

GigMAC PCI Model 6161/6167

LOW-PROFILE SERIES -- HIGH PERFORMANCE GIGABIT ETHERNET PCI CARD

Features

- 245MB/sec (1.96 Gb) sustained raw throughput (64/66 PCI)
- High performance PCI bus-master DMA engine design
- Over 850,000 frames per second transfer rate per port
- Support for 1000 base SX/LX fiber and 1000 Base-T copper interfaces

Driver Support for

- Tornado 2.2 / VxWorks 5.5
- Windows 2000, Windows XP Embedded
- Linux and Embedded Linux (kernel versions 2.4.xx)



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Partners



Embedded Applications

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



Gigabit Performance

Product Description

DSS Networks GigMAC series of low-profile PCI controllers are high-performance Gigabit Ethernet network controller cards targeted for embedded data and telecommunications applications. These controllers support high-speed network connection options, operate over multimode fiber, single mode fiber or CAT5 cabling and are fully IEEE 802.3 compliant. Based on a 4th generation, high-performance low-power chipset, these cards offer maximum flexibility, speed and integration and feature a Broadcom ultra low power transceiver supporting advanced features including dual media. They are available in two models -- the model 6167 for 1000 base SX/LX over fiber and the model 6161 for 1000 Base T over copper.

These controller cards are designed for embedded applications and their low-profile PCI form factor design makes them suitable for embedded and rack-mount enclosures. The dimensions are 2.5 by 6.6 inches allowing fit in both 1U and 2U chassis' and other enclosures used in rackmount and embedded appliances.

The GigMAC PCI controller normally operates in full-duplex mode, transmitting and receiving Ethernet frames at wire speed. Combined with our high-performance device drivers, it is capable of providing a total sustained throughput of 245 Megabytes per second. As a bus-master, it operates on buffer descriptor lists, trans-

ferring Ethernet frames to and from memory without CPU intervention. This approach yields maximum performance while minimizing CPU utilization.

Advanced features include TCP/IP checksum generation and checking, VLAN tagging, priority queuing, deep-packet filtering and buffer descriptor list processing are implemented in silicon to boost performance while offloading the host processor.

DSS Networks is a direct manufacturer and we also supply our own high-performance device drivers for VxWorks, Linux and Embedded Windows. We have formed partnerships with leading companies of Semiconductors and Embedded Operating Systems so that we are able to provide robust, highly integrated solutions backed by industry proven technology.

The GigMAC PCI controller is an ideal solution for today's converged high-bandwidth network infrastructure and is Embedded RTOS ready. Applications include Network Appliances, Network Attached Storage, Storage Area Networks, Digital Video, Streaming Media, Internet Voice, Switches, Routers, Gateways, Network Security Servers, Test Equipment, and Digital Imaging Products.

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GigMAC PCI Model 6161

Specifications

- 64-Bit PCI "low-profile" card, 2.5 X 6.6
- Supports auto negotiation (1000 base T, 1000 base X)
- Fully compliant to IEEE 802.3 fiber and copper specifications
- 1000 Base T, 1000 Base SX and 1000 Base LX compliant
- PCI Rev 2.2 Compliant
- Supports both 5V/3.3V PCI bus power and signaling
- 33/66 MHZ 32/64 PCI Bus Interface
- Low Power, 3W @ 3.3V in Gigabit Mode
- High-performance bus-master DMA engine design
- Supports jumbo frames to 9K
- Extended status and statistics
- Direct Connect to onboard CAT5 RJ45
- FCC Class 15; Part B, EN55022, EN50082 (Pending)
- VxWorks, Linux and Windows Driver Support

System Configuration and Performance

- High-Performance Bus-Master Design
- DMA directly to/from Host Buffers
- 245/MB (1.96 Gb) sustained raw throughput using 64/66 PCI
- Supports programmed interrupt latency
- Supports VLAN tagging and priority queuing
- Advanced "deep-packet" Filtering
- TCP/UDP/IP checksum offload support
- On chip 2048-entry unicast and multicast hash filtering
- Buffer descriptor bursting and caching

Communications Hardware

- Broadcom BCM5421S copper/fiber transceiver
- National Semiconductor DP83820 Media Access Controller (MAC)
- Large Internal FIFOs, 32KB receive, 8KB Transmit
- Big or Little Endian
- Fast back-to-back and Burst Mode
- 6 LEDs - 100, 1000, TX, RX, Duplex and Link Quality
- PCI 2.2 Compliant
- Ultra low power, 1.2 and 2.5 volt design
- Highly integrated, low chip count
- Standard 850nm multimode LC (1000 base SX)
- Standard CAT5 compliant shielded RJ-45 (1000 base T)
- Optional 850nm multimode SC connector (1000 base SX)
- Optional 1310nm singlemode LC or SC connector (1000 base LX)

Software Driver Support

- Tornado 2.0, 2.2, VxWorks 5.4, 5.5
- Linux kernel version 2.4, Embedded Linux
- Windows XP Embedded, Windows 2000
- Multiple Card Support
- Statistics and Status Interfaces
- RFC 1213, RFC 1398 MIB support
- Portable to other Operating Systems



DSS Networks is a member of the **PICMG** association

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