Qualcomm
snapdragon
765G mobile platform

765G

The Qualcomm® Snapdragon™ 765G unites 5G and AI to power select premium-tier experiences for gamers across the globe, including 5G gaming at multi-gigabit speeds, select Snapdragon Elite Gaming features and all-day battery life.

5G gaming to more users than ever before

Step into the 5G arena to challenge multiple players from around the world, anytime and anywhere, with powerful performance at multi-gigabit speeds. 5G gives you exclusive access to gaming from the cloud. Stream any PC game straight onto your device for incredibly smooth moves right at your fingertips.

- Multi-gigabit 5G gaming with download speeds up to 3.7 Gbps
- Game anywhere with global support for mmWave, sub-6 GHz, TDD, FDD and DSS
- Supports global roaming and global multi-SIM

Game-changing graphics and features

The Snapdragon 765G is a force to be reckoned with when it comes to mobile 5G gaming, giving you the power and precision to beat your enemies—in real time. Equipped with select Snapdragon Elite Gaming features, you'll get richer graphics, smoother 5G gameplay and ultra-fast load times to deliver unbridled gaming performance.

- Qualcomm® Adreno™ 620 delivers 20% faster graphics rendering compared to the standard Snapdragon 765
- Select Snapdragon Elite Gaming features including: Game Smoother, Game Fast Loader and Game Network Latency Manager

Joining forces for smarter gaming experiences

Qualcomm's all-new 5th generation AI engine unites with the Snapdragon X52 5G Modem-RF System to deliver peak gaming performance. This new, powerful AI engine fuels every game session with brilliant performance, intuitive interactions and max efficiency—giving you a cutting-edge advantage that will outsmart your enemies.

- Up to 5.5 TOPS AI performance
- All-new Qualcomm® Sensing Hub enables your device to be contextually aware of its surroundings at all times

Fully immersive sound

From thunderous explosions to the roar of a race engine, experience your games like they are happening right in front of you. Qualcomm aptX™ brings every scene to life with fully immersive, 3D surround-sound audio that synchronizes with the action on-screen.

- Qualcomm® aptX™ Adaptive auto-adjusts between high definition mode and low latency mode, keeping audio in sync with media to reduce audio/lip-synchronization issues

Incredible performance for all-day gaming

Rev up your game play for hours on end with this platform as it provides power savings and incredible battery life so you can battle—and conquer—all day long. Plus, on-device AI ensures peak efficiency throughout daily use to keep you playing your A-game.

- Qualcomm 5G PowerSave and Qualcomm Wideband Envelope Tracking provide major power efficiency improvements for big battery benefits
- Qualcomm® Quick Charge™ AI extends battery life cycles up to 200 days

To learn more visit
snapdragon.com

SPECIFICATIONS & FEATURES

Qualcomm AI Engine

- Adreno 620 GPU
- Qualcomm® Kryo™ 475 CPU
- Qualcomm® Hexagon™ 696 Processor
- Hexagon Vector eXtensions
- Hexagon Tensor 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
  - Always-on multi-mic far-field detection and echo cancellation

5G Modem-RF System

- Snapdragon X52 5G Modem-RF System – Modem to antenna integrated system for 5G multimode
- 5G mmWave and sub-6 GHz, standalone (SA) and non-standalone (NSA) modes, FDD, TDD
- Dynamic Spectrum Sharing
- mmWave: 400 MHz bandwidth, 2x2 MIMO
- Sub-6 GHz: 100 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 3.7 Gbps (5G), 1.2 Gbps (LTE)
- Uplink: Up to 1.6 Gbps (5G), 210 Mbps (LTE)
- Multimode support: 5G NR, LTE including CBRS, WCDMA, HSPA, TD-SCDMA, CDMA 1x, EV-DO, GSM/EDGE

Wi-Fi & Bluetooth

- Qualcomm® FastConnect™ 6200 Subsystem
  - 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) with MU-MIMO
  - 8-stream sounding (for 8x8 MU-MIMO)
  - Dual-band simultaneous (DBS)

- Wi-Fi Security: WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal
  - Target Wake Time (TWT)
- Integrated Bluetooth
  - Bluetooth version: 5.0
  - Bluetooth Speed: 2 Mbps
  - Bluetooth audio: Qualcomm TrueWireless™ Technology, Qualcomm aptX Adaptive

Camera

- Qualcomm® Spectra™ 355 Image Signal Processor
- Dual 14-bit ISPs
- Hardware accelerator for computer vision (CV-ISP)
- Up to 192 MP capture
- Up to 22 MP dual camera with Zero Shutter Lag
- Up to 36 MP single camera with Zero Shutter Lag
- Rec. 2020 color gamut video capture
- Up to 10-bit color depth video capture
- Slow motion video capture at 720p at 480fps
- HEIF: HEIC 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

- Hexagon Voice Assistant Accelerator 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:
  - QHD+ at 60Hz
  - FHD+ at 120Hz
- Maximum External Display Support: UHD at 60Hz
- 10-bit color depth, Rec. 2020 color gamut
- HDR10 and HDR10+

CPU

- Kryo 475, Octa-core CPU
- Up to 2.4 GHz
- 64-bit Architecture

Visual Subsystem

- Adreno 620 GPU
- Vulkan® 1.1 API support
- 4K HDR10 PQ and HLG Video Playback (10 bit color depth, Rec. 2020 color gamut)
- H.264 (AVC), H.265 (HEVC) VP8 and VP9 playback
- Physically Based Rendering
- API Support: OpenGL® ES 3.2, OpenCL™ 2.0 FP, Vulkan 1.1, DirectX 12

Security

- 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

- Qualcomm Quick Charge 4+ technology
- Qualcomm Quick Charge AI

Location:

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

General Specifications

- Memory Speed: up to 2133 MHz, 12 GB RAM
- Memory Type: 2 x 16-bit, LPDDR4x
- Near Field Communications (NFC) support
- DisplayPort over USB Type-C support
- 7nm. Process Technology
- Part Number: SM7250-AB