



# WIRELESS PROTOCOL

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# WHAT IS WLAN PROTOCOLS ?

The Institute of Electrical and Electronic Engineers' (IEEE) standards for Wi-Fi as specified in the 802.11 collective group of standards that specify the radio frequencies, speeds, and other capabilities for WLANs. Various implementations of the IEEE 802.11 standards have been developed over the years, as shown in the figure.

- The 802.11a, 802.11b, and 802.11g standards should be considered legacy.
- New WLANs should implement 802.11ax (Wi-Fi 6) devices.
- Existing WLAN implementations should upgrade to 802.11ax (Wi-Fi 6) when purchasing new devices.

# COMPARING 802.11 STANDARDS

IEEE Standard	Maximum Speed	Maximum Indoor Range	Frequency	Backwards Compatible
802.11a (Wi-Fi 2)	54 Mbps	115 ft (35 m)	5 GHz	—
802.11b (Wi-Fi 1)	11 Mbps	115 ft (35 m)	2.4 GHz	—
802.11g (Wi-Fi 3)	54 Mbps	125 ft (38 m)	2.4 GHz	802.11b



802.11n (Wi-Fi 4)	600 Mbps	230 ft (70 m)	2.4 GHz, 5 GHz	802.11a/b/g
802.11ac (Wi-Fi 5)	6.9 Gbps	115 ft (35 m)	5 GHz	802.11a/n
802.11ax (Wi-Fi 6)	9.6 Gbps	150 ft (46m)	2.4 GHz, 5 GHz	802.11a/b/g/n/ac
802.11ax (Wi-Fi 6e)	9.6 Gbps	150 ft (46m)	1 GHz, 6 GHz	802.11a/b/g/n/ac



# CONCLUSION

Wi-Fi standards have improved from slow legacy versions to modern Wi-Fi 6/6e, offering faster speeds, wider frequency support, and better performance, making older standards obsolete.



# ANY QUESTION:





THANK  
YOU

