Qualcomm
snapdragon
778G 5G mobile platform

778G

The Qualcomm® Snapdragon™ 778G 5G Mobile Platform is the ultimate multimedia triple threat featuring cutting-edge mobile gaming, accelerated AI, and premium capture experiences. Battle your opponents, create lasting memories, and work smarter backed by truly global 5G.

Accelerated AI

Boasting a 2x performance improvement, our 6th Gen Qualcomm® Artificial Intelligence (AI) Engine enriches every experience. The Qualcomm® Hexagon™ 770 Processor with fused AI accelerator architecture allows for higher performance and faster data transfer between all AI accelerators, providing seamless experiences in gaming, audio, photography, and more. Plus, the 2nd Gen Qualcomm® Sensing Hub boosts a dedicated always-on low-power AI processor for AI-based audio processing and sensing the world around you.

- Up to 12 TOPS performance
- Efficient 2nd Gen Qualcomm Sensing Hub works at less than 1 mA power consumption

Dazzling video capture

Remember your best moments in all their brilliance. With just one click the Qualcomm Spectra™ 570L Triple ISP enables capture of up to three videos at once—with incredible results. This platform also boasts computational HDR video capture (using architecture designed for Staggered HDR image sensors) which merges multiple frames to produce professional quality footage with extreme dynamic range for stunning footage.

- Triple concurrent capture of up to 22 MP photos
- Burst capture at 120 FPS (8 MP) or 90 FPS (12 MP)
- Capture HDR10+ video in over a billion shades of vivid color

Cutting-edge mobile gaming

Lose yourself in the complete gaming experience—this platform is your portal. Our Select Qualcomm® Snapdragon Elite Gaming™ features enable complex graphics to load quickly and smoothly, paired perfectly with display support up to 144 Hz. Qualcomm® Game Quick Touch allows for 20% improved responsiveness so you can make big plays closer to the speed of human reflex.

- Variable Rate Shading (VRS) brings larger, more immersive worlds to life
- Qualcomm® Adreno™ 642L GPU offers up to 40% faster graphics rendering

Lightning-fast and truly global

Reliable connectivity knows no bounds. The Qualcomm® Snapdragon™ X53 5G Modem-RF System enables truly global 5G on both mmWave and Sub-6 bands, while our Qualcomm® FastConnect™ 6700 Mobile Connectivity System offers leading Wi-Fi 6 and Wi-Fi 6E. Whether you're exploring the big city, at a remote destination, or enjoying the comfort of home, you'll connect, download, upload, and stream at blazing speeds.

- Wi-Fi 6 speeds up to 2.9 Gbps plus enhanced capacity with 6 GHz (Wi-Fi 6E) capabilities
- Truly global 5G supports all key regions and global multi-SIM

Ultimate multimedia experiences

Boosted performance brings every passion and pastime to life. The Qualcomm® Kryo™ 670 CPU packs an up to 40% uplift, making every activity from gaming to photography faster and more seamless. Plus, an ultra-efficient 6 nm process means you can compete, capture, and create all day—without draining excess battery power.

- Qualcomm® Snapdragon Sound™ technology is designed to deliver a virtually seamless experience that's crystal clear, consistent, and captivating across connected devices
- With Qualcomm® Quick Charge™ 4+ technology, an enabled device can get up to a 50 percent charge in only 15 minutes[1]

To learn more visit
snapdragon.com

All comparisons made are in reference to previous generation, Snapdragon 768G 5G 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™

778G 5G mobile platform

SPECIFICATIONS & FEATURES

Artificial Intelligence

- 6th gen Qualcomm AI Engine
- Adreno 642L GPU
- Kryo 670 CPU
- Hexagon 770 Processor
  - Fused AI Accelerator architecture
  - Hexagon Tensor Accelerator
  - Hexagon Vector eXtensions
  - Hexagon Scalar Accelerator
- Qualcomm Sensing Hub (2nd Generation)

