



Wireless Technology Overview

Solutions for reliable high-speed data transfer and real-time streaming video

Why Alereon?

How many times have you connected your laptop to a wireless network and sat and waited for the video to load? Consider a doctor trying to look at a real-time video of an injury or a detailed MRI...is waiting for the picture or video to load an "okay solution"? With the proliferation of WiFi, Bluetooth and numerous other wireless products, the 2.4 and 5GHz spectrums are becoming jammed with traffic, and it's only getting worse. At Alereon we focus on the delivery of reliable high-speed data transfers and the real time streaming of video when it counts.

Alereon's technology uses a radio spectrum from 3 to 10GHz, avoiding the crowded frequencies occupied by other wireless technologies to deliver up to 200Mbps of real data inside a room. For medical, military, industrial or consumer applications that need immunity to interference, high Quality of Service (QoS) and low latency, Alereon's wireless technology can't be beat.

High Performance, Flexible Applications

Alereon's wireless technology is flexible enough for the most demanding designer. Alereon offers software and firmware options to support designs for Windows, Mac, Linux and Android operating systems. USB protocol is offered to support numerous downstream devices simultaneously using either a driver/user interface model or by using Alereon's NoWire™ OS agnostic driverless bridge firmware. TCP/IP protocol is also supported in both driver and driverless based versions to support applications like adhoc networks, mesh networks, DLNA transfers and "Play to" applications.

A variety of radio pairing options are offered. From secured hard pairings via unique PINs or factory pairing to the flexibility and ease of Alereon's QuickLink™ technology that allows instant connectivity to any device within range, Alereon can customize solutions that meet your security and connectivity requirements.

With 1 and 2 Gbps PHY speeds and multiple radio support sampling in 2H'2012, Alereon's wireless solutions have the legs to grow with your increasing demands.

Features

- Up to 200Mbps real data transmission to support high-speed application
- Uses 3-10GHz spectrum, avoiding interference from existing WiFi, cordless phones and Bluetooth radios
- Compatible with Windows, Mac, Linux and Android operating systems
- Support for USB and TCP/IP protocols

Applications

- Consumer applications including wireless docking stations, wireless monitors/projectors, tablets, laptops and cell phones to HDTVs
- Medical applications including wireless video displays for operating room and diagnostic procedures, wireless connectivity for transducers to support ultrasound, endoscopy and patient monitoring as well as machine-to-machine applications
- Military applications including wireless gun sites, heads-up displays, body area networks and location targeting
- Automotive applications such as wireless back-up cameras and in-car wireless connectivity
- Industrial applications such as industrial/ruggedized PCs and tablets, field service, warehousing shop floor control systems, machine-to-machine communications and hostile environments (vibration, HAZMAT, heat, moisture)

Applications



Computer Peripherals



Mobile Computing



Medical



Military



Automotive



Industrial

Wireless Technology Comparison Chart

| Technology | Distance | Data Rate | Latency | User Density/Topology | Power Usage | Spectrum | Suitable Applications |
|------------------------------------|---------------------------|-------------------------------|---------|---|-------------|------------------------------------|---|
| Alereon Wireless Technology | 10 meters | 480Mbps (1Gbps -2012) | Good | Excellent/One-to-many Supports multiple downstream devices | Low | 3.1 - 10.6GHz | Compressed video, docking stations, USB cable replacement, HDMI cable replacement |
| WiFi | 100 meters | 11/54/150 Mbps (b, g/a, n) | Poor | Poor/Network IP protocol support only | Low | 2.4 and 5 GHz (ISM and UNII Bands) | Infrastructure, i.e. connect to internet |
| WiFi Direct / WiFi Display | 20 meters (useable) | Capped at 50Mbps useable | Poor | Poor/Point-to-point Limited support for multiple downstream devices | Low | 2.4 and 5 GHz (ISM and UNII Bands) | Compressed video/audio (with poor latency) |
| WiGig | 10 meters (line of sight) | 7 Gbps | Fair | Poor/Point-to-point Single direction, limited support for multiple downstream devices | High | 60 GHz | Video/audio application only (uncompressed) |
| Bluetooth | 10 meters | 1, 2, 24 Mbps (1.0, 2.0, 3.0) | Fair | Good/Point-to-point | Very Low | 2.4GHz (ISM Band) | Video/audio application only (uncompressed) |

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For more information, register at <http://www.alereon.com/RegisterUserAccount>

About Alereon

Alereon, Inc. is a fabless semiconductor company using industry standard Ultra Wideband (UWB) radio technology to develop low-power, blazing fast wireless solutions ideal for connecting media rich products and displays. Our mission is to enable consumers to simply and wirelessly stream real-time video and data from consumer electronics to HDTVs, monitors and laptops.

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