



Snapdragon® 8s Gen 3 Mobile Platform

Experience the power of premium, personalized, with our brand-new Snapdragon® 8s Gen 3 Mobile Platform—specially curated from your favorite Snapdragon 8-series platforms. Get ready for on-device enablement of Generative AI at breakneck speeds, acting as your personal assistant and image creator. Plus, make Snapdragon supremely yours with flagship experiences like an always-sensing AI-powered camera, hyper-realistic mobile gaming, and lossless high-def sound.

On-device Generative AI

Elevate every idea and achieve high-speed personalized recommendations with support for on-device Generative AI—at up to 10B parameters.

- Create original content from spoken, written, or image prompts in mere moments with an on-device Gen AI assistant at your command.
- Photo Expansion generates content beyond a photo's frame, blending beautifully with your original capture.
- Support for multi-modal AI models across different use cases.
- Gen AI model support: 30+ large language models (LLMs) and large vision models (LVMs).

Intuitive capture experience

Live joyfully in the moment with a camera powered by the intelligent Qualcomm Spectra™ Triple Cognitive ISP.

- Experience extreme dynamic range, vivid color, and jaw-dropping clarity in up to 200 MP.
- Enables AI camera capabilities with real-time Semantic Segmentation individually optimizing up to 12 layers of your photos and videos, making everything—from faces to hair to backgrounds—picture-perfect.
- Snapdragon Low Light Vision (LLV) records crisp, grain-free content—even in near darkness.
- An ultra-low power always-sensing camera enables ultra-fast facial unlock and mobile payments for utmost convenience and security.

Hyper-realistic mobile gaming

Lose yourself in vivid mobile gameplay, brought to life by the arsenal of Snapdragon Elite Gaming™ features.

- Real-time Hardware-Accelerated Ray Tracing takes realism to new heights, keeping you fully engaged with authentic lighting, shadows, and reflections as you explore extraordinary new worlds.
- Quad HD+ 144 Hz display provides razor-sharp resolution and smooth graphics.

Lossless high-def sound

Amplify everything—from music and streaming to gaming and communication—with the Snapdragon Sound™ Technology Suite.

- Qualcomm Aqstic™ Speaker Max Technology reduces distortion when music is played at high volumes directly from the device speaker—taking your listening experience to the max.
- Snapdragon Sound and Qualcomm® aptX™ Lossless means you can hear your every detail of your music wirelessly.
- LE Audio with Auracast broadcast audio provides a blanket of Bluetooth® audio to connect multiple compatible devices within range.

Breakthrough connectivity

Have confidence in your connections—from virtually anywhere.

- The groundbreaking, AI-accelerated Snapdragon X70 5G Modem-RF System offers the latest Release 17 5G advancements over widespread networks with outstanding battery efficiency.
- The Qualcomm® FastConnect™ 7800 Mobile Connectivity System reaches the fastest global speeds up to 5.8 Gbps via Wi-Fi 7.
- High Band Simultaneous Multi-Link instantly selects your strongest, fastest Wi-Fi signal available.



Specs & Features

Artificial Intelligence

Qualcomm® AI Engine

- Qualcomm® Adreno™ GPU
- Qualcomm Kryo CPU
- Qualcomm® Hexagon™ NPU
- Fused AI accelerator architecture
- Hexagon scalar, vector, and tensor accelerators
- Hexagon Direct Link
- Support for mix precision (INT8+INT16)
- Support for all precisions (INT4, INT8, INT16, FP16)

Qualcomm® Sensing Hub

- Dual micro NPUs for audio and sensors
- Always-sensing camera
- Support for INT4 precision

5G Modem-RF System

Snapdragon X70 5G Modem-RF System

- 5G mmWave and sub-6 GHz, standalone (SA) and non-standalone (NSA) modes, standalone mmWave and mmWave-sub6 dual connectivity, FDD, TDD
- mmWave: 8 carriers, 2x2 MIMO
- Sub-6 GHz: 4x4 MIMO
- Qualcomm® 5G AI Suite
- Qualcomm® AI-Enhanced Signal Boost
- Qualcomm® 5G PowerSave Gen 3
- Qualcomm® Smart Transmit™ 3.0 technology
- Qualcomm® Wideband Envelope Tracking
- Qualcomm® 5G Ultra-Low Latency Suite
- Global 5G multi-SIM, including 5G-5G/4G Dual-SIM Dual-Active (DSDA)

Downlink: Up to 6.5 Gbps

Uplink: Up to 3.5 Gbps

3GPP Release 17 support

Multimode support: 5G NR, NR-DC, EN-DC, LTE, CBRS, WCDMA, HSPA, TD-SCDMA, CDMA 1x, EV-DO, GSM/EDGE

