Qualcomm® Networking Pro 620 Platform

Tri-Band Wi-Fi 7 networking platform with a 6-stream configuration. Ideal architecture for small-to-medium business, gaming, and home mesh systems.

The Qualcomm Networking Pro 620 Platform enables 10 Gbps peak capacity for enterprise access points, routers, carrier gateways, and mesh Wi-Fi networking. Designed to support maximum aggregated capacity and sustained connections, with low latency and resilient connectivity, this platform delivers high-performance even in congested networks.

The Qualcomm Networking Pro 620 Platform delivers next-gen Wi-Fi 7 features today, including support for wide 320MHz channels to surge peak speeds, Multi-Link operation to maximize spectrum efficiency and low-latency performance, and 4K QAM to provide a throughput boost via advanced modulation.

The platform includes Qualcomm® Multi-User Traffic Management with advanced algorithmic scheduling of data using bi-directional MU-MIMO and OFDMA on all streams. This platform features powerful computing, an architectural design built for challenging infrastructure environments, and supports the Qualcomm® Automated Frequency Coordination (AFC) Service[1]— enabling higher power operation in the 6GHz band for greater performance and longer range, in regions where available.

Highlights

Superior Wi-Fi 7 Connectivity

Experience Wi-Fi 7 advanced features like 320MHz channel support, Multi-Link operation, 4K QAM, and more.
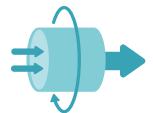
Peak Capacity

Designed to enable 10 Gbps* peak aggregate wireless capacity with reliable, secure connections that scale from prosumer use to enterprise coverage with incredibly low latency even in congested networks.

Intelligent Multi-Link Management

Expert implementation of Multi-Link technology realizes massive performance gains and enables customer traffic to dynamically aggregate or alternate bands to deliver high capacity and deterministic, predictable low latency, while Adaptive Interference Puncturing maximizes channel utilization in the presence of interference.

Premium Mesh Wi-Fi

With multi-link technology and 6GHz spectrum, multi-gigabit wireless backhaul offers a whole new freeway to migrate traffic, boosting speed, lowering latency, and improving overall performance of legacy devices while preparing your network for next-gen Wi-Fi 7 devices.

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

[1] Pending regulatory approvals.

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Features

- Massively expanded range of Wi-Fi channels in the 6GHz spectrum, with simultaneous operation in 2.4, 5, and 6GHz spectrum bands

- 320MHz channel support in the 6GHz band, where available, for max throughput and congestion avoidance for low latency applications

- 240MHz channel support, key for regions without 6GHz spectrum availability

- Support for 4K QAM

- Qualcomm Multi-User Traffic Management provides advanced scheduling algorithms and buffering with bi-directional data support, up to 37-user OFDMA support per channel and spatial multiplexing UL/DL MU-MIMO support

- Qualcomm Max User Architecture offers network stability and sustained throughput and flexibility based on memory configuration

- Qualcomm® Wi-Fi Security Suite offers the most comprehensive WPA3 implementation coupled with state-of-the-art embedded crypto accelerators designed to provide secure transactions across a full range of Wi-Fi data touchpoints

- Advanced network interfaces for 10GbE WAN and LAN standard networking protocols and PCIe interfaces for platform extensions

- Ordering part number: IPQ9554

Specifications

CPU Clock Speed	2.2GHz
CPU Cores	Quad-core Arm® Cortex®-A73
Process Technology	14nm
Wi-Fi Standards	802.11be, 802.11ax, 802.11ac, 802.11n, 802.11a/b/g
Wi-Fi Generations	Wi-Fi 7, Wi-Fi 6E, Wi-Fi 6, Wi-Fi 5, Wi-Fi 4
Wi-Fi Spectral Bands	6GHz, 5GHz, 2.4GHz
Spatial Streams	6 streams
Channel Support	320MHz, 240MHz, 160MHz, 80MHz, 40MHz, 20MHz
Peak Speed	10 Gbps (PHY Rate)
Max Band Config	Tri-Band
Wi-Fi Features	Simultaneous and Alternating Multi-Link modes Adaptive Interference Puncturing 4K QAM UL/DL OFDMA, 37 users UL/DL MU-MIMO TxBF 802.11be QoS Qualcomm AFC Service
Wi-Fi Security	WPA3 Personal, WPA3 Enterprise, WPA3 Enhanced Open, WPA3 Easy Connect, WPA2, WPS, 802.11i security, AES-CCMP, AES-GCMP, PRNG, TKIP, WAPI2, WAPI1, WEP
Flash	eMMC, NAND, Serial NOR
Memory Type	DDR3L, DDR4 Bit width 16/32
Platform Extensions	Bluetooth®, 802.15.4 (Zigbee/Thread), 4G/5G FWA
Packet Processing	WAN tunnel offload engine, integrated Ethernet switch, enhanced security processor, high performance QoS/TM
6 Port Integrated Ethernet Switch	4 x 2.5 GE + 10 GE
Supported OS	Openwrt, Linux Kernel 5.4
Supported Interfaces	4x PCIe 3.0 controllers, PTA Coex, I^2S, I^2C, 2x USXGMII, 1x USXGMII-M, SD/eMMC, SDIO, SPI, UART, USB 3.0

Qualcomm Wi-Fi Security Suite is a product of Qualcomm Technologies, Inc. and/or its subsidiaries.

To learn more visit: qualcomm.com