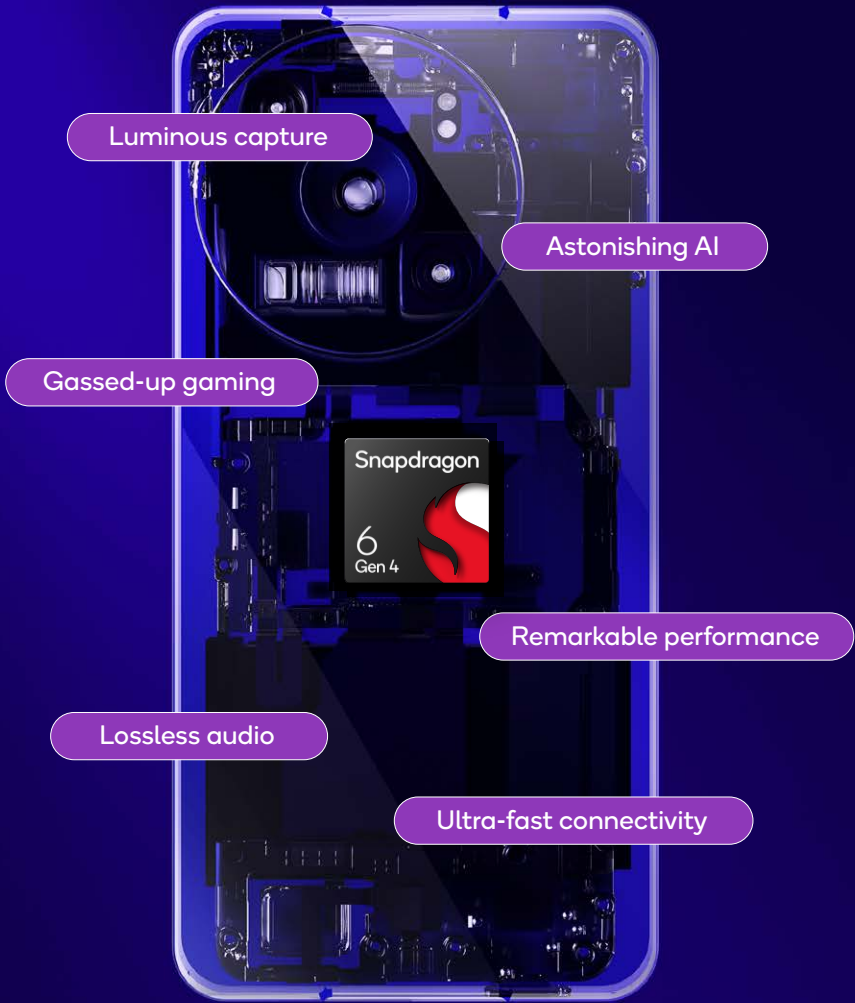


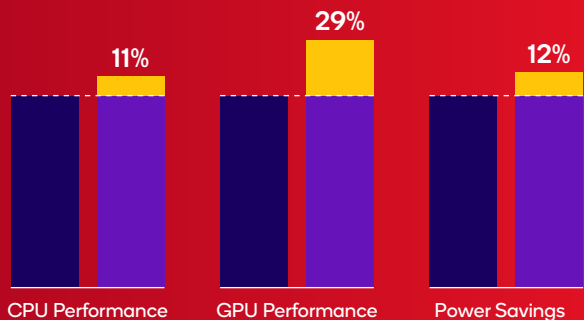
SNAPDRAGON® 6 GEN 4 MOBILE PLATFORM



This 6 Gen 4 is designed for the universal user—redefining your everyday interactions. Accelerate your wins with gassed-up gaming in 4K and lossless audio, amplify your creativity with first-in-series Gen AI support, and collect memories with luminous capture day or night. Revel in entertainment and productivity, thanks to remarkable performance with extended battery life, while taking advantage of ultra-fast 5G connectivity.

Make the most of your smartphone

From entertainment to productivity, enjoy seamless multitasking from a newly architected Qualcomm® Kryo™ CPU, while a supercharged Qualcomm® Adreno™ GPU delivers fluid, crisp visuals for gaming, scrolling, and streaming—backed by a battery that lasts longer.



