



Qualcomm® FastConnect™ 7800 Mobile Connectivity System

Leading Wi-Fi 7, premium Wi-Fi 6/6E, and advanced Bluetooth® audio come together in this powerful and versatile connectivity system to unlock extreme performance for mobile, compute, and XR experiences.

The Qualcomm FastConnect 7800 is an advanced 14 nm Wi-Fi and Bluetooth Connectivity system designed to deliver ultra-high speeds (up to 5.8 Gbps*), sustained low latency (2 ms), and premium Bluetooth audio.

While maintaining compliance with the latest Wi-Fi 6/6E and Wi-Fi 7 standards, FastConnect 7800 is packed with sophisticated innovation that goes beyond standard benchmarks. High Band Simultaneous (HBS) Multi-Link Wi-Fi technology uniquely harnesses the potential of 5 and 6GHz bands for multiple links of high band performance for throughput-hungry and latency-sensitive applications, eliminating dependence on the comparatively narrow and congested 2.4GHz band.

FastConnect 7800 also supercharges Snapdragon Sound™ Technology, Bluetooth LE Audio, and Bluetooth 5.4 with next-generation Dual Bluetooth—two streams with dedicated connections, designed to enable Bluetooth accessories to work at twice the range and make changing a Bluetooth connection from smartphone to PC or earbuds to an automobile's hands-free system instant and effortless.

Highlights

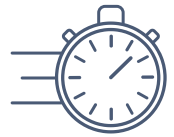
Multi-gigabit performance

Wi-Fi peak speeds of 5.8 Gbps*, with 5 and 6GHz connections, and 4.3 Gbps* using multiple links of 5GHz spectrum when 6GHz is unavailable—Featuring 4K QAM and next-gen High Band Simultaneous tech to deliver unparalleled performance.



Ultra-low latency

2 ms latency and jitter-free experiences with high band simultaneous technology for multiple links of 5 and/or 6GHz performance applied across standards with next-gen Qualcomm® 4-Stream DBS, or for a premium Wi-Fi 7 experience when paired with a compatible access point.



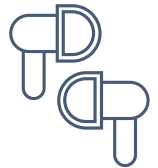
Versatility

Whether connected to readily available Wi-Fi 6 or 6E infrastructure or next-gen Wi-Fi 7 access points, in a location with or without 6GHz operation available, FastConnect 7800 delivers sophisticated High Band Simultaneous implementations to deliver in the moment. FastConnect 7800 delivers sophisticated HBS Multi-Link implementations to deliver in the moment.



Bluetooth audio and Snapdragon Sound

Next-gen Dual Bluetooth designed to deliver two concurrent audio streams, massively improving the delivery of Snapdragon Sound, LE Audio & Bluetooth 5.4 to audio devices. Roam with twice the range and listen longer with 30-50% power savings**.



* Speed claims refer to maximum physical layer (PHY) rate

** Compared to previous generations



FastConnect 7800

FastConnect 7800 delivers advanced Wi-Fi and Bluetooth connectivity features supporting mobile, compute, and XR applications and devices.

Features

- Built for Wi-Fi 7 Certification
- 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 channel bandwidth using multiple streams of globally available 5GHz spectrum
- Unique high band simultaneous technology delivers multiple links of 5 and/or 6GHz performance applied across standards with next-gen Qualcomm 4-Stream DBS
- Supports Wi-Fi 7 High Band Simultaneous Multi-Link
- Premium Wi-Fi 7 experience when paired with a compatible access point
- Longer lasting wireless audio sessions with 30-50% power savings**
- Bluetooth 5.4, LE Audio, and ANT+ support
- Advanced Dual Bluetooth feature is designed to deliver concurrent audio streams for reliable long-range connections
- Supports Qualcomm® FastConnect™ Software Suite for XR
- Supports Snapdragon Sound Technology
- LE Audio for personal audio sharing and broadcast for listeners to share streams or join others
- Long-range, crystal-clear audio
- Multi-stream audio support for true wireless earbuds
- FIPS 140-2 support with Windows Operating System (OS) integration

* Speed claims refer to maximum physical layer (PHY) rate

** Compared to previous generations

Ordering Information

Product	Part Numbers
FastConnect 7800	WCN785x-1
	WCN785x-5

To learn more visit: qualcomm.com



Specifications

Process Technology	14 nm
Wi-Fi Standards	Wi-Fi 7, Wi-Fi 6E, Wi-Fi 6 (802.11ax), 802.11ac wave 2, 802.11a/b/g, 802.11n
Wi-Fi Spectral Bands	2.4GHz, 5GHz, 6GHz
Peak Speed	5.8 Gbps*
Wi-Fi Features	4-Stream Dual Band Simultaneous in the High Bands, 4K QAM, Multi-Link Operation (MLO), 320MHz (single channel, or 160 + 160), 8x8 Sounding, 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
Security Support	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*
Bluetooth Version	Bluetooth 5.4
Audio Technology	Snapdragon Sound, LE Audio, Qualcomm® aptX™ Lossless Technology (CD quality audio) Low-latency Gaming mode with Voice back-channel, Stereo Recording, Qualcomm TrueWireless™ Technology, Qualcomm TrueWireless Stereo Plus
aptX Audio Playback Support	aptX Lossless, aptX Adaptive Audio, aptX Voice Audio

©2023 Qualcomm Technologies, Inc. and/or its affiliated companies. All Rights Reserved. Snapdragon and Qualcomm branded products are products of Qualcomm Technologies, Inc. and/or its subsidiaries. Qualcomm patented technologies are licensed by Qualcomm Incorporated. Qualcomm is a trademark or registered trademark of Qualcomm Incorporated. Other product and brand names may be trademarks or registered trademarks of their respective owners.