

Qualcomm® Snapdragon™ 670 Mobile Platform



Snapdragon 670 Mobile Platform advancements

- **Snapdragon X12 LTE modem:** Lightning fast download speeds of up to 600 Mbps with 3x carrier aggregation. In a snap you can download music and listen to it via Bluetooth 5 with audio broadcast and ultra-low power ear bud support.
- **Qualcomm Spectra™ 250 Image Signal Processor:** Designed with new architectures to bring the finest photos and video experiences to your device. Aspiring videographers will be excited to capture images up to 25 megapixels and enjoy cinema-grade quality video with vibrant colors.
- **Qualcomm® Adreno™ 615 Visual Processing Subsystem:** Supports life-like experiences, stunning graphics, and console-like gaming at lower power.
- **Qualcomm® Hexagon™ 685 DSP:** Our most intelligent on-device AI processor has been developed over three generations delivering smart camera, voice and gaming experiences.
- **Qualcomm® Kryo™ 360 CPU:** Next generation microarchitecture optimized across 2 performance and 6 efficiency cores.

Sought-after mobile experiences

Connecting you to your world, faster

Get the speed you need with the Snapdragon X12 LTE Modem, supporting cutting-edge features for next-generation connectivity. Download TV shows or the latest tracks of your favorite artist nearly 2x faster than the previous generation modem—even in congested areas that see a lot of action. Plus, switch between LTE and Wi-Fi automatically, selecting the strongest signal so your voice and video calls come in loud and clear.



A smarter personal assistant

Qualcomm Artificial Intelligence (AI) Engine fuels innovative on-device experiences, making your interactions smart and intuitive. With up to 1.8x overall improvement over the previous generation, the AI Engine runs applications quickly and efficiently while providing better battery management. It can also help you capture better photos with automatic setting adjustments and perform tasks with enhanced voice recognition.



Powering your favorite activities

Experience blazing-fast performance and cross-tasking that's so incredible, you won't even notice it's there. The Kryo 360 gets a 15% boost in CPU performance over the previous generation, with eight cores dedicated to all your on-device needs. Six efficiency cores handle day-to-day operations while 2 performance cores manage more data-intensive tasks such as playing games or watching videos.



Heighten your entertainment experience

Sit back and enjoy ultimate entertainment from your devices. The Adreno 615 GPU provides 25% faster graphics rendering than the previous generation, with low power consumption and a turbo function that boosts speed. Plus, Qualcomm Aqstic™ audio technology amplifies sound, designed to deliver crystal-clear audio quality.



Take charge of your day

Go from empty to 50 percent in just 15 minutes. Qualcomm® Quick Charge™ 4+ technology allows you to power through your day with confidence. It enhances battery life and safety with technologies such as dual charge and intelligent thermal balancing.



To learn more visit: [snapdragon.com](https://www.qualcomm.com/snapdragon)

* Quick Charge is designed to increase the battery charge of a device by up to 50% in 15 minutes. Actual results may vary depending on device design.

All comparisons made are in reference to previous generation, Snapdragon 660 mobile platform. Results will vary depending on OEM implementation and other factors.

Qualcomm Snapdragon, Qualcomm Spectra, Qualcomm Adreno, Qualcomm Hexagon, Qualcomm Kryo, Qualcomm Aqstic, Qualcomm AI Engine, and Qualcomm Quick Charge are products of Qualcomm Technologies, Inc. and/or its subsidiaries.

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Offering some of the most asked-for mobile experiences and delivering smarter artificial intelligence, powerful cross-tasking and enhanced multimedia experiences.

