FEATURE COMPARISON: PI7C8148B vs. PLX PCI6152

Features:

Feature	Pericom PI7C8148B	PLX PCI6152
Interfaces		
▪ Complies with the following specifications:		
PCI Local Bus Specification	Revision 2.2	Revision 2.1
PCI-to-PCI Bridge Architecture Specification	Revision 1.1	Revision 1.1
▪ 3.3V and 5V signaling environments	yes	no (3.3V w/5V tolerance)
▪ 66MHz capable	yes	yes
▪ Asynchronous Mode support	yes	no
▪ Concurrent primary and secondary bus operations	yes	yes
Memory Buffer Architecture		
▪ *Dynamic Prefetching Control*	yes	no
Bus Arbitration		
▪ Programmable internal arbiter for the secondary bus with support for up to 4 external masters	yes	yes
IEEE 1149.1 JTAG port		
▪ Available boundary scan testing	no	no
Compact PCI Hot Swap		
▪ Hot Swap Friendly Support	yes	yes
Packaging		
▪ 160-pin PBGA	yes	yes
▪ Extended commercial temp range: 0°C to 85°C	yes	no (0°C to 70°C)

Pin differences (160-pin PBGA):

pin number	Pericom PI7C8148B	PLX PCI6152
N7	SCAN_EN	NAND_O
P7	SCAN_TM#	GOZ_L

SCAN_TM# (P7) should be pulled HIGH for normal operation (same as the PLX solution).
SCAN_EN (N7) becomes an output when SCAN_TM# is pulled HIGH.

Register differences:

	Pericom PI7C8148B	PLX PCI6152
Vendor ID	12D8h	3388h
Device ID	8140h	0021h

PERFORMANCE COMPARISON: PI7C8148B vs. PLX PCI6152

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:	SuperMicro P3TDLE
Chipset:	ServerWorks ServerSet III LE
Processor:	Intel PIII 800
Memory:	512MB
Video:	S3 TrioV64/DX
Other PCI Devices:	No other PCI devices active

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 PI7C8148B**	**PLX PCI6152**
LAN Card 1	42.61 – 46.99 Mb/s	19.84 – 22.07 Mb/s
LAN Card 2	84.33 – 89.14 Mb/s	66.17 – 70.66 Mb/s
LAN Card 3	46.19 – 48.12 Mb/s	18.70 – 22.14 Mb/s
LAN Card 4	84.81 – 89.01 Mb/s	67.14 – 70.40 Mb/s

TEST CASE 2

Motherboard:	MSI GNB Max
Chipset:	Intel E7205
Processor:	Intel P4 2.4GHz
Memory:	256MB
Video:	nVidia GeForce 2 MX-400
Other PCI Devices:	No other PCI devices active

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 PI7C8148B**	**PLX PCI6152**
LAN Card 1	27.16 – 31.30 Mb/s	21.50 – 28.55 Mb/s
LAN Card 2	26.70 – 32.78 Mb/s	23.02 – 28.29 Mb/s
LAN Card 3	27.54 – 32.18 Mb/s	22.05 – 27.61 Mb/s
LAN Card 4	27.63 – 32.13 Mb/s	23.09 – 27.05 Mb/s