

GigMAC PMC Model 5164

COMPACT PCI SERIES - HIGH PERFORMANCE GIGABIT ETHERNET PMC CONTROLLER CARD

Features

- 484 Mbytes/sec (1.94 Gb) sustained raw throughput (64/66 PCI)
- 118 Mbytes/sec (944 Mb) sustained raw throughput (32/33 PCI)
- Up to 1,000,000 frames per second max transfer rate
- IEEE 1386 64-Bit Compact PCI PMC Mezzanine Card
- High performance PCI compliant bus-master DMA engine design
- Available with OEM Developer Kit CD

Driver Support For

- VxWorks, Tornado II
- Windows 2000, Windows XP Embedded
- Linux kernel versions 2.2 and 2.4 including Embedded Linux

Partners



Embedded Applications

- Digital Video
- Internet Voice, VoIP
- Media and protocol gateways
- Switches and Edge Routers
- Internet Security and Monitoring
- Servers and Data Centers
- MPEG encoders/decoders, streaming media



Gigabit Performance

Product Description

DSS Network's GigMAC PMC Model 5164 is a high performance Gigabit Ethernet controller for embedded applications in broadband telecommunications and data communications networks. It provides four fully independent 1000 Base-T copper connections over CAT5 cabling and is fully IEEE 802.3 compliant.

Its Compact PCI Mezzanine card design makes it a drop-in daughter card solution providing four Gigabit Ethernet network interfaces per PMC slot. Using mezzanine cards provide an attractive, reliable and space saving solution yielding maximum performance and flexibility.

The GigMAC PMC Model 5164 uses an advanced 4th generation, high-performance, low power Gigabit Ethernet chip from Intel. It has a 64-bit, 66 MHz PCI bus interface and is capable of full speed bus-master DMA operations utilizing maximum PCI bandwidth. It typically operates in full-duplex mode, transferring frames at wire speed. Combined with our high-performance device drivers, it is capable of providing a total sustained throughput of 484 megabytes per second. As a PCI bus master, it operates on buffer descriptor lists, transferring Ethernet frames to and from main memory with low CPU management overhead. This mechanism yields maximum throughput while minimizing utilization of the host CPU.

Advanced features including TCP/UDP/IP checksum offload, jumbo frame support, priority queuing, VLAN support and bus-master descriptor list processing are imple-



GigMAC PMC Quad Port Gigabit Ethernet Controller

mented in silicon. These features coupled with advanced packet filtering and a powerful PCI DMA bus engine provide optimal performance while offloading the host processor.

DSS Networks is a direct manufacturer of Gigabit Ethernet solutions and we also develop our own high-performance device drivers for VxWorks, Linux and Windows XP Embedded. We have formed strategic partnerships with leading companies of Semiconductors and Embedded Systems technology so that we are able to provide robust, highly integrated solutions backed by industry-proven technology. We provide excellent customer service and technical support to our customers to help ensure your project using Gigabit Ethernet is a success.

The GigMAC PMC quad port controller is an ideal solution for today's converged, bandwidth intensive, multi-protocol data and telecommunication networks. Applications include Switches, Edge Routers, Media Gateways, Broadcast Digital Audio and Video, Streaming Media, Internet Voice, Broadband Transmission, Network Monitoring, Network Security Servers and Digital Imaging Products.

The GigMAC PMC Model 5164 is available with an OEM developer kit CD containing VxWorks and Linux sample code, utilities, release notes, user manuals, integration guide and datasheets.

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COMPACT PCI SERIES - HIGH PERFORMANCE GIGABIT ETHERNET PMC CONTROLLER CARD



**GigMAC PMC Quad Port
Gigabit Ethernet Controller**

Specifications

- IEEE 1386 64-Bit PCI Mezzanine Card, Quad-port
- Supports 10/100/1000 Base T Auto Negotiation
- Fully compliant to IEEE 802.3 and 803.ab Copper Specifications
- PCI Rev 2.2 Compliant
- 33/66 MHz 32/64 PCI Bus Interface
- Low Power, 7W @ 3.3V in Gigabit Mode on all ports
- High-performance Bus-Master Design
- Extended status and statistics
- Direct Connect to onboard CAT5 RJ45 ports
- Quad bi-color LEDs
- FCC Class 15; Part B, EN5502 (pending)
- Supports 5V/3.3V bus power, 5V/3.3V PCI signals

Features, Configuration, Management and Performance

- High-performance PCI bus master DMA engine
- Efficient buffer descriptor list design
- DMA directly to/from host buffers, no buffer copies
- 484 Megabytes/sec sustained throughput
- Up to 1,000,000 frames per second transfer rate
- Support for jumbo frames up to 16KB
- Supports interrupt coalescing (programmed latency)
- Supports priority queuing and VLAN tagging
- Advanced packet filtering options
- 4096 entry multicast hash table
- 16-entry destination or source address filtering
- Support for VLAN filtering and tagging
- TCP/UDP/IP checksum offload support
- Provides extended status, SNMP and RMON statistics
- Simultaneous operation on all four ports

Communications Hardware

- Intel i82546 10/100/1000 dual-port PCI-X controllers (2X)
- Intel FW21154BE 64/66 PCI-PCI Bridge
- Integrated on-chip gigabit transceivers
- Large internal FIFOs, 64KB transmit, 64KB receive
- Advanced APM & ACPI power management features
- Internal 128-bit architecture
- Powerful PCI bus-master DMA engine
- Big or little endian support
- Fast back-to-back and PCI burst modes
- Low power, 1.5 and 2.5V design
- Highly integrated, low chip count
- 2-LEDS per port using bi-color LEDs
- 14 programmable LED output options

Software Driver Support

- Tornado 2.0, 2.2, VxWorks 5.4, 5.5
- Linux versions 2.2 and 2.4, Embedded Linux
- MontaVista Embedded Linux
- Multiple Card Support
- Statistics and Status Interfaces



DSS Networks
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