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The Snapdragon 870 5G Mobile Platform is the total package, backed by truly global 5G, premium intelligence, boosted performance, and geared-up gaming. These features and more deliver elite experiences with unstoppable speed and efficiency.



### Truly powerful, truly global 5G

The world is yours to explore with truly global 5G connectivity. Multi-gigabit speeds and support for both mmWave and Sub-6 GHz spectrums empower new potential—no matter where you go with 5G. Stream desktop-quality content right on your mobile device, upload or download in a flash, and communicate with friends (near or far) in real time.

- Snapdragon X55 5G Modem-RF System with insanely fast peak speeds up to 7.5 Gbps
- Supports all key regions and frequency bands including mmWave, sub-6, TDD, FDD and Dynamic Spectrum Sharing (DSS)
- Supports both standalone and non-standalone modes, global roaming and global multi-SIM



### Boosted performance

Break mobile barriers with our Qualcomm® Kryo™ 585 CPU—now supplying an uptick in speed. Designed for powerful computing, it delivers top performance with maximum power efficiency. Plus, when your battery does need a boost, Qualcomm® Quick Charge™ 4+ technology gets you back on track in record time.

- Kryo 585 CPU clocks up to 3.2 GHz
- Display support for up to 4K at 60 Hz



### Smarter, faster, longer

Our 5th gen Qualcomm® AI Engine works with mind-boggling speed and efficiency, enabling responsive on-device interactions and assistance. Plus, the Qualcomm® Hexagon™ 698 Processor with Hexagon Tensor Accelerator pushes up to 15 TOPS performance.

- AI real-time translation makes it easy to form connections with users across the globe
- Qualcomm® Sensing Hub provides always-on contextual awareness



### Geared-up gaming

No challenge is too great with the complete Qualcomm® Snapdragon Elite Gaming™ armory on your side. Desktop-level rendering, hyper-realistic graphics, and real-time performance optimization put you at the head of the pack. Add our ultra-fast Qualcomm® Adreno™ 650 GPU, and this platform brings brilliance to every arena.

- Qualcomm® Game Smoother reduces jank while Adreno Fast Blend seamlessly renders complex visuals
- Qualcomm® Game Color Plus and True 10-bit HDR gaming add vivid color and crisp contrast for total immersion
- Updateable GPU drivers deliver the latest tech, no OS update required



### Immersive Wi-Fi 6 and Bluetooth audio

The Qualcomm® FastConnect™ 6800 System delivers Wi-Fi 6 and Bluetooth audio experiences that are fast, responsive and reliable with advanced feature implementations that translate to more immersive applications.

- Wi-Fi 6 feature innovation supporting gigabit-class speeds (up to 1.8 Gbps) and low latency connections
- Wi-Fi 6 Uplink and Downlink Multi-User-MIMO (MU-MIMO) fit for modern network congestion and two-way traffic demands
- Qualcomm® aptX™ suite for crisp, reliable and responsive Bluetooth audio

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

All comparisons made are in reference to previous generation, Snapdragon 865 mobile platform. Results will vary depending on OEM implementation and other factors. Battery life varies significantly based on device, settings, usage, and other factors.

Qualcomm Snapdragon, Qualcomm AI Engine, Qualcomm Hexagon, Qualcomm Sensing Hub, Qualcomm FastConnect, Qualcomm Snapdragon Elite Gaming, Qualcomm Adreno, and Qualcomm Kryo are products of Qualcomm Technologies Inc. and/or its subsidiaries.

# Qualcomm® Snapdragon™ 870 5G Mobile Platform



## SPECIFICATIONS & FEATURES

### Artificial Intelligence

- Adreno 650 GPU
- Kryo 585 CPU
- Hexagon 698 Processor
  - Hexagon Tensor Accelerator
  - Hexagon Vector eXtensions
  - Hexagon Scalar Accelerator
- Qualcomm Sensing Hub
  - Ultra low power hub for audio, voice and sensors
  - Supports AI algorithms at low power
  - Support for fusing contextual data streams including sensors, audio and voice
  - Supports multiple voice assistants
  - Multi-mic far-field detection and echo cancellation

