8cx
Qualcomm
snapdragon

Qualcomm® Snapdragon™

8cx
Compute Platform

The most extreme Snapdragon. Ever.

The Qualcomm® Snapdragon™ 8cx Compute Platform combines the best of the smartphone with the power and performance of a premium laptop in ultra-thin, fanless form factors – delivering a superior Always On, Always Connected PC* computing experience. As the first 7 nm PC platform, the Snapdragon 8cx unleashes transformative 5G experiences, multi-gigabit LTE, and multi-day battery life** and marks the biggest generational performance increase ever in a Snapdragon platform.

Extreme performance

The Qualcomm® Adreno™ 680 Extreme GPU is engineered to provide a 2x performance improvement and 60% greater power efficiency over the previous generation platform. Together with the Qualcomm® Kryo™ 495 CPU, our fastest yet, the Snapdragon 8cx is designed to deliver amazing graphics, powerful productivity, and multi-day battery life.**

Always connected* with 5G and multi-gigabit LTE

Snapdragon 8cx unleashes transformative 5G experiences with the Snapdragon X55 5G modem while harnessing multi-gigabit 4G LTE connectivity. The platform's cutting-edge connectivity is designed to deliver the next generation of mobile experiences and improves throughput on today's LTE networks by up to 70% in poor network conditions compared to non-gigabit LTE. High speed connected computing for fast and efficient productivity and entertainment, virtually anywhere.

Enterprise-ready

By bringing 5G to the enterprise workforce, Snapdragon 8cx is breaking the barriers between the PC and the cloud, allowing lightning-fast collaboration and connection, virtually anywhere. The Snapdragon 8cx platform is also built with a suite of security features and architectures, including full hypervisor support. Protected LTE connectivity, improved cryptosecurity, and Windows 10 Enterprise support, designed to safeguard passwords, log-ons, and sensitive personal information.

Powerful graphics, immersive entertainment

The Snapdragon 8cx supports immersive graphics performance and HW acceleration for advanced video formats, with up to 4k HDR video playback at 120 frames per second for streaming and watching spectacular content virtually seamlessly. The integrated Qualcomm Aqstic™ Audio technology is designed to deliver high-fidelity sound and music and true surround-sound experiences.

New AI architectures for advanced applications

The integrated Qualcomm® AI Engine takes advantage of the Snapdragon 8cx highly integrated architecture, and allows developers to utilize the platform intelligently and efficiently, reducing reliance on the CPU alone and supporting the creation of the next generation of user experiences.

To learn more visit
snapdragon.com

Qualcomm® Snapdragon™

8cx Compute Platform

SPECIFICATIONS & FEATURES

Qualcomm® AI Engine

- Qualcomm® Hexagon™ 685 DSP
- Qualcomm All-Ways Aware™ technology

AI FEATURES

- 4th Generation Qualcomm AI Engine
- Enhanced voice assistant experiences for Alexa and Cortana with Qualcomm Aqstic technology

5G Modem

- Snapdragon X55 5G Modem
- Supported Technologies: 5G NR
- Support for sub-6 GHz and mmWave
- Supported Spectrum:
  - mmWave: 800 MHz bandwidth, 8 carriers, 2x2 MIMO
  - Sub-6 GHz: 100 MHz bandwidth, 4x4 MIMO

4G Modem

- Snapdragon X24 LTE Modem
- LTE Category: LTE Category 20
- Peak Download Speed: 2 Gbps
- Peak Upload Speed: 316 Mbps
- Downlink Features: 7x20 MHz carrier aggregation, Up to 256-QAM, Up to 4x4 MIMO on five carriers, Full-Dimension MIMO (FD-MIMO), Maximum 20 spatial streams
- Uplink Features: Qualcomm® Snapdragon™ Upload+, 3x20 MHz carrier aggregation, Up to 2x 106 Mbps LTE streams, Up to 256-QAM, Uplink data compression
- Supported Cellular Technologies: LTE FDD, LTE TDD including CBRS support, LAA, LTE Broadcast, WCDMA (DB-DC-HSDPA, DC-HSUPA), TD-SCDMA, CDMA 1x, EV-DO, GSM/EDGE

MODEM FEATURES

- Connected Standby/Instant On
- Multi-Gigabit speeds for virtually seamless cloud connectivity/computing: up to 2 Gbps LTE

Wi-Fi

- Wi-Fi Standards: 802.11ad, 802.11ac Wave 2, 802.11a/b/g, 802.11n
- Wi-Fi Bands: 2.4 GHz, 5 GHz, 60 GHz
- MIMO Configuration: 2x2 (2-stream)

WI-FI FEATURES

- MU-MIMO
- Multi-gigabit Wi-Fi
- Dual-band simultaneous (DBS)
- Integrated baseband

Camera

- Image Signal Processor: Dual 14-bit ISPs, Qualcomm Spectra™ 390 image signal processor
- 4K HDR video capture at 30 fps (10-bit color depth, rec2020.)
- Single HFR 16 MPix camera at 60 fps ZSL
- Dual 16 MPix cameras at 30 fps ZSL
- Single 32 MPix camera at 30 fps ZSL
- 4K HDR decode at 120 fps
- Codec Support: H.265 (HEVC), VP9 and H.264

CAMERA FEATURES

- Latest DirectX 12 API
- High efficiency video encoder
- Cinema core - VP9 & H.265 decoder
- 2nd Gen HDR Playback
- Dual 4K external display support

Audio

- Qualcomm Aqstic audio technology
- Qualcomm TrueWireless™ technology
- Qualcomm® Broadcast Audio technology
- Qualcomm® aptX™ audio technology: aptX Classic, aptX HD
- Surround Sound Audio
- Speaker Protection

Display

- Maximum On-Device Display Support: 4K
- Maximum External Display Support: Two 4K Displays

CPU

- CPU Cores: 8x Kryo 495
- CPU Architecture: 64-bit
- 7 nm Process Technology

Visual Subsystem

- Adreno 680 Extreme
- API Support DX12

RF Front-End

- Comprehensive 5G/4G modem-to-antenna solution
- Qualcomm® Signal Boost adaptive antenna tuning
- High-power transmit (HPUE)

Security

- Windows 10 Support: Enterprise, Pro, Home

SECURITY FEATURES

- Improved crypto-security
- Remote management and location awareness for enterprise efficiency

Memory & Storage

- Memory Type: LPDDR4x, 8 Channels
- Memory Capacity: 16 GB
- Storage: NVME SSD; UFS3.0

Location

- Global Emergency Services: Assisted GPS, OTDOA (LTE-based positioning)
- Satellite Systems: GPS, GLONASS, Beidou, Galileo, QZSS, SBAS

LOCATION FEATURES

- Location Aware for app accuracy
- Low Power Geofencing and Tracking
- Sensor-assisted Navigation
- Pedestrian Navigation

Connectivity Specifications

- Bluetooth Version: 5.0
- Near Field Communications: Supported
- USB Version: USB 3.1

CHARGING FEATURES

- Qualcomm® Quick Charge™ 4+ technology