



The Snapdragon® 6 Gen 1 Mobile Platform provides brilliance beyond expectation, fueling dynamic experiences backed by sustained power and performance. Illuminating capture, hard-hitting gaming, and intuitive AI assistance empower your every move. Plus, extend your reach with expansive connectivity, while adding color and confidence to every interaction.

Illuminating capture

Make every moment photo worthy. Snap photos from three cameras at once—at gigapixel speeds—with the Qualcomm Spectra™ Triple ISP. Photos in up to 200 MP offer intricate detail, while computational HDR video capture—a first in the Snapdragon 6-series—utilizes the top qualities of multiple frames.

- The Qualcomm Spectra triple 12-bit ISP enables simultaneous capture, with ultra-fast parallel processing and smooth zooming between cameras
- AI De-Noising (AIDE) is a neural network trained to remove noise in low-light images

Intuitive AI assistance

Our first-in-series dedicated 7th Gen Qualcomm® AI Engine unites with the always-on 3rd Gen Qualcomm® Sensing Hub, providing heightened efficiency and intelligent features that maximize productivity. This includes AI-based activity tracking, which suggests apps and settings based on context, like your favorite playlist as you jog, voice control mode in the car, and more.

- Up to 3x improved AI performance
- First-in-series to support Fused Accelerator Architecture for better performance without compromising battery life
- Next-Gen Qualcomm® Hexagon™ Tensor Accelerator (HTA) for improved AI network performance
- AI-based noise cancellation, noise reduction, and contextual detection

Hard-hitting gaming

Accelerated processing makes mobile gaming mesmerizing. Our Qualcomm® Adreno™ GPU delivers faster graphics rendering with HDR gaming at 60+ FPS, while the Qualcomm® Kryo™ CPU provides lag-free performance as you battle adversaries and level up. Plus, dynamic gaming features keep you glued to the action, including Qualcomm® Game Color Plus for boosted color, saturation, sharpness, and detail.

- Adreno GPU delivers up to 35% improved performance, while the Kryo CPU delivers up to 40% improved performance
- Gaming features include Variable Rate Shading, Qualcomm® Game Quick Touch, Color Plus 2.0, and Jank Reducer v2.0
- Display support up to FHD+ 120 Hz

Expansive connectivity

Follow your ambitions near and far. The 4th Gen Snapdragon X62 5G Modem-RF System offers tier-topping 5G, with unparalleled speeds and widespread coverage. Plus, the first-in-series Qualcomm® FastConnect™ 6700 Mobile Connectivity System brings fast, reliable Wi-Fi 6E to more people than ever before. Connect from crowded arenas, remote locales, or while relaxing at home with ease.

- First 3GPP Release 16 5G solution in the Snapdragon 6-series
- FastConnect 6700 offers first 802.11ax (Wi-Fi 6E) and first Bluetooth 5.2 with dual antennas in the series
- Improved location suite for extremely accurate positioning



Snapdragon 6 Gen 1

Artificial Intelligence

Qualcomm® Adreno™ GPU

Qualcomm® Kryo™ CPU

Qualcomm® Hexagon™ Processor

- Fused AI Accelerator
- Hexagon Tensor Accelerator
- Hexagon Vector eXtensions
- Hexagon Scalar Accelerator
- Support for mix precision (INT8+INT16)

3rd Gen Qualcomm® Sensing Hub

5G Modem-RF System

Snapdragon® X62 5G Modem-RF System

- 5G mmWave and sub-6 GHz
- SA, NSA, TDD, FDD, TDD-FDD aggregation
- Dynamic Spectrum Sharing
- mmWave: 200 MHz bandwidth, 2 carriers
- Sub-6 GHz: 140 MHz bandwidth
- Qualcomm® 5G PowerSave 2.0
- Qualcomm® Smart Transmit™ 2.0 technology
- Qualcomm® Wideband Envelope Tracking
- Qualcomm® AI-Enhanced Signal Boost
- Global 5G multi-SIM

Downlink: Up to 2.9 Gbps

Multimode support: 5G NR, LTE, mmWave-sub6 dual connectivity (NR-DC), EN-DC, CBRS, WCDMA, HSPA, CDMA 1x, EV-DO, GSM/EDGE

Wi-Fi & Bluetooth®

Qualcomm® FastConnect™ 6700 System

- Wi-Fi Generation: Wi-Fi 6E
- Standards: 802.11ax, 802.11ac, 802.11a/b/g/n
- Peak speed: 2.9 Gbps
- Channel Bandwidth: 20/40/80/160 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® 5.2, LE Audio, Dual Bluetooth antennas, Snapdragon Sound™ Technology with support for Qualcomm® aptX™ Voice, aptX Lossless, aptX Adaptive

Camera

Qualcomm Spectra™ Image Signal Processor

Triple 12-bit ISPs

Up to 14 Gigapixels per Second computer vision ISP (CV-ISP)

Up to 13 MP triple camera @ 30 FPS with Zero Shutter Lag

Up to 25+16 MP dual camera @ 30 FPS with Zero Shutter Lag

Up to 48 MP single camera @ 30 FPS with Zero Shutter Lag

Up to 200 MP Photo Capture

4K HDR Video Capture + 48 MP Photo Capture

Video Capture Formats: HEVC, H.264

4K HDR Video Capture @ 30 FPS

Slow-mo Video Capture at 720p @ 240 FPS

HW-based Multi-frame Noise Reduction (MFNR)

HW-based Locally Motion Compensated Temporal Filtering

Support for Staggered HDR image sensors

AI-based face detection, auto-focus, and autoexposure

Audio

Qualcomm Aqstic™ audio codec

New Qualcomm Aqstic smart speaker amplifier

Total Harmonic Distortion + Noise (THD+N), Playback: -108dB

Qualcomm® Audio & Voice Communication Suite

Display

On-Device Display Support:

- FHD+ @ 120 Hz

CPU

Kryo CPU

- Up to 2.2 GHz
- 64-bit Architecture

Visual Subsystem

Adreno GPU

- Vulkan® 1.1 API support
- HDR gaming (10-bit color depth, Rec. 2020 color gamut)
- 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 HLG

Security

Platform Security Foundations and Trusted Execution Environment & Services

Trust Management Engine

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

Qualcomm® Type-1 Hypervisor

Charging

Qualcomm® Quick Charge™ 4+ technology

Location

GPS, Glonass, BeiDou, Galileo, QZSS, NavIC capable

Dual Frequency GNSS (L1/L5)

Sensor-Assisted Positioning

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

Memory

Support for LP-DDR5 memory up to 2750 MHz

Memory Density: up to 12 GB

General Specifications

4nm Process Technology

USB Version 3.1; USB Type-C Support

Part Number: SM6450

[snapdragon.com](https://www.qualcomm.com/snapdragon)

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

Snapdragon, Qualcomm Adreno, Qualcomm Kryo, Qualcomm Hexagon, Qualcomm Sensing Hub, Qualcomm 5G PowerSave 2.0, Qualcomm Smart Transmit 2.0, Qualcomm Wideband Envelope Tracking, Qualcomm AI-Enhanced Signal Boost, Qualcomm FastConnect, Qualcomm aptX, Qualcomm Spectra, Qualcomm Aqstic, Qualcomm wireless edge services (WES), Snapdragon Sound, Qualcomm Audio & Voice Communication Suite, Qualcomm Type-1 Hypervisor, and Qualcomm Quick Charge are products of Qualcomm Technologies, Inc. and/or its subsidiaries. Qualcomm WES are offered by Qualcomm Technologies Inc. and/or its subsidiaries.

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