5G Modem-RF System

- Snapdragon X53 5G Modem-RF System
  - 5G mmWave and Sub-6 GHz, standalone (SA) and non-standalone (NSA) modes, FDD, TDD
  - Dynamic Spectrum Sharing
  - mmWave: 400 MHz, 2x2 MIMO
  - Sub-6 GHz: 100 MHz bandwidth, 4x4 MIMO
  - Qualcomm® 5G PowerSave
  - Qualcomm® Smart Transmit™ technology
  - Qualcomm® Wideband Envelope Tracking
  - Qualcomm® AI-Enhanced Signal Boost
  - Global 5G multi-SIM
- Downlink: Up to 3.7 Gbps
- Multimode support: 5G NR, LTE including CBRS, WCDMA, HSPA, CDMA 1x, EV-DO, GSM/EDGE

Wi-Fi & Bluetooth

- FastConnect 6700 System
  - Wi-Fi Standards: Wi-Fi 6E, Wi-Fi 6 (802.11ax), Wi-Fi 5 (802.11ac), 802.11a/b/g/n
  - Wi-Fi Spectral Bands: 2.4 GHz, 5 GHz, 6 GHz
  - Peak speed: 2.9 Gbps
  - Channel Utilization: 20/40/80/160 MHz
  - 8-stream sounding (for 8x8 MU-MIMO)
  - MIMO Configuration: 2x2 (2-stream)
  - MU-MIMO (Uplink & Downlink)
  - 4K QAM
  - OFDMA (Uplink & Downlink)
  - Wi-Fi Security: WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal
- Integrated Bluetooth
  - Bluetooth Version: Bluetooth 5.2
  - Bluetooth features: Dual Bluetooth antennas, LE Audio Features (one-to-many broadcast), Qualcomm® aptX™ suite
  - Bluetooth audio: Snapdragon Sound with 24-bit 96-kHz music streaming, Ultra-low latency <90 milliseconds, 32-kHz Super wideband Voice

Camera

- Qualcomm Spectra 570L Image Signal Processor
- Triple 14-bit ISPs
- Up to 2 Gigapixels per Second
- Up to 22 MP triple camera @ 30 FPS with Zero Shutter Lag
- Up to 36+22 MP dual camera @ 30 FPS with Zero Shutter Lag
- Up to 64 MP single camera @ 30 FPS with Zero Shutter Lag
- Up to 200 MP Photo Capture
- Rec. 2020 color gamut photo and video capture
- Up to 10-bit color depth photo and video capture
- 10-bit HDR HEIF photo capture
- 4K Video Capture + 36 MP Photo
- Slow-mo video capture at 720p @ 240 FPS
- HEIF: HEIC photo capture, HEVC video capture
- Video Capture Formats: HDR10+, HDR10, HLG
- 4K Video Capture
- 4K HDR Video Capture with Portrait Mode (Bokeh)
- Staggered HDR sensor support
- AI-based auto-focus and auto-exposure

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
- PCM up to 384 kHz/32-bit
- Customizable "Golden Ears" filter
- New Qualcomm Aqstic smart speaker amplifier (up to WSA8835)

Display

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

CPU

- Kryo 670 CPU
  - Up to 2.4 GHz
  - 64-bit Architecture

Visual Subsystem

- Adreno 642L GPU
- API Support: OpenGL® ES 3.2, OpenCL™ 2.0 FP, Vulkan 1.1
- Physically Based Rendering
- HDR gaming (10-bit color depth, Rec. 2020 color gamut)
- Hardware-accelerated H.265 and VP9 decoder
- HDR Playback Codec support for HDR10+, HDR10, HLG

Security

- Platform Security Foundations, Trusted Execution Environment & Service
- Qualcomm® wireless edge services (WES) and premium security features
- Qualcomm® 3D Sonic Sensor and Qualcomm® 3D Sonic Max (fingerprint sensor)
- Qualcomm® Type-1 Hypervisor

Charging

- Quick Charge 4+ Technology

Location

- GPS, Glonass, BeiDou, Galileo, QZSS, NavIC capable
- Dual Frequency Support (L1/L5)
- Sidewalk/lane-level Positioning
- Sensor-Assisted Positioning

Memory

- Support for LP-DDR5 memory up to 3200 MHz
- Memory Density: up to 16 GB

General Specifications

- Select Snapdragon Elite Gaming features
- 6 nm Process Technology
- USB Version 3.1; USB Type-C Support
- Part Number: SM7325