



**USB2.0 to 100Base-T Ethernet Controller**

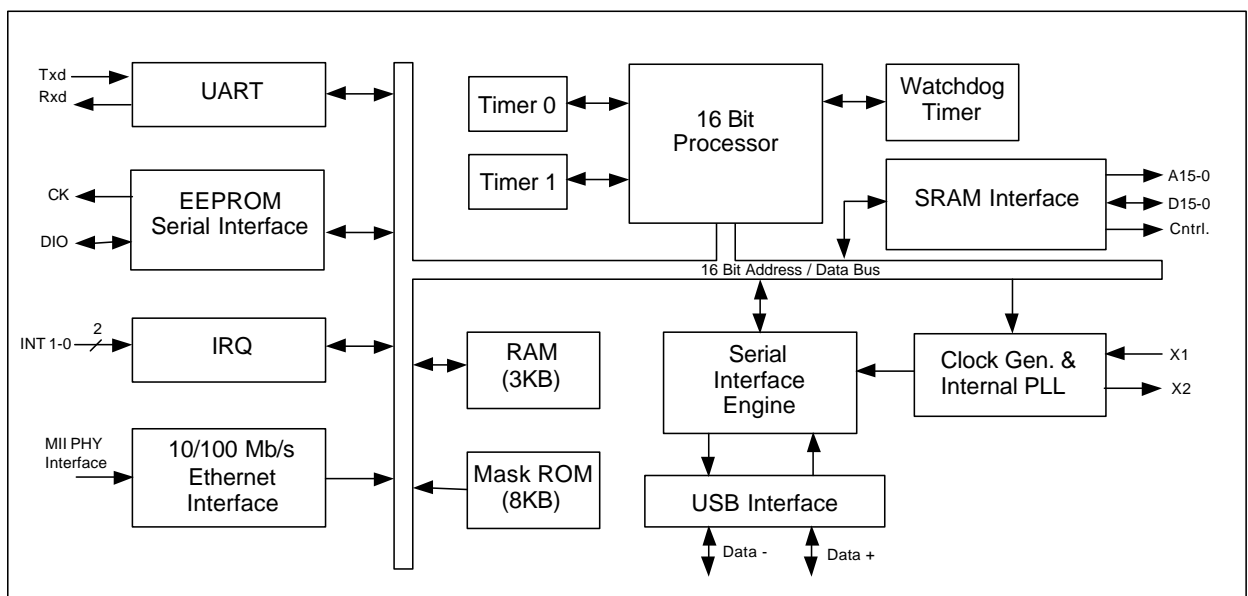
**General Description**

The Kawasaki KL5KUSB221 Controller is a unique single chip solution to interface peripheral devices to the Universal Serial Bus 2.0 (USB2.0) and 100Base-T Ethernet. The KL5KUSB221 has been specifically designed to provide a simple solution to communicate with Ethernet applications as well as other USB peripheral devices. This has been accomplished by its highly integrated functionality. The USB controller consists of a central 16-bit processor, mask ROM, RAM buffer, clock generator, Ethernet interface, UART, IRQ, Watchdog Timer, Serial interface, External Memory Interface and SPORT Interface. The SIE (Serial Interface Engine) is fully compatible with the USB2.0 specification. Our powerful internal processor enables Remote NDIS (Network Drive) which gives compatibility with next generation operating systems and faster data transfer. This USB to Ethernet controller is ideal for LAN (Local Area Network), HAN (Home Area Network), Cable Modem, Set Top Boxes, or Mobile Networking applications.

**Features**

- Advanced 16 Bit processor for USB transaction processing and control data processing
- 100Base-T compatibility
- USB interface version 2.0 compliant
- Transceivers and SIE (Serial Interface Engine)
- Internal Clock Generation - Utilizes low cost external crystal circuitry
- MII Physical Layer interface
- 1.5K x 16 Internal RAM buffer
- Remote NDIS for faster data transfer.
- Fully IEEE compliant 100 Mbit/sec Ethernet MAC Layer. Interfaces serially of an external ENDEC PHY.
- UART
- External memory interface
- 100 LQFP package
- Serial Interface for external EEPROM

