conduction-cooled variants available
- Board Support Packages available for a number of standard Operating Systems



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Specification

CompactPCI Computing Board
- 3U CompactPCI® board utilizing Intel® Core™ i7 processor
- for rugged versions, see separate datasheets:
  - → rear plug compatible
  - → conduction-cooled: TP 702/38x-RC
  - → air-cooled: TP 702/38x-RA

Central Processor
- 2.53 GHz Intel® Core™ i7-610E processor, 2.0 GHz Intel® Core™ i7-620LE processor or 1.33 GHz Intel® Core™ i7-660UE processor
- common processor features are:
  - → dual-core processor
  - → 4 Mbytes shared last level cache
  - → Intel® Hyper-Threading Technology
  - → Intel® 64 Technology (64-bit computing)
  - → Intel® Turbo Boost technology
- processor to DRAM memory, bus speed:
  - → 610E - 1066MHz; 620LE - 1066MHz; 660UE - 800MHz
- Intel Turbo Boost technology allows faster graphics engine speed depending on the CPU loading
- utilizes Intel® Platform Controller Hub (PCH):
  - → Mobile Intel® QM57 Express chipset

DRAM
- up to 8 Gbytes DDR3-1066 ECC SDRAM:
  - → up to 8 Gbytes soldered on-board
  - → single bit error correction
  - → dual channel architecture
- accessible from processor or CompactPCI® bus

Mass Storage Interfaces
- 2 x SATA150 channels accessible via J2
- 1 x SATA300 channel routed to an optional 4 Gbytes NAND Flash Drive Module:
  - → Flash drive write protect signal from backplane
- 2 x SATA300 channels to optional Dual Flash Drive Module:
  - → one or two Flash Drives
  - → uses XMC connectors (see Note 1)
  - → Flash drive write protect switch on module

Ethernet Interfaces
- 2 x channels supporting:
  - → 10BASE-T, 100BASE-TX, 1000BASE-T
  - → implemented by an Intel® 82577 and an Intel® 82574L, via 2 x1 PCI Express® ports
  - → both channels accessed via J2

Graphics Interface
- optional analog graphics accessed via J2:
  - → integrated chipset graphics controller
- resolutions up to 1920 x 1200 @ 16M colors
- support for OpenGL 2.0, Windows® and Linux®

Serial Interfaces
- 2 serial interfaces accessible via J2
- 1 x RS-232 interface supporting Tx and Rx
- 1 x RS-232 interface supporting Tx, Rx, RI, CTS, RTS, DSR, DTR and DCD
  or 1 x RS-422/RS-485 supporting Tx and Rx
- 16550 compatible UARTs

Flash EPROM
- 8 Mbytes of BIOS Flash EPROM

Firmware Support
- UEFI-compliant BIOS with legacy mode support
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included

Software Support
- support for Linux®, Windows®, QNX®, Solaris® and VxWorks®

Optional Built-In Test (BIT) Support
- Power-on BIT (PBIT)
- Initiated BIT (IBIT)
- Continuous BIT (CBIT)

Other Peripheral Interfaces
- PC-compatible Real Time Clock
- long duration timer and watchdog timer
- option for legacy speaker interface via J2
- 2 x USB 2.0 interfaces, both accessed via J2
- external battery supply for RTC and BIOS data
- 4 x GPIO signals via J2
- CPU temperature monitor; voltages monitor; all accessible via IPMI

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
- PCI Express link from processor via PCIe-PCI bridge for off-board accesses:
  - → DMA hardware support included
- operates as a System Slot controller (supporting up to 7 peripheral slots) or operates in a Peripheral Slot:
  - → supports hot-swapping peripheral boards
  - → PICMG 2.1 R2.0 Hot Swap Specification
- option to disable CompactPCI® interface (Satellite Mode):
  - → receives power from CompactPCI bus
  - → board can be hot swapped

IPMI
- PICMG 2.9 R1.0 (System Management Spec.):
  - → implements the IPMB0 interface
- on-board Baseboard Management Controller
- supports 8 Kbytes of non-volatile memory

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

Electrical Specification
- +5V @ 3.1A (typical 2.0 GHz with 4 Gbytes DRAM)
- +3.3V @ 5.1A
- voltages +5%/-3%
- +12V and -12V not required

Environmental Specification
- operating temperatures:
  - → 0°C to +55°C (N-Series)
  - → -25°C to +70°C (E-Series: 2.0 GHz or 1.33 GHz)
  - → -40°C to +85°C (K-Series: 1.33 GHz)
- non-operating temperature: -40°C to +85°C
- 5% to 95% Relative Humidity, non condensing:
  - → K-Series includes humidity sealant

Mechanical Specification
- 3U form-factor:
  3.9-inches x 6.3-inches (100mm x 160mm)
- single slot
- connectors: IEC-1076-4-101 for J1-J2
- shock: 20g, 11ms, ½ sine
- vibration: 5Hz-2000Hz at 2g, 0.38mm peak displacement

I/O Compatible with the TP 402/35x
- rear I/O compatible with the legacy TP 402/35x

Note 1: The XMC connectors are provided for the Dual Flash Drive Module only. The CPU heatsink for air-cooled boards can not support an XMC module. The conduction-cooled board (RC-Series) can support an optional XMC module (see TP 702/38x-RC datasheet)

Please contact your local Concurrent Technologies sales office for further details on board build options and accessories.

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