

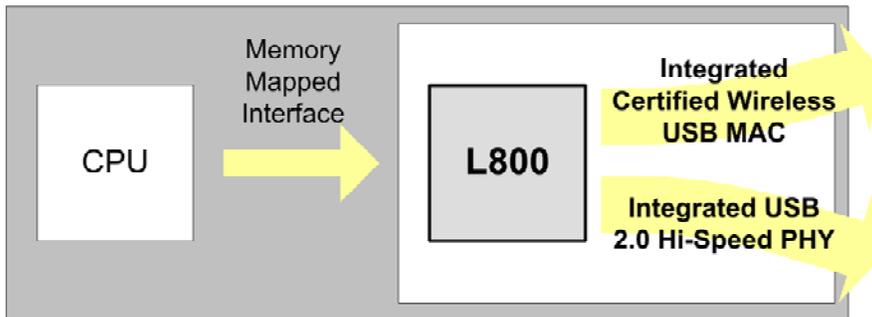
# L800/802



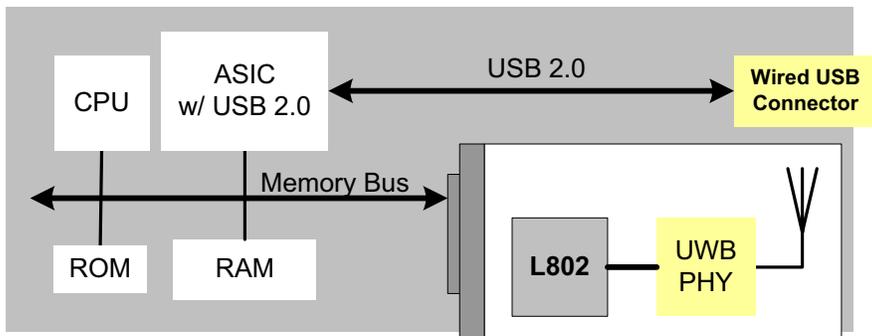
## Device Controller based on Certified Wireless USB

The L800/802 are general purpose controllers for adding wireless USB functionality to peripheral designs. They manage all the functions required by the Certified Wireless USB protocol, including beaconing, association, and encryption. They harness WiMedia UWB technology to interoperate with other products based on UWB and Certified Wireless USB at transfer speeds reaching up to 480 Mbps. The L800/802 support nearly all USB class drivers including mass storage, printer, MTP, and video.

With its integrated Hi-Speed wired USB 2.0 peripheral port, the L800 is well suited for devices that need to connect to both wired and wireless USB. The two interfaces operate independently, for either simultaneous operation or automatic switching between them. The same API (Application Programming Interface) operates both the wired and wireless ports, so only a single driver is needed to run both connections.



*The L800 connects to both wired and wireless USB*

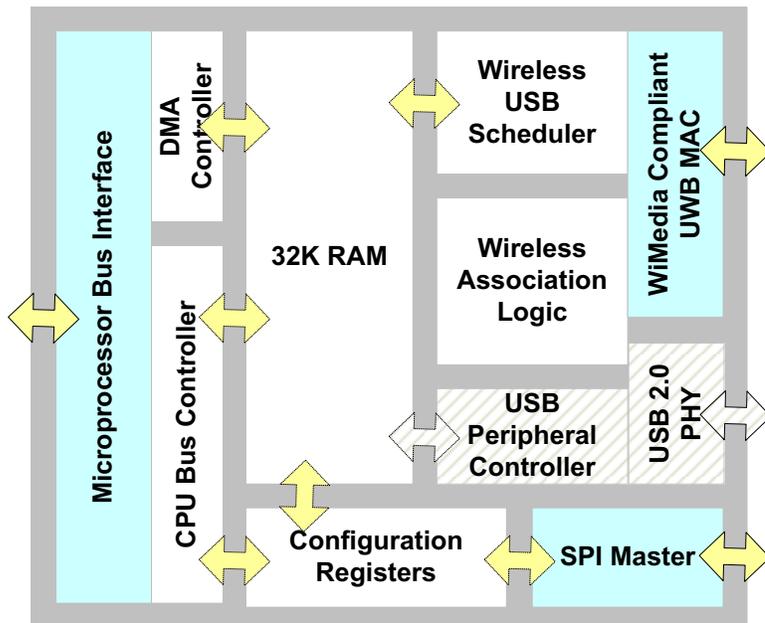


*Use the L802 in systems that already have USB 2.0*

### Key Features

- ◆ **Wireless USB Functionality**
  - Support for all compliant transfer sizes, packet sizes, and number of endpoints
  - Support for nearly all USB class drivers including mass storage, printer, MTP, and video
  - Integrated device association logic (cable and numeric)
  - Self beaconing design allows interop with other WiMedia devices
  - Requires WiMedia UWB PHY
- ◆ **Independent Wired USB 2.0 Port**
  - Hi-Speed USB 2.0 port for both cable association and wired USB data transfer
  - Integrated Hi-Speed USB 2.0 PHY
  - Wired USB port on L800 only
- ◆ **Physical Interface**
  - 8/16 bit memory mapped slave interface
  - Flexible I/O voltages (2.5 to 3.3V)
  - 108 Lead-Free BGA package
  - 11x11 mm package, 0.8 mm ball pitch





## Microprocessor Interface

Tailored for natively wireless peripherals, the L800/802 connects directly to a CPU's memory bus rather than bridging over a wired USB interface. This method lowers power, reduces cost, and increases performance.

With bandwidth up to 100 Mbytes/sec on its SRAM like bus, the L800/802 can transfer data to and from its USB connections without blocking other critical accesses. Working in conjunction with an external DMA controller, the L800/802's USB transfers can proceed without CPU intervention.

	L802	L800
<b>Wireless USB</b>	Yes, requires UWB PHY	Yes, requires UWB PHY
<b>Wired USB 2.0</b>	No	Yes, integrated Hi-Speed PHY
<b>Max Number of User Endpoints</b>	Thirty (15xIN/ 15xOUT)	Thirty (15xIN/ 15xOUT)
<b>Max Packet Size</b>	3584 Bytes	3584 Bytes
<b>Max Burst Count</b>	1	16
<b>Usage and Application</b>	<ul style="list-style-type: none"> <li>For applications which don't need wired USB</li> <li>For designs with embedded CPUs that already have wired USB ports</li> </ul>	<ul style="list-style-type: none"> <li>Simultaneous wired and wireless USB connections</li> <li>Avoid re-writing legacy wired USB code for cable association</li> </ul>

Certified Wireless USB creates a high bandwidth network up to 10 meters around a host PC. This allows for the placement of traditional peripherals like printers, scanners, and modems without concern for wire clutter. It also enables high speed transfer of audio and video signals for wireless webcams, media players, and digital cameras/ camcorders.

Many wireless USB peripherals can also connect using wired USB. Since the USB-IF requires the wired port to support cable association, legacy wired USB firmware usually needs to be modified. However, as the L800's USB 2.0 port supports both data transfer and cable association, the L800's driver can manage cable association without having to involve legacy USB code.