Wi-Fi CERTIFIED 6™: A new era for Wi-Fi®

Wi-Fi® technology is a mainstay of life today: at work, home, and on the go. Included in virtually every smartphone, computer, and tablet, Wi-Fi capability is a requirement for a growing array of devices from televisions and appliances to security systems and sensors. Technological innovation has driven many uses for Wi-Fi to market, and enabled emerging opportunities such as virtual reality and high-definition telepresence. Expectations to connect everyone and everything, everywhere are rising.

The Wi-Fi CERTIFIED 6™ certification program from Wi-Fi Alliance® validates that devices based on Wi-Fi 6, or IEEE 802.11ax technology, meet industry agreed standards and deliver key benefits such as higher data rates, greater network capacity, better power efficiency, and quality performance in remote or congested environments.

Wi-Fi CERTIFIED 6 for every environment

Wi-Fi CERTIFIED 6 devices deliver capabilities required to ensure that users' advanced connectivity needs are reliably met in a wide variety of scenarios:

Home: In single-family homes or multi-family dwellings, Wi-Fi CERTIFIED 6 smart home products and personal devices efficiently co-exist, enabling users to simultaneously manage the home, stream ultra high-definition content on demand, and support immersive experiences

Managed Wi-Fi networks: Wi-Fi CERTIFIED 6 devices bring better user experiences in densely populated environments such as stadiums, airports, and shopping malls with efficient spectral resource management and consistent service as users traverse large networks

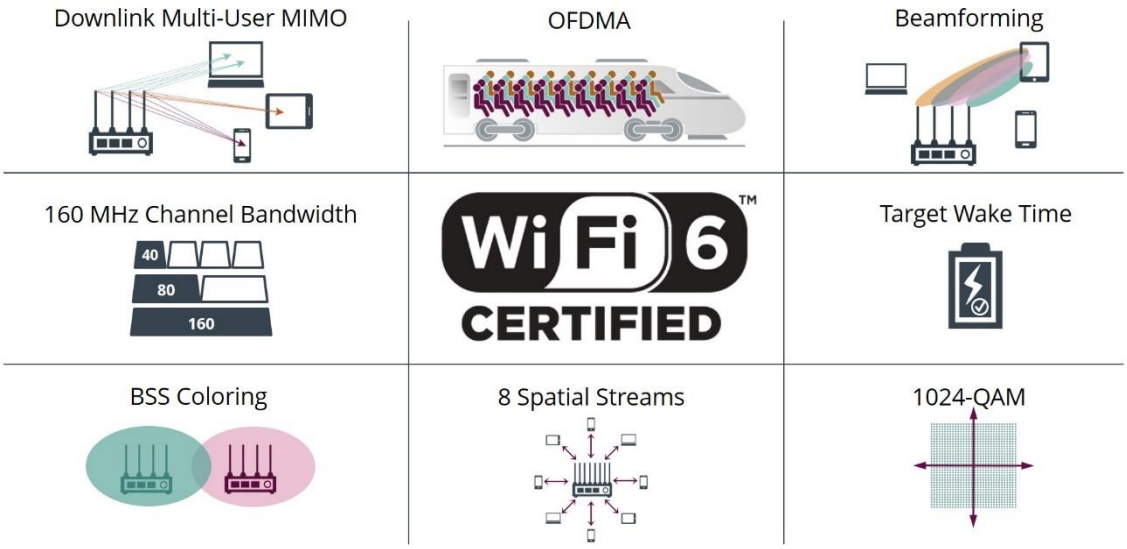
Enterprise: Increased automation in manufacturing environments, enhanced telepresence and e-learning capability, and extended remote services such as healthcare monitoring are key uses for Wi-Fi CERTIFIED 6 in business

Key capabilities and benefits

Wi-Fi CERTIFIED 6 devices operate in the 2.4 and 5 GHz bands and deliver greater capacity than the prior generation of Wi-Fi. Wi-Fi CERTIFIED 6 devices bring reliable performance indoors, outdoors, and in dense environments. Devices also demonstrate longer battery life. Key features enabling the benefits of Wi-Fi CERTIFIED 6 include:

- **Orthogonal frequency division multiple access (OFDMA)** more effectively shares channels to increase network efficiency and lower latency for both uplink and downlink traffic in high demand environments
- **Multi-user multiple input, multiple output (MU-MIMO)** allows more donwlink data to be transferred at once and enables an access point to handle a larger number of concurrent clients
- **160 MHz channel utilization capability** increases bandwidth to deliver greater performance with low latency
- **Target wake time (TWT)** enables scheduled sleep and wake times for better network efficiency and longer device battery life
- **1024 quadrature amplitude modulation mode (1024-QAM)** enables throughput increases by encoding more data in the same amount of spectrum
- **Transmit beamforming** improves signal power resulting in significantly higher rates at a given range

The key features of Wi-Fi CERTIFIED 6 work together to ensure that each device on the network is able to function at an optimum level, including legacy devices. The result enables those who upgrade to Wi-Fi CERTIFIED 6 equipment see greater efficiency and capacity and positive user experiences, even for advanced and mission critical uses.



Wi-Fi generation comparison overview

Wi-Fi 6 technology continues to build on the performance of previous Wi-Fi generations, bringing advancements for Wi-Fi devices and networks.

Feature	Wi-Fi 4	Wi-Fi 5	Wi-Fi 6
Channel bandwidth (MHz)	20, 40	20, 40, 80, 80 + 80, 160	20, 40, 80, 80 + 80, 160
Frequency bands	2.4 and 5 GHz	5 GHz	2.4 and 5 GHz
Maximum data rate	150 Mbps	3.5 Gbps*	9.6 Gbps*
Highest subcarrier modulation	64-QAM	256-QAM	1024-QAM
Spatial streams	1	4	8
Underlying technology	IEEE 802.11n	IEEE 802.11ac	IEEE 802.11ax

** Depending upon number of spatial streams and channel used*

Wi-Fi CERTIFIED™: Technology to trust

Since 2000, Wi-Fi Alliance has been driving the adoption and evolution of Wi-Fi through the Wi-Fi CERTIFIED program. The Wi-Fi CERTIFIED logo designates products with proven interoperability, backward compatibility, and the highest industry-standard security protections in place. Wi-Fi CERTIFIED devices can communicate with previous and future generations of Wi-Fi technologies, enabling Wi-Fi CERTIFIED networking devices to provide a seamless, interoperable experience with a multitude of other Wi-Fi devices for years to come.

Wi-Fi CERTIFIED 6 devices can be easily identified by the Wi-Fi CERTIFIED 6 logo. Look for the logo to ensure devices have been tested for interoperability security standards.

Wi Fi 6 CERTIFIED

Learn more: www.wi-fi.org/wi-fi-certified-6