



Snapdragon® 8 Elite Mobile Platform

The Snapdragon 8 Elite Mobile Platform represents the pinnacle of Snapdragon innovation—our industry-leading mobile platform.

With Qualcomm Oryon CPU debuting in our mobile roadmap, we are delivering unprecedented performance. This significance deserves a new, special, most premium variant of our leading 8 series—Snapdragon 8 Elite.

Snapdragon 8 Elite is performance transformed, revolutionizing your on-device experiences with our powerhouse Qualcomm Oryon CPU—built from the ground up. Get support for multimodal Gen AI at your fingertips and a suite of flagship experiences, including an AI-powered camera that redefines photography, raw power for revolutionary gaming, and studio-quality audio—all backed by AI-enhanced 5G and Wi-Fi 7.

All comparisons made are in reference to previous generation, Snapdragon 8 Gen 3 Mobile Platform. Results will vary, depending on OEM implementation and other factors.

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Powerhouse Qualcomm Oryon™ CPU defines a new mobile era

Welcome to the next generation of smartphones, where extraordinary is the standard. We've masterfully engineered our brand-new, 2nd generation Qualcomm Oryon CPU to deliver power, speed, and efficiency. Multitask to the max, browse on the web, and conquer new worlds with ultra responsive gaming.

- Fastest mobile CPU in the world with 4.32 GHz peak CPU speeds.
- Experience an astounding 45% boost in CPU performance and 44% improved power efficiency.
- The mobile industry's largest shared cache delivers insanely fast data retrieval.
- Delivers up to 27% in overall power savings, extending your gaming time by up to 2.5 hours.

Multimodal Gen AI at your fingertips

A new world of creative possibilities awaits, thanks to the Qualcomm™ AI Engine with multimodal Gen AI and personalized support. Multimodal Gen AI revolutionizes interactions, understanding voice, text, images, and now it can even see the world through your camera to help with tasks, ranging from everyday queries and summarization to advanced content creation. Plus, it can also instantly become an expert on any subject by digesting entire book chapters and documents.

- Powered by various AI models including large multimodal models (LMMs), LLMs, and LVMs.
- Supports largest global Gen AI model ecosystem.
- Supports longer token inputs: provide your AI assistant an entire book chapter or lengthy technical document to make it an expert.
- Qualcomm® Sensing Hub understands personal context that allows your multimodal generative AI assistant to make suggestions and decisions that suit you best.
- Our 45% faster Qualcomm® Hexagon™ NPU and 45% improved performance per watt pushes AI performance to new heights.

Power and efficiency for revolutionary gaming

Our custom-built Qualcomm Oryon CPU and first-ever Adreno GPU with sliced architecture catapult you into a world of unrivaled adventure. Game with stunning, film-quality landscapes teeming with detail, plus destructible environments and car chases so realistic you'll feel part of the action. With full support for Unreal Engine's Nanite, every quest, battle, and exploration becomes more intense and thrilling than ever, delivering a gaming experience that feels like having a console right in your pocket.

- Qualcomm Oryon CPU fuels ultra responsive gameplay on-the-go—for longer.
- Newly minted Qualcomm® Adreno™ GPU uses a revolutionary sliced architecture with dedicated memory for each slice—ensuring faster, smoother performance and optimized battery life.
- Immerse yourself in pixel-perfect AAA games with a remarkable 40% Adreno GPU performance improvement and 40% greater power efficiency.
- Adreno GPU's sliced architecture delivers astonishing graphics and realistic environments, while helping maximize performance and battery power.
- Mobile-first support for Unreal Engine 5.3 with Nanite produces film-quality 3D environments for total immersion.
- Optimized performance and support of Unreal Chaos Physics Engine authentically renders complex physics simulations and lifelike object interactions, like a hyper-realistic avalanche, rock fall, or waterfall.

AI-powered camera redefines photography

Infuse brilliance into mobile capture with our AI ISP, enhancing everything from selfies to crystal-clear video chats thanks to an overhauled Hexagon Direct Link. The first AI-powered Limitless Segmentation recognizes and enhances virtually anything in the frame, including faces, hair, clothing, objects, backgrounds, and beyond. Even furry friends appear crisp and cute—no matter how fast the zoomies—thanks to AI-Based Pet Capture.

