

QUALCOMM®  
SNAPDRAGON™

845

MOBILE PLATFORM

## Snapdragon 845 Mobile Platform advancements:

- + Qualcomm Spectra™ 280 ISP: Ultra HD Premium video capture and playback, plus dual ISPs supporting up to 32MP camera for next generation imaging.
- + Qualcomm® Adreno™ 630 Visual Processing Subsystem: New architecture designed for transforming the video capture experience and extending realities with enhanced XR.
- + Qualcomm® Hexagon™ 685 DSP: 3rd-generation platform for highly-advanced on-device AI user experiences for camera, voice, XR and gaming.
- + Qualcomm® Snapdragon™ X20 LTE modem: Mobile connectivity with LTE download speeds up to 1.2 Gbps, multi-gigabit 802.11ad, and integrated 2x2 802.11ac Wi-Fi with MU-MIMO.
- + Qualcomm® Kryo™ 385 CPU: Manufactured in 10nm LPP, optimized across 4 performance and 4 efficiency cores.

To learn more visit: [snapdragon.com](http://snapdragon.com)

## Featuring our latest in Mobile Technology



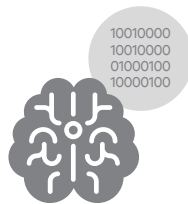
### Capturing cinema grade videos

Built with new camera and graphics architectures that are designed to allow mobile users to capture their videos in cinema-grade quality and have access to a billion shades of colors. Snapdragon 845 mobile platform is the first to feature 64x more color information via Ultra HD premium video capture.



### Truly immersive experiences

Blur the lines between the physical and virtual worlds for VR headsets by enabling XR users to detect walls and objects in any room. The newly architected Adreno 630 is the first to enable Room-Scale VR for mobile XR headsets with six degrees of freedom (6DoF) and Simultaneous Localization and Mapping (SLAM).



### User experiences powered by Artificial Intelligence

Snapdragon 3rd generation AI Platform is on-device intelligence that will transform your mobile device into a better personal assistant using voice, better camera using enhanced features like camera bokeh, more true to life XR, gaming, and long lasting battery life.



### Vault-like security

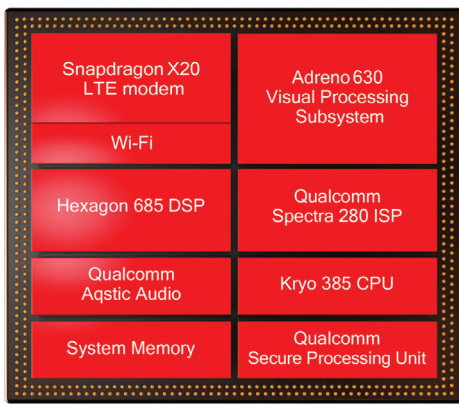
Enjoy peace of mind knowing that your device is safeguarded with vault-like security. Your biometric information, like fingerprint, iris, voice, and facial data, as well as mobile payments, are now in a safer place.



### Bringing the “wireless fiber” experience

The first LTE modem with download speeds up to 1.2 Gbps further the globalization of wireless fiber. Blazing fast throughput speeds and great signal strength deliver improved app performance, user experiences, power efficiency, and lightning-fast access to your files in the cloud.

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Snapdragon 845 Mobile Platform supports next generation immersion, on-device intelligence, new security layers, and an all-day experience.

## FEATURES & SPECIFICATIONS<sup>1</sup>

### Visual Processing Subsystem

- + Qualcomm® Adreno™ 630 Visual Processing Subsystem
- + OpenGL ES 3.2, OpenCL 2.0, Vulkan2, DxNext

### eXtended Reality (XR)

- + Room-Scale 6DoF with Simultaneous localization and mapping (SLAM)
- + Advanced visual inertial odometry (VIO)
- + Adreno Foveation

### DSP

- + Qualcomm® Hexagon™ 685 DSP with:
  - 3rd Gen Vector Extensions
  - Qualcomm All-Ways Aware Sensor™ Hub
- + Qualcomm® Snapdragon™ Neural Processing Engine (NPE) SDK
- + Caffe, Caffe2 and Tensorflow support

### Display

- + UltraHD Premium-ready
- + 4K Ultra HD, 60 FPS
- + 2x 2400x2400 @ 120 FPS (VR)
- + 10-bit color depth
- + DisplayPort and USB Type-C support

### Audio

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

### CPU

- + 8x Qualcomm® Kryo™ 385 CPU
- + Up to 2.8 GHz
- + 2nd Gen 10nm LPP process technology

### Camera

- + Qualcomm Spectra™ 280 Image Signal Processor
- + Dual 14-bit ISPs

- + Up to 16 MP dual camera
- + Up to 32 MP single camera
- + Support for 16MP image sensor operating up to 60 frames per second
- + Hybrid Autofocus
- + Zero Shutter Lag
- + Multi-frame Noise Reduction (MFNR)

### Video Capture

- + 4K Video Capture for Ultra HD Premium Displays (4K@60fps in HDR)
- + Slow Motion video capture (720p@480fps)
- + Up to 10-bits per color video capture
- + Rec. 2020 color gamut video capture
- + Support for HDR10, HLG, and H.265 (HEVC) video capture
- + Motion Compensated Temporal Filtering (MCTF)
- + Accelerated Electronic Image Stabilization

### Memory

- + LPDDR4x, 4x16 bit
- + Up to 1866MHz, 8GB RAM

### Charging

- + Qualcomm® Quick Charge™ 4/4+ technology

### Optimized Software Solutions

- + Android and Windows OS

### Security

- + Qualcomm® Secure Processing Unit (SPU)
- + Qualcomm® Processor Security
- + Qualcomm® Mobile Security
- + Qualcomm® Content Protection

### Modem

- + Snapdragon™ X20 LTE Modem
- + Support for 1.2 Gbps Gigabit LTE
- + Downlink: LTE Cat 18 up to 1.2 Gbps, 5x20 MHz carrier aggregation, up to 256-QAM, up to 4x4 MIMO on three carriers

- + Uplink: LTE Cat 13 up to 150 Mbps, Qualcomm® Snapdragon™ Upload+ (2x20 MHz carrier aggregation, up to 64-QAM)
- + License Assisted Access (LAA)
- + 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
  - 802.11ad Multi-gigabit with 60 GHz diversity module
  - 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™ Bluetooth 5.0 with proprietary enhancements for:
  - Ultra-low power wireless ear buds
  - Direct audio and aptX HD quality stereo broadcast to multiple wireless speakers

### 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

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

Qualcomm Adreno, Qualcomm Hexagon, Qualcomm All-Ways Aware Sensor, Qualcomm Neural Processing Engine, Qualcomm Aqstic, Qualcomm Kryo, Qualcomm Spectra, Qualcomm Clear Sight, Qualcomm Quick Charge, Qualcomm Secure Processing Unit, Qualcomm Processor Security, Qualcomm Mobile Security, Qualcomm Content Protection, Qualcomm Snapdragon Upload +, Qualcomm All Mode, Qualcomm Signal Boost, and Qualcomm Wi-Fi, are products of Qualcomm Technologies, Inc. Qualcomm aptX and Qualcomm TrueWireless are products of Qualcomm Technologies International, Ltd.

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