



Qualcomm® Snapdragon™ 855+ Mobile Platform is built for speed and cutting edge performance. 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. This ultra-powerful platform harnesses multi-gigabit 4G connectivity while unleashing cutting-edge 5G experiences to the world.



### Framerate-shattering Performance

Snapdragon™ 855+ 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



### 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



### Mind-Blowing 5G

Step into the new era of mobile gaming. This ultra-powerful platform gives you the best of multi-gigabit 4G connectivity while providing access to extreme 5G 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 Gaming with 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 faster, smoother 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)



### Heightened Gaming Experiences

With Snapdragon 855+, games are more realistic than ever before. Dive deep into fully immersive play sessions with enhanced features that speak to all of your senses. Qualcomm® aptX™ audio and Aqstic™ Audio Technologies are designed to deliver premium audio with real-time surround sound that syncs with the action on screen. And with True HDR Gaming, visuals will come to life before your eyes in vibrant color, putting every game into hyper-realistic perspective.

- 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

855+

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.

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# Qualcomm® Snapdragon™ 855+ 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 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
- 10-bit color depth, Rec. 2020 color gamut

### CPU

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

### 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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