Gassed-up gaming

Whether you prefer solving puzzles, action-packed adventures, or even esports, elevate your gameplay with select Snapdragon Elite Gaming™ features that boost performance and enhance immersion.



- Game in dazzling 4K with new-in-series Snapdragon Game Super Resolution, intelligently upscaling visuals.
- Adreno HDR Fast Blend renders dynamic, complex scenes 2x faster than smartphones without Fast Blend.
- Adreno Frame Motion Engine enhances realism by doubling frame rates—without draining battery power.

Astonishing AI

Accomplish everyday tasks and communicate seamlessly with mobile intelligence at your fingertips, aided by on-device Gen AI support, voice-activated assistants, background noise cancellation during calls, and more.



- Work smarter, not harder with support for Gen AI-powered intuitive virtual assistants helping with content summarization, email drafting, and more—all on-device.
- AI runs faster and more efficiently with support for INT4—a first in the Snapdragon 6-series.
- Activity tracking for curated app suggestions from the Qualcomm® Sensing Hub and settings adjustments enabled by the Qualcomm® AI Engine.
- Boost your audio experiences with AI-based noise cancellation, noise reduction, and contextual detection.

Luminous capture

Capture every moment flawlessly with a mobile camera that excels in low light, ensuring your memories are always crisp and clear.



- Take photos and record videos simultaneously with the Qualcomm Spectra™ Triple ISP.
- Reduce noise to capture well-lit images and videos after dark with Snapdragon Low-Light Vision (LLV).
- Bask in greater detail, even when zooming in, with 200 MP single shots.

Lossless audio

Tune into richer audio experiences—from music to movies to gaming—with the Snapdragon Sound™ Technology Suite.



- Qualcomm® aptX™ lossless audio streaming provides high-quality sound over Bluetooth® technology.
- Snapdragon Sound features offer robust connectivity for lag-free listening and immersive gaming.
- Broadcast your favorite tunes over multiple devices with LE Audio.

Ultra-fast connectivity

From relaxing at home to gaming on-the-go, stay effortlessly connected with advanced 5G and Wi-Fi 6E.



- Snapdragon 5G Modem-RF System with 3GPP Release 16 5G offers faster speeds, while supporting more global networks compared to the previous generation.
- Navigation is incredibly accurate with new-in-series Triple Frequency Location support (L1/L5/L2).
- Qualcomm® FastConnect™ Mobile Connectivity System delivers fast, responsive Wi-Fi 6E.

Camera



Triple ISP
200 MP
Snapdragon Low Light Vision

Connectivity



Qualcomm Hexagon

Qualcomm Sensing Hub
Qualcomm Processor Security
Snapdragon 5G Modem-RF System

Performance



11% improved CPU¹
29% improved GPU²
12% power savings³



Snapdragon
6
Gen 4

Gaming



First
Snapdragon Game Super Resolution
Adreno Frame Motion Engine
Adreno HDR Fast Blend

Audio



Qualcomm aptX lossless audio
LE Audio

AI



First
Gen AI support
First
INT4 support
Sensing Hub

Sensing Hub
AI Processor
DSP
Memory

1. Based on Geekbench v6.2.5T; 2. Based on Aztec Ruins; 3. Based on internal testing. Battery life varies significantly based on device, settings, usage, and other features.

SPECS & FEATURES

Artificial Intelligence

Adreno GPU

Kryo CPU

Qualcomm® Hexagon™ NPU

- Fused AI Accelerator Architecture
- Hexagon Tensor Accelerator
- Hexagon Vector eXTensions
- Hexagon Scalar Accelerator
- Support for all precisions (INT4, INT8, and INT16)
- Qualcomm Sensing Hub
- Dedicated NPUs for audio and sensors