Wi-Fi & Bluetooth®

Qualcomm® FastConnect™ 7800 Mobile Connectivity System

- Wi-Fi Generation: Wi-Fi 7
- Peak Speed: 5.8 Gbps
- 802.11be, 802.11ax, 802.11ac, 802.11a/b/g/n
- Wi-Fi Spectral Bands: 6 GHz, 5 GHz, 2.4 GHz
- Channel Bandwidth: 320/240/160/80/40/20 MHz
- 8-stream sounding (for 8x8 MU-MIMO)
- MIMO Configuration: 2x2 (2-stream)
- MU-MIMO (Uplink & Downlink)
- 4K QAM
- OFDMA (Uplink & Downlink)
- High Band Simultaneous (HBS) Multi-Link
- Wi-Fi Security: WPA3-Enterprise, WPA3- Enhanced Open, WPA3 Easy Connect, WPA3-Personal

Integrated Bluetooth

- Bluetooth Audio: Snapdragon Sound™ Technology Suite, Qualcomm® aptX™ Voice, aptX Lossless, aptX Adaptive, and LE Audio
- Bluetooth Features: Bluetooth 5.4, LE Audio, Dual Bluetooth antennas

Audio

Qualcomm Aqstic™ audio codec

Qualcomm Aqstic smart speaker amplifier

Total Harmonic Distortion + Noise (THD+N)

Playback: -108dB

Qualcomm® Audio and Voice Communication Suite

Spatial audio with head tracking

Camera

Qualcomm Spectra™ Image Signal Processor

- Cognitive ISP, Triple 18-bit ISPs

Real-time Semantic Segmentation photo and video processing (up to 12 layers)

Engine for Visual Analytics 4.0, including hardware acceleration for rToF depth sensors up to 1080p30

Support for all types of HDR image sensors (DCG, sHDR, MFHDR)

Support for triple video capture from HDR image sensors, with seamless switching between any HDR mode

- Up to 36 MP triple camera @ 30 FPS with Zero Shutter Lag
- Up to 64+36 MP dual camera @ 30 FPS with Zero Shutter Lag
- Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag
- Up to 200 megapixel photo capture

AI-based face detection, AI for 3A (auto-focus, auto-exposure, and auto-white balance)

Rec. 2020 color gamut photo and video capture

4K HDR video capture + 64 MP photo capture

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

Google Ultra HDR photo capture

Video capture HDR formats: HDR10+, HDR10, HLG, Dolby Vision

4K HDR video capture @ 60 FPS

4K video capture @ 60 FPS

Slow-mo video capture at 1080p @ 240 FPS

Bokeh Engine 2 for video capture

Pro Sight video capture

Snapdragon Low Light Vision (LLV)

Video super resolution

Multi-Frame Noise Reduction (MFNR)

Locally Motion Compensated Temporal Filtering

Display

On-device Display Support:

- 4K @ 60 Hz
- QHD+ @ 144 Hz

Maximum External Display Support:

- Up to 8K UHD @ 30 Hz
- Up to 1080 @ 240 Hz

Variable Refresh Rate support for 240 Hz to 1 Hz

- 10-bit color depth, Rec. 2020 color gamut
- HDR10, HDR10+, HDR vivid, and Dolby Vision

CPU

Qualcomm® Kryo™ CPU

- 64-bit Architecture
- 1 Prime core, up to 3.0 GHz
- Arm® Cortex®-X4 core
- 4 Performance cores, up to 2.8 GHz
- 3 Efficiency cores, up to 2.0 GHz

Visual Subsystem

Video decode up to 4K at 60 FPS (native decode support VP9 and AV1 formats)

Qualcomm Adreno GPU

- Real-time Hardware-Accelerated Ray Tracing
- Snapdragon Game Super Resolution
- Adreno Frame Motion Engine 2.0
- Snapdragon Game Post Processing Accelerator
- HDR gaming (10-bit color depth, Rec. 2020 color gamut)
- Snapdragon Shadow Denoiser
- API support: OpenGL™ ES 3.2, OpenCL™ 2.0 FP, Vulkan™ 1.3
- Hardware-accelerated H.265, VP9, AV1 decoder
- HDR Playback Codec support for HDR10+, HDR10, HLG, and Dolby Vision

Security

Trust Management Engine (Root of Trust), along with platform-level security foundations

Support for Android's DICE-based remote key provisioning

Qualcomm® Trusted Execution Environment (TEE) for use cases requiring higher processing assurance

Qualcomm® Type-1 Hypervisor for isolation from the high-level OS

Qualcomm® wireless edge services (WES) for secure attestation and provisioning

Qualcomm® 3D Sonic Sensor and Qualcomm 3D Sonic Max (fingerprint sensor)

Location

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

Triple frequency GNSS (L1/L2C/L5)

Sensor-Assisted Positioning 6.0

- With global map aiding
- Urban pedestrian navigation with sidewalk accuracy
- Global freeway lane-level vehicle navigation

Charging

Qualcomm® Quick Charge™ 5 Technology

Memory

Support for LP-DDR5x memory, up to 4200 MHz

Memory Density: Up to 24 GB

General Specifications

Snapdragon Elite Gaming™ features

4nm Process Technology

USB Version 3.1 Gen 2; USB Type-C Support

Storage: UFS 4.0

Part Number: SM8635

