PICMG 1.3

The PICMG 1.3 allows users to protect their investment in PCI technology while taking advantage of the speed and increased bandwidth of PCI Express

■ What is PICMG 1.3 ?

- **Bringing PCI Express to your SBC with increased speed and bandwidth**
  PICMG 1.3 is designed to interface with PCI Express peripherals on a backplane. The PCI Express interconnects with the backplane and can operate at x1, x4, x8, x16, and more, depending on the capabilities of both the SHB and the backplane.
- **Support PCI on board with flexibility**
  The optional PCI portion of the SHB interconnected with the backplane allows for 32-bit operation. The clock rate can be 33 MHz, 66 MHz, 100 MHz, and 133 MHz, depending on how the backplane and SHB are designed.
- **Miscellaneous IO**
  SATA, USB, IPMB, SMBus, Geographic Addressing, and PCI Wake Up to the backplane are specified, simplifying the cabling on SHB for the system.

■ PICMG 1.3 Key Features

- **PCI Express**
  20 PCI Express lanes are supported, including PCI Express x16, x4 and x1 configurations
- **ATX power signals are supported**
  Provides AUX voltages for standby power and sleep states (soft starts, wake on LAN), supports PSON#, PWRGD, PWRRBT# and ACPI states

■ Why PICMG 1.3?

- This new technology is expected to allow PCIe transmission rates to keep pace with processor and I/O advances for the next 10 years or more.
- Same basic mechanical dimensions are maintained to minimize chassis redesign expense
- Better host board power management and simplified I/O cabling
- Supports PCI Express and PCI option cards without driver changing
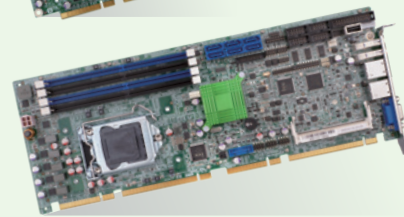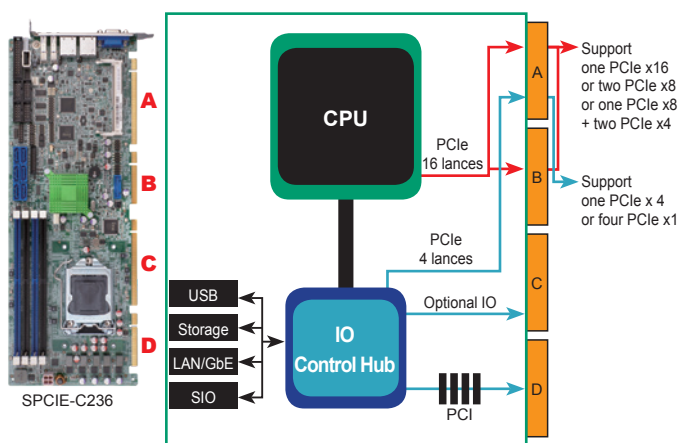
The future will be….

Faster CPU

Faster chipsets & system busses
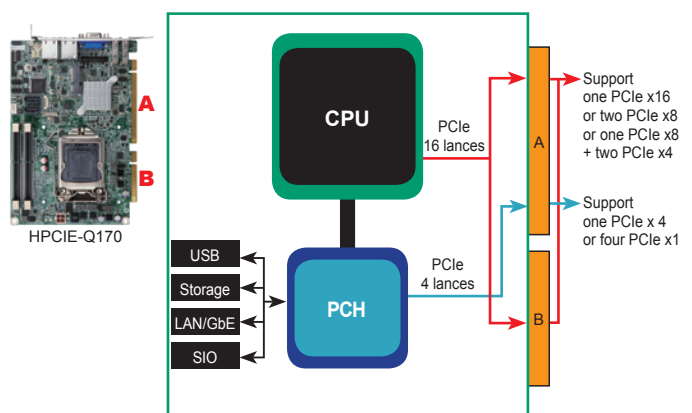
Chipsets are migrating toward PCI Express

Graphic & Server Grade PICMG 1.3 Solutions

■ Full-size PICMG 1.3 Solutions

CPU

PCIe 16 lances

Support one PCIe x16 or two PCIe x8 or one PCIe x8 + two PCIe x4

Support one PCIe x 4 or four PCIe x1

PCIe 4 lances

Optional IO

USB
Storage
LAN/GbE
SIO

IO Control Hub

PCI

SPCIE-C236

■ Half-size PICMG 1.3 Solutions

CPU

PCIe 16 lances

Support one PCIe x16 or two PCIe x8 or one PCIe x8 + two PCIe x4

Support one PCIe x 4 or four PCIe x1

PCIe 4 lances

USB
Storage
LAN/GbE
SIO

PCH

HPCIE-Q170

Full-Size PICMG 1.3 PCIe Slot Configuration

Full-size SBC Type			Server & Graphic Grade		Server Grade			
Combination			A	B	C	D	E	F
PCIe Slots Available (Non-switch)	CPU or NB	x16	1	1	-	-	-	-
		x8	-	-	2	2	1	1
		x4	-	-	-	-	2	2
	PCH or SB	x4	-	1	-	1	-	1
		x1	4	-	4	-	4	-
Backplane Solution			IEI PE/PXE series		IEI SPE/SPXE series			

Half-Size PICMG 1.3 PCIe Slot Configuration

Half-size SBC Type			Any Type		High Performance			
Combination			A	B	C	D	E	F
PCIe Slots Available (Non-switch)	CPU	x16	1	1	-	-	-	-
		x8	-	-	2	2	1	1
		x4	-	-	-	-	2	2
	PCH	x4	-	1	-	1	-	1
		x1	4	-	4	-	4	-

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