FEATURE COMPARISON: PI7C8154B vs. PLX PCI6154B

Features:

Feature	Pericom PI7C8154B	PLX PCI6154
Interfaces		
▪ Complies with the following specifications:		
PCI Local Bus Specification	Revision 2.2	Revision 2.3
▪ 3.3V and 5V signaling environments	yes	no (3.3V w/5V tolerance)
▪ Concurrent primary and secondary bus operations	yes	yes
Memory Buffer Architecture		
▪ *Dynamic Prefetching Control*	yes	no
▪ Upstream posted write buffer	512 bytes	256 bytes
▪ Downstream posted write buffer	512 bytes	256 bytes
▪ Upstream read data buffer	1024 bytes	256 bytes
▪ Downstream read data buffer	1024 bytes	256 bytes
Bus Arbitration		
▪ Programmable internal arbiter for the secondary bus with support for up to 9 external masters	yes	yes
▪ Disable control for use of an external arbiter	yes	yes
IEEE 1149.1 JTAG port		
▪ Available boundary scan testing	yes	yes
Compact PCI Hot Swap		
▪ Hot Swap Friendly Support	no	no
Other Features		
▪ Serial EEPROM support	yes	yes
▪ 80MHz operation on secondary bus	yes	no
▪ Asynchronous mode operation support	yes	yes
Packaging		
▪ 304-pin PBGA	yes	yes
▪ Extended commercial temp range: 0°C to 85°C	yes	no (0°C to 70°C)

Pin differences (304-pin PBGA):

pin number	Pericom PI7C8154B	PLX PCI6154
D11	PMEENA#	VDD

Register differences:

	Pericom PI7C8154B	PLX PCI6154
Vendor ID	12D8h	3388h
Device ID	8154h	0020h

PERFORMANCE COMPARISON: PI7C8154B vs. PLX PCI6154

The performance data was measured using an in-house evaluation board slotted into an off-the-shelf motherboard. Fast Ethernet (100Mbit LAN) Cards reside in each of the 4 PCI slots on the secondary bus of the evaluation board. In each comparison, the hardware and software remain constant. The only item changed is the bridge on the evaluation board. Two different sets of hardware were used, and the description of each fixture is listed. In each test setup, a PCI exerciser program is used to generate traffic or write packets from the PCI Fast Ethernet card to memory and then read back from memory to the PCI Fast Ethernet card.

TEST CASE 1

Motherboard:	Tyan S2460
Chipset:	AMD-760 MP
Processor:	AMD Athlon 1.8GHz
Memory:	512MB PC266 DDR SDRAM
Video:	Radeon 7000 AGP Video
Other PCI Devices:	NA

A Fast Ethernet card running full duplex is slotted in each of the 4 PCI slots on the evaluation board.

Results: Transfer rate measured in Megabits per second

Card Number	Pericom PI7C8154B	PLX PCI6154
LAN Card 1	99 Mb/s	70 Mb/s
LAN Card 2	99 Mb/s	28 Mb/s
LAN Card 3	99 Mb/s	77 Mb/s
LAN Card 4	99 Mb/s	76 Mb/s

TEST CASE 2

Motherboard:	Tyan S2721
Chipset:	Intel E7501
Processor:	Intel Xeon 1.8GHz with 533/400MHz Front Side Bus
Memory:	512MB PC266 DDR SDRAM
Video:	Integrated ATI Rage XL Graphics Controller
Other PCI Devices:	NA

A Fast Ethernet card running full duplex is slotted in each of the 4 PCI slots on the evaluation board.

Results: Transfer rate measured in Megabits per second

Card Number	Pericom PI7C8154B	PLX PCI6154
LAN Card 1	28 Mb/s	37 Mb/s
LAN Card 2	49 Mb/s	33 Mb/s
LAN Card 3	48 Mb/s	32 Mb/s
LAN Card 4	46 Mb/s	15 Mb/s

TEST CASE 3

Motherboard:	Super Micro P4DPE-G2
Chipset:	Intel E7500
Processor:	Intel Xeon 1.8GHz with 400MHz Front Side Bus
Memory:	512MB PC266 DDR SDRAM
Video:	Integrated ATI Rage XL Graphics Controller
Other PCI Devices:	NA

A Fast Ethernet card running full duplex is slotted in each of the 4 PCI slots on the evaluation board.

Results: Transfer rate measured in Megabits per second

Card Number	**Pericom PI7C8154B**	**PLX PCI6154**
LAN Card 1	99 Mb/s	96 Mb/s
LAN Card 2	99 Mb/s	50 Mb/s
LAN Card 3	99 Mb/s	98 Mb/s
LAN Card 4	99 Mb/s	56Mb/s

TEST CASE 4

Motherboard:	ASUS P4G8X
Chipset:	Intel E7205
Processor:	Intel Pentium 4 1.8GHz with 533/400MHz Front Side Bus
Memory:	256MB PC2100 DDR
Video:	Radeon 7000 AGP Video
Other PCI Devices:	NA

A Fast Ethernet card running full duplex is slotted in each of the 4 PCI slots on the evaluation board.

Results: Transfer rate measured in Megabits per second

Card Number	**PI7C8154B**	**PLX PCI6154**
LAN Card 1	97 Mb/s	80 Mb/s
LAN Card 2	90 Mb/s	58 Mb/s
LAN Card 3	98 Mb/s	89 Mb/s
LAN Card 4	98 Mb/s	83 Mb/s