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BCM5751
PRODUCT Brief

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10/100/1000BASE-T CONTROLLER WITH INTEGRATED TRANSCEIVER

FEATURES

- **Single-chip device for desktop LAN-on-Motherboard (LoM) or network interface card (NIC) applications**
- **Integrated 10/100/1000BASE-T transceiver**
  - 10/100/1000BASE-T triple-speed MAC
  - High-speed RISC core with 24-KB cache
  - SMBus 2.0 controller
  - On-chip voltage regulation
  - Wake-on-LAN power switching circuit
- **PCI Express host interface**
  - 1x lane
  - 4-pin interface
  - Functionality identical to PCI
- **Performance features**
  - TCP, IP, and UDP checksum
  - Microsoft® Large Send Offload
  - Large burst read
  - Interrupt coalescing
- **Robust Wake on LAN (WoL)**
  - Standards-compliant WoL
  - Innovative out-of-box mode WoL
  - Hardware power switching
  - Comprehensive diagnostic and configuration software suite
- **Industry-compliant alerting features**
  - Alert Standard Format (ASF) 2.0 support
  - Secure power-on and power-off
  - Fast hardware authentication (SHA-1, HMAC, MD5)
  - True hardware random number generation
- **Integrated TPM functionality**
  - Secure key management
  - Strong authentication capabilities
  - Platform state verification
- **3.3V I/Os (5V tolerant)**
- **JTAG**

SUMMARY OF BENEFITS

- **Wirespeed performance increases user performance**
  - PCI Express provides wirespeed non-blocking throughput
  - TCP/IP stack offloads significantly reduce utilization of CPU
  - TCP/IP stack offloads significantly increase throughput to enable faster downloads of large files
- **Industry's smallest GbE form factor enables easier motherboard design**
  - Innovative design reduces footprint to 67% smaller than competing solutions
  - 15 x 15-mm package
  - Integrated WoL switching eliminates external power switching components
- **Proven TPM-based security features protect corporate information**
  - Protect valuable data against theft
  - Strong authentication to prevent unauthorized network access
  - Virus protection for VPN users exposed to Internet
- **Secure alerting and power cycling reduces IT costs**
  - ASF 2.0 support for standards-based alerting. IT managers receive automatic alerts when PC support issues occur
  - Remote power-on/off features allow IT managers to power cycle PCs to address issues
  - Hardware-based authentication and random number generation ensures the highest level of security possible
- **Design flexibility allows feature consistency across SKUs**
  - Layout compatible with PCI-based BCM5750, enabling one motherboard layout to support both PCI and PCI Express
  - Single software driver image across PCI and PCI Express platforms

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