5G Modem-RF System

Snapdragon® 5G Modem-RF System

- 5G mmWave and sub-6 GHz, standalone (SA) and non-standalone (NSA) modes, FDD, TDD
- Dynamic Spectrum Sharing
- mmWave: 2 carriers, 2x2 MIMO
- Sub-6 GHz: 4x4 MIMO
- Qualcomm® 5G PowerSave 2.0
- Qualcomm® Smart Transmit™ 2.0 technology
- Qualcomm® Wideband Envelope Tracking
- Qualcomm® AI-Enhanced Signal Boost
- Global 5G multi-SIM, including 5G/4G DSDA

Downlink: Up to 2.9 Gbps

Multimode support: 5G NR, LTE including CBRS, WCDMA, HSPA, CDMA 1x, GSM/EDGE

Wi-Fi & Bluetooth

Qualcomm FastConnect Mobile Connectivity 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: 6 GHz, 5 GHz, 2.4 GHz
- Peak speed: 2.9 Gbps
- Channel Bandwidth: 160/80/40/20 MHz
- MIMO Configuration: 8x8 Sounding
- MU-MIMO (Uplink and Downlink)
- 4K QAM
- OFDMA (Uplink & Downlink)
- Wi-Fi Security: WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3 Personal, FIPS 140-2-support, 256-bit encryption

Integrated Bluetooth

- Bluetooth features: Bluetooth 5.4, LE Audio

Snapdragon Sound with support for Qualcomm aptX Voice, aptX Lossless, aptX Adaptive

Camera

Qualcomm Spectra Image Signal Processor

- Triple 12-bit ISPs
- Up to 16 MP triple camera @ 30 FPS with Zero Shutter Lag
- Up to 32+16 MP dual camera @ 30 FPS with Zero Shutter Lag
- Up to 64 MP single camera @ 30 FPS with Zero Shutter Lag
- Up to 200 megapixel photo capture

Deep learning-based face detection, facial landmark detection, auto-focus, and auto-exposure

Rec. 2020 color gamut photo and video capture

Up to 10-bit color depth photo and video capture

4K @ 30 FPS HDR video capture + 64 MP photo capture

10-bit HEIF: HEIC photo capture, HEVC video capture

Video capture HDR formats: HDR10, HLG

Slow-mo video capture at 1080p @ 120 FPS

Support for 4K staggered HDR, multi-frame HDR, and limited-blanking multi-frame HDR image sensors

Multi-Frame Noise Reduction (MFNR)

Motion Compensated Temporal Filtering

Audio

Qualcomm Aqstic™ audio codec

Qualcomm Aqstic smart speaker amplifier

Total Harmonic Distortion + Noise (THD+N),

Playback: -108 dB

Qualcomm® Audio and Voice Communication Suite

Display

On-Device Display Support:

- FHD+ @ 144 Hz

Maximum External Display Support:

- Up to 4K @ 60 Hz
- 10-bit color depth
- HDR10 and HDR10+

CPU

Kryo CPU

64-bit Architecture

- 1 Prime core, up to 2.3 GHz
- 3 Performance cores, up to 2.2 GHz
- 4 Efficiency cores, up to 1.8 GHz

Visual Subsystem

Adreno GPU

- HDR gaming (10-bit color depth)
- API Support: OpenGL® ES 3.2, OpenCL™ 2.0 FP, Vulkan® 1.3
- Hardware-accelerated H.265 and VP9 decoder
- HDR Playback Codec support for HLG, HDR10+, HDR10, and HDR vivid

Security

Platform Security Foundations

Trusted Execution Environment & Services (TEE)

Trust Management Engine

Qualcomm® wireless edge services (WES) and premium security features

Qualcomm® Type-1 Hypervisor

Location

Concurrent GPS, Glonass, BeiDou, Galileo, QZSS, NavIC

Triple frequency GNSS (L1/L5/L2)

Sensor-Assisted Positioning

- Urban pedestrian navigation with sidewalk accuracy
- Global freeway lane-level vehicle navigation

Charging

Qualcomm® Quick Charge™ 4+ Technology

Memory

Support for LP-DDR5 memory, up to 3200 MHz

Support for LP-DDR4X memory, up to 2133 MHz

Memory Density: Up to 16 GB

General Specifications

Select Snapdragon Elite Gaming features

4nm Process Technology

USB Version 3.1; USB Type-C Support

Part Number: SM6650

Storage: UFS 3.1