Qualcomm® Immersive Home 326 Platform

Tri-Band Wi-Fi 7 networking platform with a 6-stream configuration. Ideal for powerful whole home mesh systems.

The Qualcomm Immersive Home 326 Platform leverages advanced Wi-Fi 7 features and Qualcomm® Multi-Link Mesh innovation to deliver peak speeds and low latency to serve the needs of today's and tomorrow's applications like real-time gaming, high-resolution video or XR and realize the full capacity of next-gen broadband access.

Utilizing an innovative modular platform architecture, it is designed to be small enough and cost effective to deploy in every size home, while being powerful enough to support the demands of today's smart home network.

The Qualcomm Immersive Home 326 Platform's specialized Packet Processing Engine offloads WAN networking and QoS traffic management, thereby freeing up powerful Quad-core Cortex-A53 Arm CPU compute to support differentiating services and applications, such as device management and control, content filters and security features.

Extensive support for open-source OS and middleware elements simplifies broadband service providers and OEMs' integration and accelerates time-to-market.

Plus, high client count support and easy integration with IoT applications make this platform a truly future-proof smart home solution.

Highlights

Superior Wi-Fi 7 connectivity

Experience superior Wi-Fi 7 connectivity with a platform designed to deliver 10.6 Gbps* peak aggregate wireless system capacity, reliable connections and incredibly low latency even in congested networks, thanks to expert implementation of advanced Wi-Fi 7 features like 320MHz channel support, 4K QAM and Multi-Link operation.

Built for the Smart Home

Modular silicon architecture optimized for compact, power-efficient, and cost-effective product designs. Built to satisfy the demands of today's and tomorrow's smart homes, the platform enables easy integration with IoT applications and is able to associate and maintain stable connectivity for hundreds of client devices simultaneously.

Qualcomm Multi-Link Mesh

Innovative Qualcomm Multi-Link Mesh networking technology intelligently optimizes traffic flows to dynamically adapt to network conditions, client capabilities and home topology. Client devices can realize higher capacity, extended coverage, deterministic low latency and multi-Gig throughput throughout the home and beyond.

* Capacity claims refer to maximum physical layer (PHY) capacity.

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The Qualcomm Immersive Home 326 Platform is designed to deliver powerful Wi-Fi 7 connectivity for whole home mesh systems for a new era of extremely high throughput, low latency, high capacity, and extended coverage.

Qualcomm immersive home 326 platform

Features

- Powerful 6-stream Tri-Band platform enables simultaneous operation in the 2.4GHz, 5GHz and 6GHz spectrum bands

- Architecture optimizations including integrated Wi-Fi front-end module (FEM) minimize the number of external components and help ensure end-products are compact and cost-efficient

- Low power consumption thanks to advanced process node and power saving capabilities

- Powerful Quad-core CPU and specialized Packet Processing Engine provides powerful networking acceleration and QoS traffic management while offloading CPU

- Dedicated Security Processing Engine ensures secure network transactions with embedded networking crypto engine, Secure Boot with root-of-trust transfer and TrustZone

- Open API porting for multi-source development (OpenWRT, RDK-B, PrplOS) and support of OpenSync™ and TIP OpenWiFi for easy integration of customized services

- Turnkey Qualcomm® Automated Frequency Coordination (AFC) Service* is designed to support maximized 6GHz operation, in regions where available

- Easy integration for IoT applications with platform extensions and coexistence interface

- Ordering part number: IPQ5322

* Pending regulatory approvals

Specifications

CPU Clock Speed	1.5GHz
CPU Cores	Quad-core Cortex-A53 Arm
Wi-Fi Generations	Wi-Fi 7, Wi-Fi 6E, Wi-Fi 6, Wi-Fi 5, Wi-Fi 4
Wi-Fi Standards	802.11be, 802.11ax, 802.11ac, 802.11n, 802.11g, 802.11b, 802.11a
Wi-Fi Spectral Bands	2.4GHz, 5GHz, 6GHz
Spatial Streams	6 streams
Channel Support	320MHz, 240MHz, 160MHz, 80MHz, 40MHz, 20MHz
Peak Speed	10.6 Gbps (PHY Rate)
Max Band Config	Tri-Band
Wi-Fi Features	Simultaneous and Alternating Multi-Link modes Adaptive Interference Puncturing Up to 4K QAM DL/UL OFDMA & DL/UL MU-MIMO 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	NOR, NAND, eMMC
Memory Type	DDR3L/4 16-bit
Platform Extensions	Bluetooth®, 802.15.4 (Zigbee/Thread), 4G/5G FWA
Packet Processing	WAN tunnel processing offload, QoS acceleration
Ethernet	5 GE + 10 GE
Supported OS	Openwrt, Linux Kernel 5.4
Supported Interfaces	3x PCIe 3.0, PTA Coex, I^{2}S/PCM/TCM, 2x USXGMII/SGMII+, SD/eMMC, SDIO, SPI, UART, USB 3.0/USB 2.0

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