### 5G Modem-RF System

- Snapdragon X55 5G Modem-RF System
- 5G mmWave and sub-6 GHz, standalone (SA) and non-standalone (NSA) modes, FDD, TDD
- Dynamic Spectrum Sharing
- mmWave: 800 MHz bandwidth, 8 carriers, 2x2 MIMO
- Sub-6 GHz: 200 MHz bandwidth, 4x4 MIMO
- Qualcomm® 5G PowerSave
- Qualcomm® Smart Transmit™ technology
- Qualcomm® Wideband Envelope Tracking
- Qualcomm® Signal Boost adaptive antenna tuning
- Global 5G multi-SIM
- Downlink: Up to 7.5 Gbps
- Uplink: Up to 3 Gbps
- Multimode support: 5G NR, LTE including CBRS, WCDMA, HSPA, TD-SCDMA, CDMA 1x, EV-DO, GSM/EDGE

### Wi-Fi & Bluetooth

- FastConnect 6800 System
  - Wi-Fi Standards: Wi-Fi 6 (802.11ax), 802.11ac Wave 2, 802.11a/b/g/n
  - Wi-Fi Spectral Bands: 2.4 GHz, 5 GHz
  - Peak speed: 1.774 Gbps
  - Channel Utilization: 20/40/80 MHz
  - 8-stream sounding (for 8x8 MU-MIMO)
  - MIMO Configuration: 2x2 (2-stream)
  - MU-MIMO (Uplink & Downlink)
  - 1024 QAM (2.4 & 5 GHz)
  - OFDMA (2.4 and 5 GHz)
  - Dual-band simultaneous (DBS)
  - Wi-Fi Security: WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal

- Integrated Bluetooth
  - Bluetooth Version: Bluetooth 5.2
  - Bluetooth audio: aptX Voice audio for super wide band voice calls, aptX Adaptive audio for robust, low latency, high quality audio, Qualcomm TrueWireless™ Technology

### Camera

- Qualcomm Spectra™ 480 Image Signal Processor
- Dual 14-bit ISPs
- Up to 2 Gigapixels per Second
- Hardware accelerator for computer vision (CV-ISP)
- Up to 200 MP Photo Capture
- Up to 25 MP dual camera @ 30 FPS with Zero Shutter Lag
- Up to 64 MP single camera @ 30 FPS with Zero Shutter Lag
- Rec. 2020 color gamut video capture
- Up to 10-bit color depth video capture
- 4K Video Capture + 64 MP Photo
- 8K Video Capture @ 30 FPS
- Slow-mo video capture at 720p @ 960 FPS
- HEIF: HEIC photo capture, HEVC video capture
- Video Capture Formats: HDR10+, HDR10, HLG, Dolby Vision
- 4K Video Capture @ 120 FPS
- 4K HDR Video Capture with Portrait Mode (Bokeh)
- Multi-frame Noise Reduction (MFNR)
- Real-time object classification, segmentation and replacement

### Audio

- Hexagon for hardware accelerated voice signal processing
- Qualcomm Aqstic™ audio codec (Up to WCD9385)
  - Total Harmonic Distortion + Noise (THD+N), Playback: -108dB
  - Native DSD support, PCM up to 384 kHz/32-bit
  - Customizable "Golden Ears" filter
- Qualcomm Aqstic smart speaker amplifier (up to WSA8815)

### Display

- On-Device Display Support:
  - 4K @ 60 Hz
  - QHD+ @ 144 Hz
- Maximum External Display Support: up to 4K @ 60 Hz
- 10-bit color depth, Rec. 2020 color gamut
- HDR10 and HDR10+ CPU

### CPU

- Kryo 585, Octa-core
- Up to 3.2 GHz
- 64-bit Architecture

### Visual Subsystem

- Adreno 650 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

### Security

- Qualcomm® Secure Processing Unit: Mobile Payment, Dual SIM/ Dual Standby
- Qualcomm® 3D Sonic Sensor and Qualcomm 3D Sonic Max
- 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

### Charging

- Quick Charge 4+ technology

### Location

- GPS, Glonass, BeiDou, Galileo, QZSS, NavIC capable, and SBAS
- Dual Frequency Support
- Low Power Geofencing and Tracking, Sensor-assisted Navigation
- Near Field Communications (NFC): Supported

### Memory

- Support for LP-DDR5 memory up to 2750 MHz
- Support for LPDDR4x memory up to 2133 MHz
- Memory Density: up to 16 GB

### General Specifications

- Full Suite Snapdragon Elite Gaming features
- 7 nm Process Technology
- USB Version 3.1; USB Type-C Support
- Part Number: SM8250-AC

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

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