

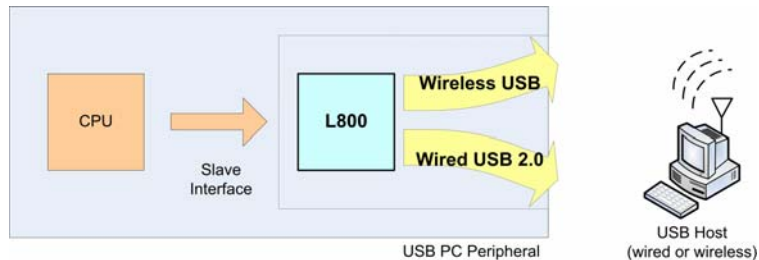
# L800 Introduction

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# L800 USB Peripheral Controller



- Support for both wired and wireless USB connections
- 8/16 bit memory mapped interface with DMA slave support
- Supports nearly all USB device class drivers including mass storage, printer, scanner, and video classes
- Descriptor based architecture supports all compliant buffer sizes, packet sizes, transfer sizes, burst sizes, and number of endpoints
- Requires external CPU and WiMedia UWB PHY

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## Target Applications



- The L800 is design for integration into peripherals with both wired and wireless USB connections
- The USB-I/F requires that any device with a wired port must support cable association
- This means that manufacturers cannot just add wireless USB - they must consider what to do with the wired USB port as well

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## Both Wired and Wireless USB

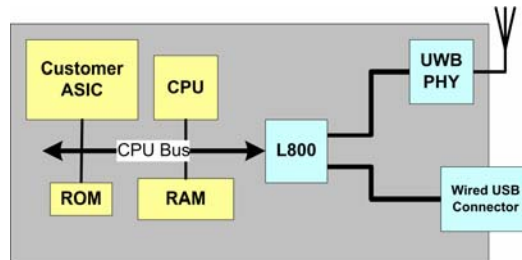
- Advantages of having both Hi-Speed Wired USB 2.0 and Certified Wireless USB connections in the L800:
  - Eliminate the existing wired USB controller chip
  - Automatically switch between wired and wireless connections. No user intervention is required.
  - Simultaneous wired and wireless connections. This allows for host to host connections
  - Support cable association without having to modify legacy wired USB firmware. This would otherwise be a major undertaking.

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## L800 Usage

The L800 controls both Hi-Speed wired and wireless USB connections with the same driver. The wired USB port is used for both data transfer and cable association.

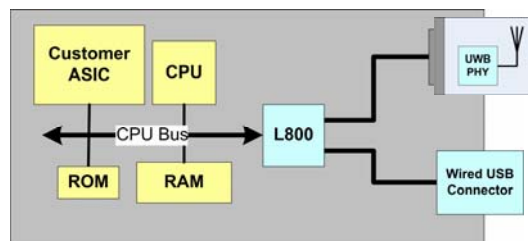


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## L800 – Wireless PHY Option

Use the L800 just for wired USB 2.0. Add the UWB PHY as needed using an independent module.

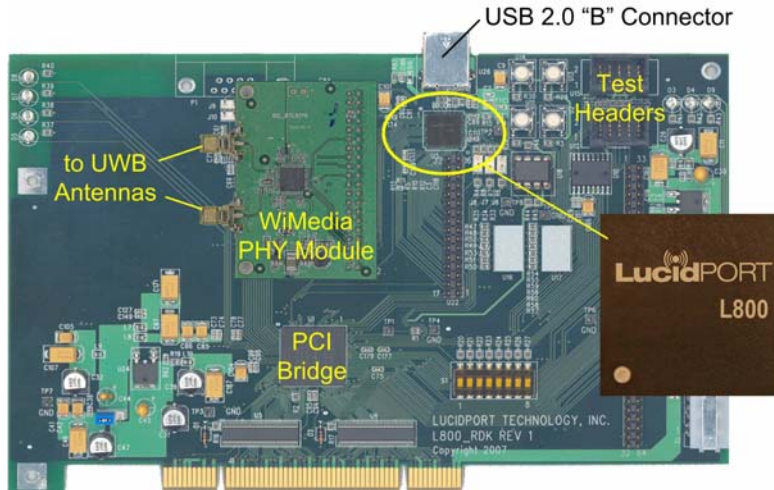


**Place the expensive and non-digital parts on an industry standard, hardware-only module.**

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## L800 Reference Design Kit (RDK)



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## L800 RDK Contents

- **Hardware**
  - PCI adapter board with L800 USB Controller
  - WiMedia USB PHY Module (Realtek)
  - UWB Antenna
- **Software**
  - LucidPort USB API
  - Loopback transfer firmware (for debug)
  - Sample host side driver
  - Host side monitor application (for debug)
  - Firmware for USB Mass Storage Class with source code
- **Documentation**
  - L800 RDK Theory of Operation
  - Firmware porting guide
  - Schematics, Layout Files, Bill of Materials

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## L800 Summary

- Both wired and wireless USB connectivity
- Supports control, interrupt, and bulk transfers at all compliant transfer sizes, burst sizes, packet sizes, and with any number of endpoints.
- Works with virtually all USB class drivers.
- Integrated cable and numeric association logic
- Automatic encryption and power management
- 480 Mbps transfer rate, 25MB/sec sustained throughput
- 11x11mm, 108 BGA (0.8mm pitch)
- The L800 and L800RDK are sampling in April