SNAPDRAGON® 685 4G MOBILE PLATFORM

The Snapdragon 685 4G Mobile Platform takes multimedia to the max. Conquering both work and play, this platform bolsters performance for amplified productivity and pumped-up gaming, with impressive AI guiding tasks and backing your favorite on-device activities, like enhanced photography.

Bolstered performance

Take entertainment and productivity to new levels. Explore game worlds with immersive graphics and smooth action, share photos on-the-go, plus experience fast, seamless multitasking between apps. And when you need a power boost, Qualcomm® Quick Charge™ 3 boosts your device up to 80% in just 35 minutes.

- Qualcomm® Kryo™ CPU with nearly 15% improved performance
- Qualcomm® Adreno™ GPU with up to 10% improved performance

Accelerated gaming

Soak in vibrant sights and sounds in every scene. A faster refresh rate and Q-Sync optimization deliver smooth graphics, while rich audio enables a full-sensory adventure. Plus, challenge competitors and compete smarter—no matter where the day takes you—with solid 4G LTE connectivity and AI-enabled in-game voice commands.

- Smooth 4G gaming with Snapdragon X11 LTE Modem
- FHD+ at 120 FPS display refresh rate
- Q-Sync for automatic synchronization of display rate and game frame rate
- Qualcomm Aqstic™ and Qualcomm® aptX™ Adaptive deliver superior audio performance

Enhanced photography

Revel in the details that transform any moment into a share-worthy experience. Snap stunning single-shot photos at up to 108 MP or capture up to three photos or videos at once with the Qualcomm Spectra™ Triple ISP—with a smoother zoom between ultrawide, wide, and telephoto lenses. The only camera you need is already in your pocket.

- Capture photos from three different lenses simultaneously for the best shot
- Up to 108 megapixel photo capture

Impressive AI

Pursue every passion—smarter, not harder—with integrated AI supporting your smartphone experiences. AI-enabled voice assistants make spontaneity a breeze, while low-power voice and audio sensors enhance multimedia and communication without rapidly draining your battery. Every endeavor is intuitive, convenient, and at your service.

- Support for multiple hardware-accelerated, always-on voice assistants
- Multi-mic far-field detection and echo cancellation

SPECIFICATIONS & FEATURES

Artificial Intelligence

Qualcomm® Adreno™ GPU

Qualcomm® Kryo™ CPU

Qualcomm® Hexagon™ Processor

- Hexagon Vector eXtensions (HVX)
- Hexagon Scalar Accelerator

Qualcomm® Sensing Hub

Ultra-low power hub for audio, voice, and sensors

Supports multiple hardware-accelerated, always-on voice assistants

Multi-mic far-field detection and echo cancellation

5G Modem-RF System

Snapdragon® X11 LTE Modem

- 2x2 MIMO
- LTE Dual SIM DUAL Standby
- Downlink: Up to 390 Mbps
- Uplink: Up to 150 Mbps
- Multimode support: LTE FDD, LTE TDD, WCDMA (DC-HSDPA, HSUPA), TD-SCDMA, EVDO, DMA 1x, GSM/EDGE
- Wi-Fi calling with call continuity between LTE and Wi-Fi
- Qualcomm® Signal Boost adaptive antenna tuning
- High-power transmit (HPUE)

Wi-Fi & Bluetooth

Qualcomm® FastConnect™ 6200 Mobile Connectivity System

- Wi-Fi Generation: Wi-Fi 5
- Wi-Fi Standards: 802.11ac, 802.11a/b/g/n
- Wi-Fi Spectral Bands: 5 GHz, 2.4 GHz
- Channel Bandwidth: 20/40/80 MHz
- 8-stream sounding ready (for 8x8 MU-MIMO)
- MIMO Configuration: 1x1
- Target Wake Time (TWT) ready
- Wi-Fi Security: WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal

Integrated Bluetooth®

Bluetooth audio: Qualcomm® aptX™ Voice, aptX Adaptive

Bluetooth features: Bluetooth 5.2

Camera

Qualcomm Spectra™ Image Signal Processor

- Triple 12-bit ISPs
- Up to 13+13+5 MP triple camera @ 30 FPS with Zero Shutter Lag
- Up to 16+16 MP dual camera @ 30 FPS with Zero Shutter Lag
- Up to 32 MP single camera @ 30 FPS with Zero Shutter Lag
- Up to 108 megapixel photo capture
- Up to 12-bit color depth photo and video capture
- Slow-mo video capture at 1080p @ 60 FPS
- Video Capture Formats: HEVC
- HEIF: HEIC photo capture, HEVC video capture

Audio

Qualcomm Aqstic™ audio codec

Qualcomm Aqstic smart speaker amplifier

Total Harmonic Distortion + Noise (THD+N),

Playback: -108dB

Low power audio subsystem

Display

On-Device Display Support:

- FHD+ @ 120 Hz
- HD+ @ 120 Hz

CPU

Kryo CPU

- 64-bit Architecture
- Up to 2.8 GHz

Visual Subsystem

Adreno GPU

- API Support: OpenGL® ES 3.2, OpenCL™ 2.0 FP, Vulkan® 1.1
- Hardware-accelerated H.264 (AVC), H.265 (HEVC), VP8, and VP9 decoder

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, Peripheral Security, Crypto Engine, Qualcomm® Malware Protection, Secure Boot, Secure Token

Location

GPS, Glonass, BeiDou, Galileo, QZSS, NavIC

Dual frequency GNSS (L1/L5)

Sensor-assisted positioning

Charging

Qualcomm® Quick Charge™ 3 Technology

Memory

Support for LP-DDR4x memory, up to 2133 MHz

Memory Density: up to 16 GB

General Specifications

6 nm process technology

USB Version 3.1; USB Type-C Support

Storage: UFS 2.2

Part Number: SM6225-AD