



# Qualcomm® FastConnect™ 7900 Mobile Connectivity System

**AI-optimized and integrating Wi-Fi 7, Bluetooth®, and Ultra Wideband (UWB) together in a 6nm single-chip connectivity system for unparalleled performance across mobile, compute, and XR experiences.**

The FastConnect 7900 is an AI-enhanced connectivity system integrating Wi-Fi 7, Bluetooth, and UWB in a single-chip 2x2 offering on an industry-leading 6nm process node. Delivering ultra-high speeds and sustained low latency across Wi-Fi, leading Bluetooth Audio, and all-new proximity awareness capabilities, FastConnect 7900 is packed with premium innovation, building on an advanced implementation of High Band Simultaneous (HBS) Multi-Link with UWB and Bluetooth Channel Sounding to seamlessly find nearby devices like earbuds, smart tags, or other mobile devices.

FastConnect 7900 is complemented with all-new RF front-end module (FEM) offerings, including the Qualcomm® QXM1093/6 which enables up to 50% power savings and the highly integrated Qualcomm® QXM1099/98 HBS modules with a 50% reduction in size on customer PCB for modem-to-antenna optimizations and longer battery life.

FastConnect 7900 is at the core of multi-device experiences with High Band Simultaneous technology enabling innovations like Qualcomm® Expanded Personal Area Network Technology (XPAN) and Snapdragon Seamless™ experience, a cross-platform technology that enables the seamless linking of multiple devices across multiple OSes, sharing peripherals and data.

## Highlights

### Redesigned, AI-optimized Wi-Fi 7

FastConnect 7900 is redesigned to a compact 6nm, packing all-new AI-optimized Wi-Fi 7 built for extreme power efficiency. New RF FEMs add additional power savings and longer battery life.



### Comprehensive proximity awareness capabilities

FastConnect 7900 offers a range of technologies including Wi-Fi Ranging, Bluetooth Channel Sounding, and UWB designed to empower the user with comprehensive proximity capabilities.



### Next-gen, multi-device experiences

All-new RF FEMs brings improved KPIs, high efficiency, low power consumption, and support for high-throughput HBS. Now with proximity awareness capabilities from FastConnect 7900, take your multi-device experiences to a new level of seamless immersion. HBS and HBS Multi-Link are also at the core of experiences such as Qualcomm XPAN and Snapdragon Seamless for unparalleled connectivity.



### Revolutionary new sound experiences with Qualcomm XPAN and Snapdragon Sound

FastConnect 7900 offers amazing new audio experiences with support for the revolutionary new Qualcomm XPAN and the Snapdragon Sound™ Technology Suite. With these technologies, high-bitrate music streaming can be delivered over Wi-Fi at ultra-low power, from 96kHz scaling up to 192kHz, with whole home, building, and campus coverage. Qualcomm XPAN can also support high-quality audio, and HBS utilizes two simultaneous high-band connections to ensure the very best audio experiences with robustness.





## FastConnect 7900

FastConnect 7900 delivers advanced Wi-Fi, Bluetooth, and UWB connectivity features supporting mobile, compute, and XR applications and devices.

### Features

- 6GHz, 5GHz, and 2.4GHz support
- Up to 5.8 Gbps data rate using 4K QAM modulation and 320MHz channel bandwidth (single channel or 160 + 160 with High Band Simultaneous)
- Up to 4.3 Gbps with 4K QAM and 240MHz combined channel bandwidth using multiple streams of globally available 5GHz spectrum
- Unique HBS technology delivers multiple links of 5 and/or 6GHz performance
- 40% lower power usage than previous generation
- Bluetooth 5.4, spatial audio, and ANT+ support
- Support for Snapdragon Sound and Qualcomm XPAN
- LE Audio for personal audio sharing and broadcast for listeners to share streams or join others
- Multi-stream audio support for true wireless earbuds

### Ordering Information

Product	Part Numbers
FastConnect 7900	WCN7880
	WCN7881

### Specifications

<b>Wi-Fi Peak Speed</b>	5.8 Gbps
<b>Wi-Fi Generations</b>	Wi-Fi 7, Wi-Fi 6E, Wi-Fi 6
<b>Wi-Fi Standards</b>	IEEE 802.11be, 802.11ax, 802.11ac, 802.11n, 802.11g, 802.11a, 802.11b
<b>Wi-Fi Spectral Bands</b>	6GHz, 5GHz, 2.4GHz
<b>Peak QAM</b>	4k QAM
<b>Wi-Fi Features</b>	High Band Simultaneous Multi-Link, 320MHz (single channel, or 160 + 160), MU-MIMO (Uplink and Downlink), OFDMA (Uplink and Downlink), Target Wake Time (TWT), Passpoint, Wi-Fi Aware R3, Wi-Fi Location, Wi-Fi Optimized Connectivity, Wi-Fi QoS Management, TDLS, Miracast, Voice-Enterprise
<b>Wi-Fi Security Support</b>	Protected Management Frames, WPA3-Enterprise, WPA3-Personal, Enhanced Open, Wi-Fi Easy Connect, WPA2, 802.1x (EAP-TLS, EAP-TTLS, PEAP), PAP, TLS, MSCHAP, 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
<b>Bluetooth Specification Version</b>	Bluetooth 5.4
<b>Audio Technology</b>	Qualcomm XPAN, Snapdragon Sound, LE Audio, Low-latency Gaming mode with Voice back-channel, Stereo Recording, Spatial Audio
<b>Qualcomm® aptX™ Audio Playback Support</b>	Qualcomm aptX Lossless, Qualcomm® aptX™ Adaptive, Qualcomm aptX Voice
<b>UWB Standards</b>	IEEE 802.15.4z, FiRA, CCC
<b>UWB Features</b>	1 Transmit + 3 Receive chains, with support for TOF and AOA measurement



#### Smartphones

Use your phone to discover, track, and connect to multiple devices simultaneously. FastConnect 7900 is designed to provide fast, responsive, reliable, and high-quality gaming, casting, and sharing experiences.



#### Compute

Demands on compute connectivity are accelerating, and FastConnect 7900 addresses major pain points for speed, reliability, and responsiveness with innovation fit for high-performance applications like gaming or content creation.



#### Wireless XR

Wireless Extended Reality (XR) demands connectivity that is ultra-responsive, extremely reliable, blazing-fast, and power efficient. Whether you're wirelessly connecting your Head Mount Display (HMD) or are using PC Virtual Reality (PCVR), FastConnect and FastConnect Software Suite are rising to the occasion with superior connectivity and feature optimizations for this rapidly growing market.

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



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