Qualcomm® Snapdragon™ 675 Mobile Platform

Snapdragon 675 Mobile Platform highlights

- **Qualcomm® Kryo™ 460 CPU:**
  New architecture built on Arm Cortex technology offers a 20% overall performance improvement, optimized across 2 performance and 6 efficiency cores.

- **Qualcomm® Adreno™ 612 GPU:**
  Supports stunning graphics, enhances gaming performance and, through heterogenous computing, isolates graphic-intensive content for improved processing and efficiency.

- **Qualcomm Spectra™ 250L Image Signal Processor**: Powered by second-generation architecture for 14-bit processing, capture dynamic visual content and HD slo-mo recording at up to 480 fps. Up to 3 camera support in front or back enables features such as 5x optical zoom and Bokeh.

- **Qualcomm® Hexagon™ 685 DSP:** Our most intelligent on-device AI processor has been developed and refined over three generations to deliver smart camera, voice, security and gaming experiences.

- **Snapdragon X12 LTE Modem:** Benefit from blazing-fast download speeds of up to 600 Mbps with 3x carrier aggregation. Download music fast and listen via Bluetooth 5, featuring audio broadcast and ultra-low power ear bud support.

Sought-after mobile experiences

Outstanding gaming

Dive head-first into the action on-screen. Snapdragon 675 is optimized to run some on the most popular games faster and smoother, with over 90% fewer janks. At the heart of the gaming experience are the Kryo 460 CPU and Adreno 612 GPU, supporting stunning, life-like imagery and fast graphics rendering. That's some serious horsepower.

Create stellar memories

The Qualcomm Spectra 250L ISP is engineered to capture amazing detail at up to 25 megapixels in vivid, true-to-life color and snapshots at 48 megapixels. This platform also boasts enhanced features including portrait mode (Bokeh), triple camera for 5x optical zoom and zero shutter lag – so you can capture memorable moments exactly how you want to remember them. Plus, it delivers HD slo-mo recording at up to a dazzling 480 fps – a feature never before seen in the 600-tier.

AI smarts

The multi-core Qualcomm® AI Engine fuels compelling on-device interactions for a smarter, smoother user experience. Enjoy over 50% overall improvements from the previous generation (and up to 3 times the competition), transforming your mobile device into the ultimate personal assistant with enhanced security, face unlock and cool photo style transfers.

Peak performance

You can feel the powerful impact of the Kryo 460 CPU in every smartphone experience – web browsing, app launching, social media, and more. Your most commonly-used apps and their performance just got better. At the end of the day, you can accomplish more on a single charge.

Universal connections

When you need to get things done quickly, you can count on the Snapdragon X12 LTE Modem. With blazing-fast download and upload speeds, it supports cutting-edge features and remarkable connectivity—even in congested areas that see severe traffic. So even if you're lost in a crowd, you can still find yourself downloading rich app content, streaming your favorite TV show or delivering your favorite artist's new album onto your device. And you can do it all in remarkable time.

To learn more visit: snapdragon.com

Qualcomm snapdragon

Qualcomm snapdragon
675 mobile platform

Bringing a new mobile experience to the 600-tier with enhanced gaming and camera, smarter AI, plus impressive performance and efficiency.

Features & Specifications[1]

Visual Processing System

- Adreno 612 Visual Processing Subsystem
- Open GL ES 3.2, Open CL 2.0, Vulkan, DirectX 12
- 4K video playback
- H.264 (AVC), H.265 (HEVC), VP8 and VP9 playback
- DisplayPort over USB Type-C support

Image Signal Processor

- Qualcomm Spectra 250L ISP
- 2nd Generation Qualcomm Spectra architecture for 14-bit image signal processing, with support up to:
  - Dual camera: up to 16 MP, MFNR, ZSL, 30 fps
  - Single camera: up to 25 MP, MFNR, ZSL, 30 fps
  - Single camera: up to 48 MP, MFNR
  - Single camera: up to 192 MP
  - Video capture:
    - Standard: up to 2160p at 30 fps
    - Slow motion: up to 1080p at 120 fps or 720p at 240 fps
    - Slow motion capture with frame rate conversion: up to 720p at 480 fps
    - HEVC video capture
- 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)

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

CPU

- 8x Kryo 460 CPU
- Up to 2.0 GHz
- 11 nm LPP process technology

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)

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
- Far-field mic support
- Voice activation with machine learning algorithms
- Car mode

Memory

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

Charging

- Qualcomm® Quick Charge™ 4+ technology

Security

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

Location

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

Part number

SM6150