

Qualcomm
snapdragon
855+ mobile platform



Qualcomm
snapdragon
860 mobile platform



Qualcomm® Snapdragon™ 855+/860 Mobile Platform is an entertainment dynamo designed for captivating photography and gaming experiences. Delivering faster graphics rendering and an uplift in CPU performance from the standard Snapdragon 855, you'll see and feel a boost in every play.



Framerate-shattering performance

Snapdragon™ 855+/860 delivers incredible gains while managing your device's power efficiently. Gaming takes on a new dimension with faster graphics rendering and an uplift in CPU performance from the Snapdragon 855. Amp up your game play with a platform engineered for heart-pumping pace.

- Qualcomm® Kryo™ 485 CPU Prime core clock speed at up to 2.96 GHz
- 15% faster graphics rendering compared to standard Snapdragon 855



Photography as dynamic as real life

Whether epic or everyday, your memories matter. The Qualcomm Spectra™ 380 ISP enables super-fast autofocus, reducing noise for pro-quality pictures on your mobile device. With support for up to 192 MP photos and 4K HDR videos, you'll get extreme detail and vivid colors that rival the true experience.

- Dual 14-bit CV ISPs enable higher resolution and support up to 22 MP capture on dual cameras simultaneously
- Support for HD slow-motion recording and 4K HDR video in Portrait Mode
- HEIF and HEVC capture formats save space on-device
- Spectra 380 boasts 4x more power savings than previous ISP generations



The ultimate gaming advantage

Qualcomm® Snapdragon Elite Gaming™ puts victory at your fingertips. You'll gain an exclusive, competitive edge with a suite of hardware and software features that are optimized for gaming. Play at your highest potential with enhancements that provide smoother play, near-instant response, incredible audio, and cinema-quality graphics.

- Vulkan 1.1 Graphics Driver runs off 20% less power than Open GL ES
- Includes Game Jank Reducer, Game Fast Loader, Game Anti-Cheat Extensions and more
- First true HDR gaming on mobile, providing over 1 billion shades of color
- Qualcomm® aptX™ Adaptive and Qualcomm Aqstic™ deliver a smooth, crystal-clear audio experience



Exceptional connectivity

Step into the new era of mobile gaming. Both ultra-powerful platforms give you the best of multi-gigabit 4G and powerful 5G connectivity, unleashing high-speed mobile experiences. Watch multi-player interactions unfold at the speed of human reflex with the Snapdragon X50 5G modem.

- Multi-gigabit 5G, 4G LTE and Wi-Fi
- Support for mmWave and sub-6 GHz



Ultra-responsive AI

Outsmart the competition with our brilliant 4th generation on-device AI engine. Utilizing all cores, it packs 3 times the power of the Snapdragon 845. With sophisticated capabilities and ultra-responsive intelligence, you'll get smarter, more intuitive photography and game play while managing your device's power more efficiently.

- Qualcomm® Hexagon™ 690 Processor featuring 2x Vector accelerator increase in performance and a new Tensor accelerator
- Greater than 7 trillion operations per second (TOPS)

855+
860

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

All comparisons made are in reference to previous generation, Snapdragon 845 mobile platform. Results will vary depending on OEM implementation and other factors.

Qualcomm Snapdragon, Qualcomm Kryo, Qualcomm Hexagon, Qualcomm Adreno, Qualcomm aptX, Qualcomm Snapdragon Elite Gaming, and Qualcomm Aqstic are products of Qualcomm Technologies Inc. and/or its subsidiaries.

Qualcomm® Snapdragon™ 855+/860 Mobile Platform

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SPECIFICATIONS & FEATURES

Qualcomm® Artificial Intelligence Engine

- Qualcomm® Hexagon™ 690 Processor
- Qualcomm® Hexagon™ Vector Accelerator
- Qualcomm® Hexagon™ Tensor Accelerator
- Qualcomm® Hexagon™ Voice Assistant
- Qualcomm® All-Ways Aware™ Hub
- Qualcomm® Adreno™ 640 GPU
- Qualcomm® Kryo™ 485 CPU

5G Modem

- Snapdragon™ X50 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
- Cellular Technologies: LTE FDD, LTE TDD with CBRS support, LAA, LTE Broadcast, WCDMA, TD-SCDMA, CDMA 1x, EV-DO, GSM/EDGE
- Downlink: LTE Cat 20 up to 2.0 Gbps, 7x20 MHz carrier aggregation, 256-QAM, 4x4 MIMO on five carriers
- Uplink: LTE Cat 13 up to 318 Mbps, 3x20 MHz carrier aggregation, 256-QAM, Uplink Data Compression
- Multi SIM with support for Dual SIM Dual VoLTE (DSDV) and LTE Dual SIM Dual Standby (DSDS) +LAA
- Next-generation Calling Services including VoLTE with SRVCC to 3G and 2G, HD and Ultra HD Voice (EVS), and CSFB to 3G and 2G