- Our powerful AI ISP is deeply integrated with the Hexagon NPU for enhanced, intuitive capture.
- Limitless Segmentation can segment an image in over 250 layers, each optimized to perfection.
- Real-time Insight AI captures and enhances natural skin and sky tones even in the most challenging conditions.
- Truepic with C2PA adds cryptographic seals so you can authenticate your photos as real and not AI-generated—now including videos and audio recordings.
- Video Object Eraser can remove unwanted elements from video footage—on-device.
- Capture vivid videos at 4K60 FPS, even in near darkness.

Studio-quality audio

Amplify your every day with lossless music streaming for auditory escapes. With Snapdragon Sound™ Technology Suite, every beat, note, and lyric is exactly as the artist intended, while lag-free spatial audio transports you to entrancing mobile gaming worlds. Plus, Qualcomm® Expanded Personal Area Network (XPAN) technology lets you wander from room-to-room and beyond with whole-building wireless coverage—ensuring consistent quality from smartphone to earbud.

- Qualcomm® aptX™ Lossless Technology delivers crystal-clear audio.
- Lag-free spatial audio engages all the senses—great for mobile gaming.
- Stay connected, even when your smartphone is in another room or on another floor, with Qualcomm XPAN delivering higher bandwidth and greater range than Bluetooth® wireless technology.
- Ultra-low latency for lag-free gaming.

Fully integrated, AI-enhanced connectivity

True connectivity means freedom and, now, it's more intelligent than ever with our first platform to combine the latest in AI-optimized 5G and Wi-Fi 7. Multi-gigabit-shattering speeds support gaming on-the-go, blazing downloads, and near-instant data backups. Plus, pinpoint your location and keep tabs on your belongings thanks to hyper-accurate proximity technologies.

- The Snapdragon X80 5G Modem-RF System unites with Qualcomm® 5G AI Suite Gen 3 for superior 5G performance and incredible multi-gig speeds.
- 30% improved location and positioning accuracy, even in parking structures.
- First 4x6 MIMO solution for breakthrough connectivity performance.
- First DSDA (Dual Data), now with global coverage, offers greater versatility through two SIMs.
- The Qualcomm® FastConnect™ 7900 Mobile Connectivity System is the world's most capable Wi-Fi 7 solution, with integrated AI and up to 40% more power savings.
- Wi-Fi system supports High Band Simultaneous Multi-Link for the fastest global Wi-Fi speeds.
- First platform to integrate Wi-Fi, Bluetooth, and UWB for proximity capabilities, helping to find lost items, access secure buildings, and more.



Specs & Features

Artificial Intelligence

Qualcomm AI Engine

- Qualcomm Adreno GPU
- Qualcomm Oryon CPU
- Qualcomm Hexagon NPU
 - Fused AI accelerator architecture
 - Hexagon scalar, vector, and tensor accelerators
 - Hexagon Direct Link
 - Micro Tile Inferencing
 - Large shared memory concurrency support
 - Upgraded power delivery system
- Support for mix precision (INT8+INT16)
- Support for all precisions (INT4, INT8, INT16, FP16)

Qualcomm Sensing Hub

- Dual Micro NPUs for audio and sensors
- Dual Always-Sensing ISPs to support two concurrent Always-Sensing Cameras
- Support for INT4 precision

5G Modem-RF System

Snapdragon X80 5G Modem-RF System

- 5G Advanced-ready, 5G mmWave and sub-6 GHz, 5G standalone (SA) and non-standalone (NSA) modes, standalone mmWave and mmWave-sub-6 dual connectivity, FDD, TDD

Downlink: Up to 10 Gbps

Uplink: Up to 3.5 Gbps

mmWave: 8 carriers, 2x2 MIMO

- Sub-6 GHz: 4x6 MIMO
- Converged mmWave-sub-6 transceiver
- Qualcomm 5G AI Suite Gen 3 includes:
 - AI-enhanced performance improvements in power handling, coverage, latency, & QoS
 - AI-assisted mmWave beam management—mmWave (SA) range extension for CPE
 - AI-based GNSS Location Gen 3
 - Qualcomm 5G AI Processor Gen 2 with dedicated tensor hardware accelerator
- Qualcomm 5G PowerSave Gen 5
- Fully integrated NB-NTN support
- Qualcomm Smart Transmit Gen 5 technology with Snapdragon Satellite support
- Qualcomm Wideband Envelope Tracking
- 5G New Calling support
- Qualcomm Power RF Efficiency Suite
- Qualcomm 5G Ultra-Low Latency Suite
- Qualcomm RF Uplink Optimization
- Global 5G multi-SIM, including Qualcomm DSDA Gen 2

