

Qualcomm

Qualcomm®

FastConnect™ 6900 System

Wi-Fi 6, 6E, Bluetooth 5.2 and advanced audio technology in an integrated offering to exceed industry standards and deliver increased speed and immersive experiences for mobile and computing devices.

The FastConnect 6900 is an advanced 14nm 2x2 Mobile Connectivity system that is primed to redefine Wi-Fi connectivity for the next generation of mobile and computing devices by extending the power of Wi-Fi 6 into the 6 GHz band (Wi-Fi 6E). With Wi-Fi speeds up to 3.6 Gbps, VR-class low latency and multi-user feature innovation delivered to new and clean 6 GHz spectrum, this system takes Wi-Fi performance to a new generation.

Additionally, featuring Integrated Bluetooth 5.2 packed with the latest Qualcomm® aptX™ audio features and support for emerging LE Audio scenarios, the FastConnect 6900 provides innovation for reliable, high quality and responsive wireless audio experiences over wireless headphones, earbuds and speakers.

Highlights

Multi-gigabit performance

Peak speeds up to 3.6 Gbps, supported by Qualcomm® 4K QAM, 160MHz channel support and unique 4-stream (2x2 + 2x2) Dual Band Simultaneous (DBS) with 6 GHz capabilities.



Expanded efficiency and capacity

Harnessing 6 GHz spectrum availability and extending advanced Wi-Fi 6 multi-user technology into the new band to deliver reliable performance, even in the most congested areas, such as airports and sports stadiums.



Ultra-low latency

Low latency and high speeds for emerging mobile applications, providing the foundation for burgeoning mobile gaming and XR applications.



Bluetooth audio innovation

Integrated Bluetooth 5.2 with two antennas paired with the latest high-quality audio and voice features of aptX technology and LE Audio support takes wireless audio to new levels.





FastConnect 6900

Features

- Wi-Fi 6 and 6E (6 GHz) feature support
- 160MHz channel support in both the 5GHz and 6GHz bands
- Qualcomm 4K QAM technology
- Qualcomm® Multi-User Traffic Management providing advanced multi-user technologies with universal uplink data support
- 4-stream (2x2 + 2x2) Dual Band Simultaneous (DBS)
- Dual Bluetooth Antennas for reliable long-range connections
- 1-to-many Bluetooth broadcast
- Long-range crystal-clear audio
- Multi-stream audio support for true wireless ear buds reduced power levels

Part Numbers

Product	Part Number
FastConnect 6900	WCN685x-1
supports low power PCIe interface and UART interface for Bluetooth	
FastConnect 6900	WCN685x-5
supports low power PCIe interface and USB 1.1 for Bluetooth	

Specifications

Process Technology	14nm
Wi-Fi Standards	Wi-Fi 6E, Wi-Fi 6 802.11ac wave 2 802.11a/b/g, 802.11n
Wi-Fi Spectral Bands	2.4 GHz, 5 GHz, 6 GHz
Peak Speed	3.6 Gbps
Wi-Fi Features	4K QAM 160MHz channel support (5 & 6 GHz) 8x8 Sounding Uplink and Downlink MU-MIMO Dual-band simultaneous (DBS) OFDMA Target Wake-up Time (TWT)
Wi-Fi Security	WPA3-Enterprise WPA3-Enhanced Open WPA3 Easy Connect WPA3-Personal
Bluetooth Version	Bluetooth 5.2
Audio Technology	Qualcomm TrueWireless™ technology Qualcomm TrueWireless™ Stereo Plus technology Qualcomm® aptX™ Adaptive Qualcomm aptX Voice
aptX Audio Playback Support	aptX Adaptive

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