Features & Specifications¹

Visual Processing System

- Adreno 615 Visual Processing Subsystem
- Open GL ES 3.2, Open CL 2.0, Vulkan, DirectX 12
- Ultra HD video playback
- H.264 (AVC), H.265 (HEVC) and VP9 playback
- DisplayPort over USB Type-C support

DSP

Hexagon 685 DSP with:

- 3rd Gen Vector Extensions
- Qualcomm All-Ways Aware™ Sensor Hub
- Qualcomm® Neural Processing Engine SDK
- Caffe, Caffe2, Tensorflow, Tensorflow Lite and other framework support

Audio

- Qualcomm Aqstic audio codec and Qualcomm Aqstic smart speaker amplifier
 - Up to native DSD support, PCM up to 384 kHz/32-bit
- Qualcomm® aptX™ audio playback with support for aptX Classic and HD

CPU

- 8x Kryo 360 CPU
- Up to 2.0 GHz
- 10 nm LPP process technology

Memory

- LPDDR4x, 2x 16-bit
- Up to 1866 MHz, 8 GB RAM

Image Signal Processor

- Qualcomm Spectra 250 Image Signal Processor

- 2nd Generation Qualcomm Spectra architecture for 14-bit image signal processing, with support up to:
 - Single High Frame Rate 16 Megapixel camera at 60 fps and Zero Shutter Lag
 - Single 25-Megapixel camera at 30 fps and Zero Shutter Lag
 - Dual 16-Megapixel cameras at 30 fps and Zero Shutter Lag
- Can connect up to 6 different cameras (many configurations possible)
- Multi-frame Noise Reduction (MFNR) with accelerated image stabilization
- Hybrid Autofocus with support for dual phase detection (2PD) sensors
- Ultra HD video capture (4K at 30 fps) with Motion Compensated Temporal Filtering (MCTF)

Charging

- Quick Charge 4+ technology

Security

- Qualcomm® Processor Security
- Qualcomm® Mobile Security
- Qualcomm® Content Protection

Modem

- Snapdragon X12 LTE Modem
- Support for 600 Mbps LTE
- Downlink: LTE Cat 15 up to 600 mbps, 3 x 20 MHz carrier aggregation, up to 256-QAM
- Uplink: LTE Cat 13 up to 150 Mbps, Qualcomm® Snapdragon™ Upload+ (2 x 20 MHz carrier aggregation, up to 64-QAM)
- Citizens Broadband Radio Service (CBRS) shared radio spectrum

- Dual SIM Dual VoLTE (DSDV)
- Qualcomm® All Mode with support for all major cellular modes plus LAA. Support for:
 - VoLTE with SRVCC to 3G and 2G, HD and Ultra HD Voice (EVS), CSFB to 3G and 2G
 - Voice over Wi-Fi (VoWiFi) with LTE call continuity

Connectivity

- Qualcomm® Wi-Fi
- Wi-Fi integrated 802.11ac 2x2 with MU-MIMO
- Tri-band Wi-Fi: 2.4 GHz and 5 GHz with Dual Band Simultaneous (DBS) + 60 GHz
- 11k/r/v: Enhanced mobility, fast acquisition and congestion mitigation for Carrier Wi-Fi
- Qualcomm TrueWireless™ Stereo
 - Bluetooth 5.0 with proprietary enhancements for:
 - Ultra-low power wireless ear buds
 - Direct audio broadcast to multiple devices

RF Front-End

- Qualcomm® Signal Boost™ adaptive antenna tuning
- High-power transmit (HPUE)

Location

- GPS, Glonass, BeiDou, Galileo, QZSS, and SBAS
- Low Power Geofencing and Tracking, Sensor assisted Navigation

¹ Certain optional features available subject to Carrier and OEM selection for an additional fee.

Qualcomm All-Ways Aware, Qualcomm Processor Security, Qualcomm Mobile Security, Qualcomm Content Protection, Qualcomm Signal Boost, Qualcomm Wi-Fi, Qualcomm aptX, Qualcomm All Mode, Qualcomm Neural Processing Engine, Qualcomm Snapdragon Upload+ and Qualcomm TrueWireless are products of Qualcomm Technologies Inc. and/or its subsidiaries.

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