

The 802.11 standard

Standard	Description
802.11a	Ratified in 1999, 802.11a uses Orthogonal Frequency Division Multiplexing (OFDM) signaling to transmit data. OFDM offers significant performance benefits compared with the more traditional spread-spectrum systems. OFDM is a modulation technique for transmitting large amounts of digital data over radio waves. Capacity per channel is 54 Mbps with real throughput at about 31 Mbps. It operates at a frequency of 5 GHz, which supports eight overlapping channels.
802.11b	Ratified in 1999, 802.11b is one of the most commonly used 802.1x technologies. Uses Direct Sequence Spread Spectrum (DSSS). Capacity per channel is 11 Mbps with real throughput at about 6 Mbps. It operates at a frequency of 2.4 GHz, which supports three non-overlapping channels.
802.11d	Ratified in 2001, 802.11d aims to produce versions of 802.11b that are compatible with other frequencies so it can be used in countries where the 2.4 GHz band isn't available.
802.11e	802.11e adds Quality of Service (QoS) capabilities to 802.11 networks. It uses a Time Division Multiple Access (TDMA) data signaling scheme and adds extra error correction.
802.11g	Ratified in 2003, 802.11g is a combination of 802.11a and 802.11b. It can use either Direct Sequence Spread Spectrum (DSSS) or Orthogonal Frequency Division Multiplexing (OFDM) to transmit data. Capacity per channel is 54 Mbps with real throughput at about 12 Mbps. It operates at a frequency of 2.4 GHz and is a popular 802.11 technology.
802.11h	Ratified in 2003, 802.11h attempts to improve on 802.11a by adding better control over radio channel selection and transmission power.
802.11i	Ratified in 2004, 802.11i deals with security and is based on the Advanced Encryption Standard (AES). The 802.11i standard has a feature called Robust Security Network (RSN), which defines two security methodologies. The first is for legacy-based hardware using RC4, and the second one is for new hardware based on AES.
802.11j	Ratified in 2004, 802.11j allows 802.11a and HiperLAN2 networks to coexist on the same airwaves. The 802.11j standard changed the 5GHz signaling capabilities to support Japanese regulatory requirements.

802.11n

802.11n is a 100+ Mbps standard. Many access points are available that are compatible with 802.11n and 802.11a and b.
