1. Features

- **USB Interface**
  - USB2.0 Device
  - Supports 480Mbps High-Speed operation
  - Supports 12Mbps Full-Speed operation
  - Supports suspend mode and remote wake-up resume
  - Supports USB standard commands
  - Supports vendor specific commands
  - Supports 4 endpoints (Control, Interrupt, Bulk_IN, Bulk_OUT)
- **Ethernet**
  - Support IEEE802.3u 100BASE-TX and with IEEE802.3 10BASE-T standards
  - Support IEEE802.3x flow control function for 100BASE-TX and 10BASET.
  - Support IEEE802.3az Energy Efficient Ethernet (EEE)
  - Built-in 10/100Mbps Fast-Ethernet PHY
  - Support HP Auto-MDIX
  - Supports MII / RMII interface
  - Supports Auto-negotiation function
  - Supports Power management: Wake-on-LAN, Network Detach, ARP/NDP Offload
  - Back Pressure Mode for half-duplex mode flow Control
  - PAUSE frame for full-duplex flow control
  - Supports wakeup frame, link status change and Magic packet events for remote wake-up
  - Embedded SRAM for RX /TX packet buffering
  - Support IPv4 / TCP / UDP checksum offload checking and generating
- **EEPROM Interface**
  - Supports automatically load vendor ID and Product ID from EEPROM
  - Supports 128/256/512 bytes (93C46/93C56/93C66) of serial EEPROM (for storing USB Descriptors)
  - 93C46 / 93C66 auto-detection
- **LED Indications**
  - Ethernet – Link / Act indication
  - Ethernet – Speed (10M / 100M) indication
  - Ethernet – Duplex (half / full) indication
  - USB speed indication (full / high speed + traffic modes)
- **GPIO Pins**
  - GPIO #1 – wake-up signal to CPU
  - GPIO #2 – Serial Debugging Port interface (clock)
  - GPIO #3 – Serial Debugging Port interface (data)
- **Clock**
  - Single 25MHz / 30 ppm crystal or oscillator for Ethernet and 12MHz for USB
- **Power Input**
  - Low-Power, Single-Supply 3.3V
  - Built in 3.3V to 1.8V regulator
- **Miscellaneous**
  - Support industrial-temperature (-40 C ~ +85 C)
  - Very Low Power Consumption mode
  - Power Reduced mode (cable detection), and Power Down mode
  - Compatible with 2.5V, 3.3V and 5.0V tolerant I/O
  - Supports commercial and industrial grade
- **Package**
  - 64 pin LQFP (with MII/RMII I/F)

Preliminary

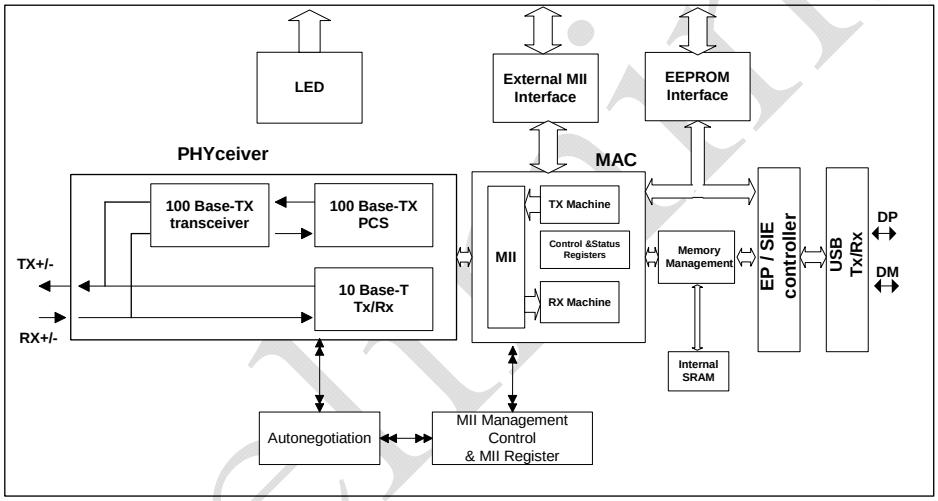
2. General Description

The DM9620AIEP USB2.0 to 10/100Mbps Fast Ethernet industrial-temperature controller with 0.18um CMOS technology is a high performance and highly integrated ASIC with embedded 13KB SRAM for packet buffering. It enables low cost and affordable Fast Ethernet network connection to desktop, notebook PC, and embedded system using popular USB ports.

It has an USB interface to communicate with USB host controller and is compliant with USB specification V1.0, V1.1 and V2.0. It implements 10/100Mbps Ethernet LAN function based on IEEE802.3, and IEEE802.3u standards.

DM9620AIEP integrates an on-chip 10/100Mbps Ethernet PHY to simplify system design and provides an optional media-independent interface (MII / RMII)

3. Block Diagram



4. Certification: USB IF and WHQL certified

5. OS Supports: Windows, WinCE, Linux, Android, Chrome, Mac OS, PXE, DOS

6. Applications

Embedded System: IP STB, DMA, Card Reader, POS, DVR, IPTV, NAS, Networked Printer

USB Dongle: PMP, MID, UMPC, DPF, Netbook, Slim Notebook, Game Console, Portable Device

7. Ordering Information

Part Number	Pin Count	Package
DM9620AIEP	64	LQFP (Pb-Free and Halogen–Free)

Preliminary