3GPP Release 17 and Release 18 support

6xCA Downlink

6-antenna support (6 Rx for 4x6 MIMO)

Multimode support: 5G NR, NR-DC, EN-DC, LTE, CBRS, WCDMA, LAA, GSM/EDGE, Dynamic Spectrum Sharing (DSS)

Wi-Fi, Bluetooth®, & UWB

Qualcomm FastConnect™ 7900 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
- 4K QAM
- High Band Simultaneous (HBS) Multi-Link
- Wi-Fi Security: WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal

Integrated Bluetooth

- Bluetooth Features: Bluetooth 6.0, LE Audio, dual Bluetooth antennas

Integrated Ultra Wideband (UWB)

- IEEE 802.15.4z, FIRA, CCC

CPU

Qualcomm Oryon™ CPU

- 64-bit Architecture
- Prime core, up to 4.32 GHz
- Performance cores, up to 3.53 GHz

Camera

Qualcomm Spectra™ Image Signal Processor

- AI ISP, Triple 18-bit ISPs

Limitless real-time Semantic Segmentation photo and video processing

Engine for Visual Analytics 4.0, including hardware acceleration for iToF depth sensors up to 4K 60 FPS

Support for the latest HDR, DCG+VS, DCG, Staggered, QDOL, Less Blanking, and Multiframe HDR image sensors

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

- Up to 48 MP triple camera @ 30 FPS with Zero Shutter Lag
- Up to 108 MP single camera @ 30 FPS with Zero Shutter Lag
- Up to 320-megapixel photo capture

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

Rec. 2020 color gamut photo and video capture

Up to 10-bit color depth photo and video capture

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

Google Ultra HDR photo capture

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

8K HDR video playback @ 60 FPS

4K video capture @ 120 FPS

Slow-mo video capture at 1080p @ 480 FPS

Hardware Bokeh Engine 2 for video capture

Pro Sight video capture

Ultra-low light video capture with AI Noise Reduction in 4K60 FPS

Computational HDR video capture: Up to 4 exposures (with QDOL image sensors)

Video super resolution

Massive Multi-Frame Noise Reduction with AI

Locally Motion Compensated Temporal Filtering

- Enhanced AI video segmentation @ 4K60 FPS
- Realtime AI skin and sky tone adjustments in 4K60 FPS

Truepic photo capture with C2PA-compliant certificate authority

Audio

Snapdragon Sound™ Technology Suite:

- Qualcomm aptX™ Adaptive and aptX Lossless audio
- Qualcomm Expanded Personal Area Network (XPAN) technology
- Qualcomm Aqstic™ audio codec
- Qualcomm Aqstic smart speaker amplifier: Total Harmonic Distortion + Noise (THD+N) Playback: -108 dB
- Qualcomm Aqstic Speaker Max
- Qualcomm Audio and Voice Communication Suite
- Spatial audio with head-tracking

Display

On-Device Display Support:

- 4K @ 60 Hz
- QHD+ @ 240 Hz

Maximum External Display Support:

- Up to 8K @ 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

Visual Subsystem

Adreno GPU

- Real-time Hardware-Accelerated Ray Tracing with Global Illumination
- Support for Unreal Engine 5.3 running Nanite on smartphones
- Support for Unreal Engine Chaos Physics Engine
- Snapdragon Adaptive Game Configuration
- Snapdragon Game Super Resolution
- Adreno Frame Motion Engine 2.1
- 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™ 3.0 FP, Vulkan™ 1.3
- Hardware-accelerated H.265, VP9, AV1 decoder
- HDR Playback Codec support for HDR10+, HDR10, HLG, and Dolby Vision

Security

Truepic with C2PA for video and audio

IP Protection for AI models

Location

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

Triple frequency GNSS (L1/L2C/L5)

AI-based GNSS Location Gen 3

Sensor-Assisted Positioning 6.0

Urban pedestrian navigation with sidewalk accuracy

Global freeway lane-level vehicle navigation

Charging

Qualcomm Quick Charge™ 5 Technology

Memory

Support for dual-channel LP-DDR5x memory, up to 5.3GHz

Memory Density: Up to 24 GB

General Specifications

Full suite of Snapdragon Elite Gaming™ features

3nm Process Technology

USB Version 3.1 Gen 2; USB Type-C Support

Storage: UFS 4.0

Part Number: SM8750-AB



Maximum CPU speed will vary based on platform version. Consult OEM specifications for device CPU speed.

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