

Qualcomm

Qualcomm®

FastConnect™ 7800

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 14nm 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 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 comparatively narrow and congested 2.4GHz band.

FastConnect 7800 also supercharges Snapdragon Sound™ Technology, Bluetooth LE Audio, and Bluetooth 5.3 with next-generation Dual Bluetooth – two radios with dedicated connections, designed to enable Bluetooth accessories to work at twice the range, to pair in half the time, and makes changing a Bluetooth connection from smartphone to PC, or earbuds to an automobile’s hand-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 compatible AP.



Versatility

Whether connected to readily available Wi-Fi 6 or 6E infrastructure or next-gen Wi-Fi 7 APs, 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 high band simultaneous 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 5.3 to audio devices. Roam with twice the range, connect in half the time, 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 AP
- Longer lasting wireless audio sessions with 30-50% power savings**
- Bluetooth 5.3, LE Audio, and ANT+ support
- Advanced Dual Bluetooth feature is designed to deliver concurrent audio streams for reliable long-range connections
- 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

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** Compared to previous generations

Specifications

Process Technology	14nm
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 5.3
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

* with Windows Operating System (OS) integration

Part Numbers

Product	Part Numbers
FastConnect 7800	WCN785x-1
	WCN785x-5

To learn more visit: qualcomm.com

Qualcomm TrueWireless and Qualcomm aptX are products of Qualcomm Technologies, Inc. and/or its subsidiaries.