Wi-Fi

- Qualcomm® Wi-Fi 6-ready mobile platform
 - Wi-Fi Standards: 802.11ax-ready, 802.11ac Wave 2, 802.11a/b/g, 802.11n
 - Wi-Fi Spectral Bands: 2.4 GHz, 5 GHz
 - Channel Utilization: 20/40/80 MHz
 - MIMO Configuration: 2x2 (2-stream)
 - MU-MIMO
 - Dual-band simultaneous (DBS)
 - Key Features: 8x8 sounding (up to 2x improvement over 4x4 sounding devices), Target Wakeup Time for up to 67% better power efficiency, latest security with WPA3
- Qualcomm® 60 GHz-ready Wi-Fi mobile platform
 - Wi-Fi Standards: 802.11ad, 802.11ay
 - Wi-Fi Spectral Band: 60 GHz
 - Peak speed: 10 Gbps
 - Key Features: multi-gigabit speeds, wire-equivalent latency, always-on ambient Wi-Fi sensing

Camera

- Qualcomm® Spectra™ 380 Image Sensor Processor
- Dual 14-bit ISPs
- Hardware accelerator for computer vision (CV-ISP)
- Up to 22 MP dual camera
- Up to 48 MP single camera
- Rec. 2020 color gamut video capture
- Up to 10-bit color depth video capture
- Slow motion video capture at 720p HDR, 480fps
- HEIF photo capture, HEVC video capture
- Video Capture Formats: HDR10+, HDR10, HLG
- 4K HDR Video Capture with Portrait Mode (Bokeh)
- Multi-frame Noise Reduction (MFNR)
- Real-time object classification, segmentation and replacement

Audio

- Low-power Audio Subsystem with AI
- Hexagon Voice Assistant Accelerator for advanced voice use cases
- Qualcomm Aqstic™ Audio Technology
 - Native DSD support, PCM up to 384 kHz/32-bit
 - Supports two wake words simultaneously (Google Assistant, Amazon Alexa, Baidu, Cortana)
- Always-on echo cancellation and noise suppression; up to 4 mic far-field mic support for better voice recognition in tough conditions
- Qualcomm® aptX™ Adaptive audio technology
 - aptX Adaptive adjusts performance for optimum quality, latency, and efficiency
- Qualcomm TrueWireless™ Stereo Plus technology

Display

- Maximum On-Device Display Support: Up to 4K HDR
- Maximum External Display Support: Up to two 4K HDR displays
- Dual Display Concurrency: FHD+ @ 60 Hz (855+), FHD+ @ 90 Hz (860)
- 10-bit color depth, Rec. 2020 color gamut

CPU

- 8x Qualcomm® Kryo™ 485
- Up to 2.96 GHz
- 64-bit Architecture
- 7-nm Process Technology

Visual Subsystem

- Adreno 640 GPU
- Vulkan® 1.1 API support
- HDR gaming (10-bit color depth, Rec. 2020 color gamut)
- Physically Based Rendering
- API Support: OpenGL® ES 3.2, OpenCL™ 2.0 FP, Vulkan 1.1
- Hardware-accelerated H.265 and VP9 decoder
- HDR Playback Codec support for HDR10+, HDR10, HLG and Dolby Vision
- Volumetric VR video playback
- 8K 360 VR video playback

RF Front-End

- Comprehensive 5G/4G modem-to-antenna solution
- QTM052 5G mmWave antenna module
- Qualcomm Adaptive Antenna Tuning
- Qualcomm Envelope Tracking
- High-power transmit (HPUE)

Security

- Secure Processing Unit featuring mobile payments and Qualcomm® 3D Sonic Sensor
- Biometric Authentication: Fingerprint, Iris, Voice, Face
- On-Device: Qualcomm® Mobile Security, Key Provisioning Security, Qualcomm® Processor Security, Qualcomm® Content Protection, Qualcomm® Trusted Execution Environment, Camera Security, Crypto Engine, Malware Protection, Secure Boot, Secure Token

Memory

- Memory Speed: 2133 MHz
- Memory Type: 4x16-bit, LPDDR4x
- Memory Density: up to 12 GB (855+), up to 16 GB (860)

Connectivity Specifications

- Bluetooth Version: 5.0
- Bluetooth Speed: 2 Mbps
- Satellite Systems Support: Dual frequency GNSS, GPS, GLONASS, Beidou, Galileo, QZSS, SBAS
- Near Field Communications (NFC): Supported
- USB Version 3.1; USB Type-C Support

Charging

- Qualcomm® Quick Charge™ 4+ technology

Part Number

- SM8150-AC

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

Qualcomm Aqstic, Qualcomm aptX, Qualcomm Snapdragon Upload+, Qualcomm All-Ways Aware, Qualcomm Quick Charge, Qualcomm 3D Sonic Sensor, Qualcomm Wi-Fi 6, Qualcomm 60GHz Wi-Fi, Qualcomm TrueWireless, Qualcomm Processor Security, Qualcomm Mobile Security, and Qualcomm Content Protection are products of Qualcomm Technologies Inc. and/or its subsidiaries.

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