Operational description of the Bluetooth USB Adapter

The device uses a spread spectrum, frequency hopping, full-duplex signal at up to 1600 hops/sec. The signal hops among 79 frequencies at 1 MHz intervals to give a high degree of interference immunity. Up to seven simultaneous connections can established and maintained. Other specifications as below:

- Frequency Band: 2400~2483.5MHz
- Rated RF power output: 13dBm
- Modulation type: GFSK
- Bit rate of transmission: 1 Mbps
- Supports both point-to-point and point-to-multipoint connections

Data and Voice access points
Bluetooth wireless technology facilitates real-time voice and data transmissions, which makes it possible to connect any portable and stationary communication device as easily as switching on the lights.

You can, for instance, surf the Internet and send e-mails on your portable PC or notebook regardless of whether you are wirelessly connected through a mobile phone or through a wire-bound connection (PSTN, ISDN, LAN, xDSL).

Voice
Up to three simultaneous synchronous voice channels are used, or a channel which simultaneously supports asynchronous data and synchronous voice. Each voice channel supports a 64 kb/s synchronous (voice) channel in each direction.

Data
The asynchronous data channel can support maximal 723.2 kb/s asymmetric (and still up to 57.6 kb/s in the return direction), or 433.9 kb/s symmetric.

- a Master can share an asynchronous channel with up to 7 simultaneously active Slaves in a Piconet.
- by swapping active and parked slaves out respectively in the piconet, 255 slaves can be virtually connected using the PM_ADDR (a device can participate again within 2 ms).
- to park even more slaves the BD_ADDR can be used. There is no limitation to the number of slaves that can be parked.

Slaves can participate in different piconets and a master of one piconet can be the slave in another, this is known as a scatternet. Up to 10 piconets within range can form a scatternet, with a minimum of collisions.

Cable replacement
Bluetooth wireless technology eliminates the need for numerous, often proprietary, cable attachments for connection of practically any kind of communication device.

Connections are instant and they are maintained even when devices are not within line of sight. The range of each radio is approximately 10 meters, but it can be extended to around 100 meters with an optional amplifier.