**Block Diagram**



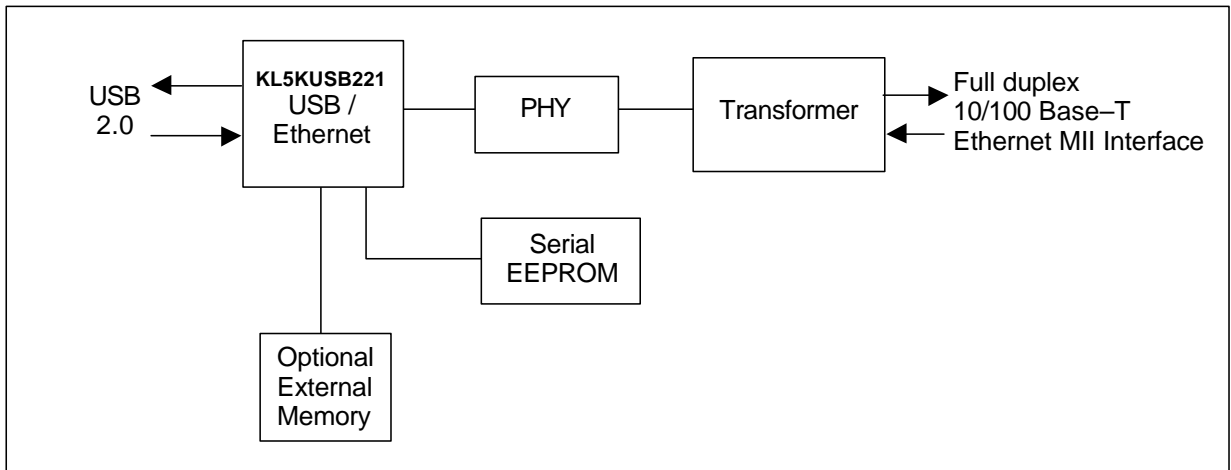


# PRELIMINARY

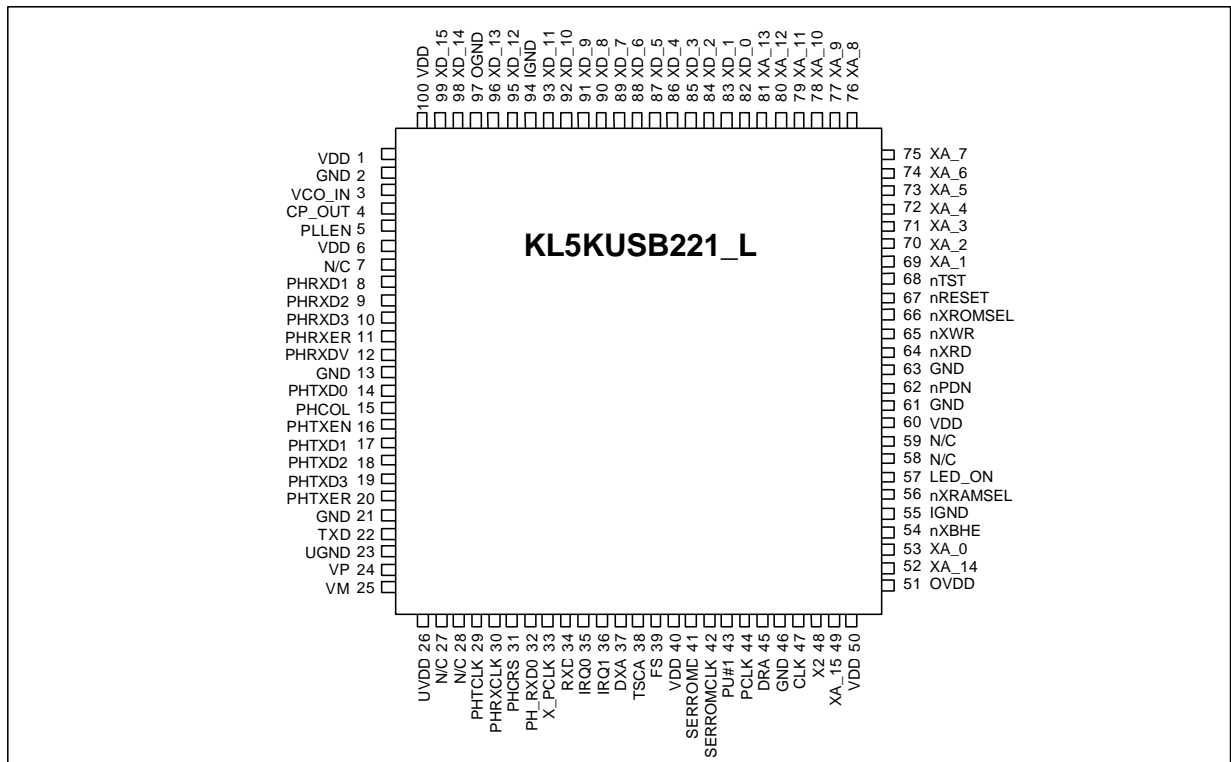
# KL5KUSB221

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### KL5KUSB221 Application Block Diagram



### Pin Diagram 100LQFP



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