

Qualcomm

Qualcomm®

# FastConnect™ 6900 System

**Wi-Fi 6, 6E, Bluetooth 5.3 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 5.3 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 5.3 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
- FIPS 140-2 support with Windows Operating System (OS) integration

## 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	

\*with Windows Operating System (OS) integration

## Specifications

Process Technology	14nm
Wi-Fi Standards	Wi-Fi 6E, Wi-Fi 6, 802.11ac wave 2 802.11a/b/g/n, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w, 802.11r, 802.11k, 802.11v pending OS support
Wi-Fi Spectral Bands	24 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) Fine Timing Measurement based on 802.11-2016
Wi-Fi Security	WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3- Personal, WPA2, 802.1x (EAP-TLS, EAP-TTLS, PEAP), PAP, TLS, MS- CHAP, MS-CHAPv2, 64-BIT AND 128- BIT WEP, TKIP, 128-bit AES-CCMP, 128-bit and 256-bit AES-GCMP, WPA2-PSK, AES-CCMP FIPS 140-2 support*
Bluetooth Version	Bluetooth 5.3
Audio Technology	Qualcomm TrueWireless™ technology Qualcomm TrueWireless™ Stereo Plus technology Qualcomm® aptX™ Adaptive Qualcomm aptX Voice
aptX Audio Playback Support	aptX Adaptive

To learn more visit: [qualcomm.com](https://www.qualcomm.com)



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