

Guide to Wi-Fi Technologies (a/b/g/n/ac)

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Understanding Wi-Fi 802.11a

Wi-Fi **802.11a** operates on a 5 GHz frequency, offering high data rates and a more reliable connection. It is suitable for applications requiring high bandwidth, but has limited range due to higher frequency.



Exploring Wi-Fi 802.11b

Wi-Fi **802.11b** operates on a 2.4 GHz frequency, providing a longer range but at a lower data rate. It is compatible with older devices and offers reliable connectivity for basic internet usage.



Evolution of Wi-Fi: 802.11g

Wi-Fi **802.11g** combines the best of both worlds, operating on the 2.4 GHz frequency while offering higher data rates. It provides backward compatibility with 802.11b devices and improved performance.





Unleashing Wi-Fi 802.11n

Wi-Fi **802.11n** introduces multiple-input multiple-output (MIMO) technology, significantly increasing data rates and range. It supports both 2.4 GHz and 5 GHz frequencies, delivering enhanced performance and coverage.



The Era of Wi-Fi 802.11ac

Wi-Fi **802.11ac** operates exclusively on the 5 GHz frequency, providing blazing fast data rates and improved efficiency. It is ideal for high-density environments and supports advanced applications such as streaming and gaming.

The background features a dark blue field with large, overlapping geometric shapes in light blue and teal. In the top-left corner, a white smartphone is shown next to a white fingerprint. In the bottom-left corner, the top of a white Wi-Fi router with three antennas and a blue Wi-Fi symbol is visible.

Advancements in Wi-Fi Technologies

The continuous evolution of Wi-Fi technologies has revolutionized wireless connectivity. From the early standards of 802.11a and 802.11b to the latest 802.11ac, each iteration has brought significant improvements in speed, range, and reliability.