



Wireless USB (WUSB)



Wireless USB (WUSB) Based on Ultra Wideband (UWB) Technology

Providing all the benefits of USB – without the wires – WUSB offers the speed, security and ease of use of traditional USB-wired technology. Wireless USB is a natural extension of wired USB, which has high brand recognition among consumers and has a large installed base in a wide array of end equipment such as PCs, consumer electronics and mobile devices. WUSB is being developed based on the MultiBand OFDM Alliance Special Interest Group's (MBOA-SIG) UWB technology for high-speed, short-range, low-power wireless transmissions to and from end equipment such as digital cameras, MP3 players, printers, mobile phones and other mobile devices. The technology will give consumers the ability to move audio and video data throughout the home and office at very high speeds and with high-quality results.

With a plethora of wireless and connectivity expertise, Texas Instruments (TI) is well positioned to make WUSB available to consumers in a timely fashion. Driving the demand in the marketplace is consumer desire for features such as higher-quality video, higher-resolution pictures, increased memory for portable devices and ease of use. With WUSB, designers can meet these and many more needs in applications such as high-definition television (HDTV), personal video recorders, digital video camcorders, DVD recorders, large-memory personal digital assistants (PDAs) and camera phones.

In September 2004, TI was among the first few companies to demonstrate the interoperability of WUSB, which will be one of the first major applications of UWB technology. The demonstration consisted of several video streams transmitted wirelessly from multiple peripheral devices to a host computer.

Other future UWB applications include streaming video for digital television, DVD recorders and set-top boxes, among others.

MultiBand OFDM Approach

The OFDM (orthogonal frequency domain multiplexing)-based proposal, which was initially developed by TI, is now the basis of the industry's choice for the UWB standard. The benefits of the MBOA-SIG's PHY specification include the ability to efficiently capture nearly 100 percent of the multipath energy, resulting in the best range; a robust link in the presence of multipath and interference; relaxed RF and analog requirements; and the ability to coexist with current and future wireless services. These are all key requirements for many consumer electronic applications. More than 170 companies now support the OFDM-based approach, enabling quick time to market and interoperability for consumers.

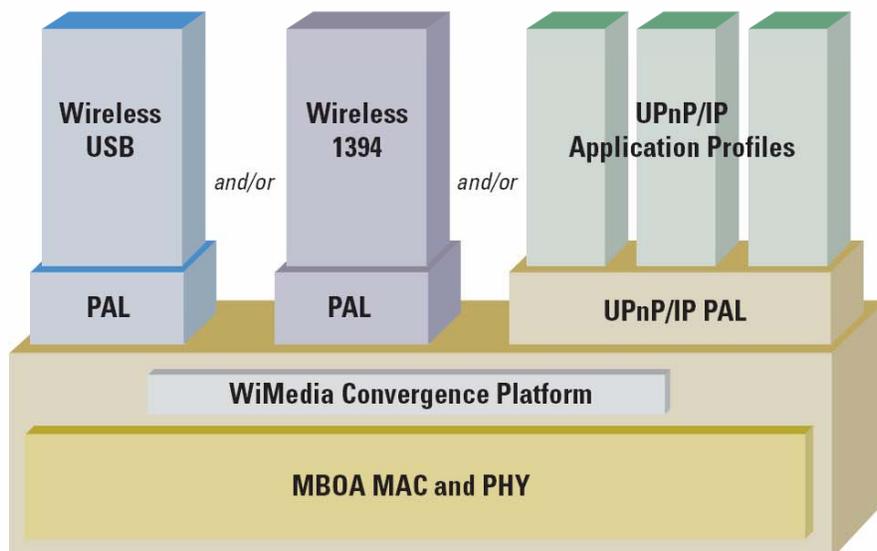
UWB Ecosystem

TI is an active contributor in the landscape of companies, industry forums and individuals working to define and develop UWB technology. As a founding member of the MBOA-SIG, TI is committed to enabling UWB in the market.

The MBOA has formalized into a Special Interest Group (SIG) supporting the growth of the emerging UWB market. The group has published a UWB PHY 1.0 standard and has nearly completed the MAC specification, which will enable mobile devices to easily enter and exit wireless networks.

The WiMedia Alliance, of which TI is a promoter member, has endorsed the MBOA-SIG's specifications for UWB applications. TI is a key contributor to the Wireless USB Promoters Group, which has endorsed both WiMedia's and MBOA's specifications. TI is also a board member of the 1394 Trade Association, which is working closely with both WiMedia and MBOA to define wireless 1394 specifications.

UWB Ecosystem Architecture



PAL: Protocol Adaptation Layer

Texas Instruments - Making Wireless

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