Bluetooth Basics

The technology of Bluetooth wireless is a short range communications method intended to replace the cables that connect portable or fixed devices while maintaining the highest levels of security.

The key features offered by Bluetooth include low power and low cost. The specification in Bluetooth defines a uniform structure for a wide range of devices to communicate and connect with one another.

The technology behind Bluetooth has achieved global satisfaction such as enabled devices, almost everywhere in the world. Bluetooth devices will connect and communicate without wires through short range and networks known as piconets.

Each device will simultaneously communicate with up to seven other devices within a single piconet, meaning that each device can also belong to several piconets simultaneously. The piconets are dynamically established as Bluetooth enabled devices enter and leave the proximity of radio.

A fundamental to Bluetooth strength is the ability to handle both data and voice transmissions simultaneously. This will enable users to enjoy varieties of innovative solutions such as hands free talking, printing and fax capabilities, and other applications.

Specifications

Unlike other standards of wireless, the Bluetooth specification gives product developers both a link layer and application layer definitions, which will help support data and voice applications.

Spectrum

The Bluetooth technology operates in the industrial and scientific band at 2.4 to 2.485 GHz, using a spread spectrum, frequency hopping signal.

Interference

The adaptive frequency hopping of Bluetooth technology was designed to reduce interference between wireless technologies that share the 2.4 GHz spectrum. Adaptive frequency hopping (AFH) works well within the spectrum to take full advantage of the frequency available.

AFH hopping allows for more efficient transmission within the spectrum, which provides users with greater performance even if they are using other technologies along with Bluetooth.

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