

# SNAPDRAGON® XR2 GEN 2 PLATFORM

Snapdragon XR2 Gen 2 Platform powers next-generation MR and VR for all, with amazing performance and groundbreaking on-device AI.



## High-resolution display

The Snapdragon XR2 Gen 2 is optimized for awe-inspiring visuals and extreme power efficiency.

- Support for up to 3K-by-3K displays, bringing true-to-life scenes with more depth, shades, textures, and colors for ultimately immersive entertainment
- Built for premium standalone headsets that do not require an external battery pack for more freedom of movement and comfort

## Unleashed on-device AI

Our 8x more performant AI, support for 10 concurrent cameras, and a dedicated XR acceleration block enable unprecedented interaction concurrency essential for mixed reality experiences.

- Support for 10 concurrent cameras for video see-through; controller, eye, hand, head, and face tracking; and depth sensing
- Dedicated hardware-accelerated computer vision block for enhanced, low-power, and high-accuracy 6DoF
- Improved INT8 acceleration, thanks to fused microarchitecture and larger on-device memory
- Perception concurrency includes hand, head, controller, facial expression, depth estimation, and 3D reconstruction for interactions that feel more natural than ever before

## Boundless XR

With support for the latest Qualcomm® FastConnect™ Mobile Connectivity System, users can experience lag-free and shared XR experiences with ultra-fast Wi-Fi 7, Wi-Fi 6E, and Bluetooth® 5.3 and 5.2 wireless connectivity for 60% higher throughput and 80% lower latency. This unlocks seamless PC-to-HMD and online multi-player experiences.

## Supercharged GPU

Our next-gen Qualcomm® Adreno™ GPU powers 2.5x higher GPU performance that lets stunning scenes unfold at faster frequency rates, with less jitter and in vivid detail.

- Support for dynamic foveated rendering, space warp, and Game Super Resolution will make your games and apps buttery smooth
- Developers can either use the extra GPU power to increase the visual fidelity of their apps and games or provide similar visuals as Gen 1—with up to 50% power savings

## Next-gen mixed reality

This purpose-built platform packs premium MR and VR technology into a single-chip architecture for thinner and more comfortable headsets.

- The upgraded ISP and full-color, ultra-fast 12ms video see-through latency deliver smooth transitions between the real and the virtual world, enhanced visual fidelity and enabling unparalleled digital comfort
- Boosted image quality with geometric correction, de-noising, and dynamic light range

# SPECIFICATIONS & FEATURES



## Artificial Intelligence

Qualcomm® Adreno™ GPU

Qualcomm® Kryo™ CPU

Qualcomm® Hexagon™ Processor

- Fused AI Accelerator Architecture
- Qualcomm® Hexagon™ Vector eXtensions
- Qualcomm® Hexagon™ Scalar Accelerator
- Qualcomm® Hexagon™ Matrix eXtensions

## Display

On-device display support

3.1K x 3.1K @ 90 FPS per eye

4x DSI, 2x eDP, 1x DP1.4 over USB3

## CPU

Qualcomm Kryo CPU

4 + 2 performance cores, up to 2.4/2.0 GHz

## Camera

Qualcomm Spectra™ Image Signal Processor

- Support for 10 concurrent cameras
- 2x IFE for 12 MP @ 90 FPS Bayer for video see-through
- 8x IFE-Lite for 720P @ 120 FPS mono for perception

## Computer Vision

Engine for Visual Analytics with dedicated computer vision hardware

## Video

8K60 decode, 8K30 encode, low-latency slice-based decoding

AVC, HEVC, VP9, and AV1 decode

## Audio

Qualcomm® Hexagon™ DSP, embedded neural processing units, Qualcomm® Sensor Hub, Voice UI, Spatial Audio / Recording

## Visual Subsystem

Qualcomm Adreno GPU

Render: 2.2K x 2.4K @ 90 FPS

Time-warp: 2.8K x 3K @ 90 FPS

## Wi-Fi and Bluetooth®

Qualcomm® FastConnect™ 7800 Mobile Connectivity System

- Wi-Fi Generation: Wi-Fi 7
- Peak speed: 5.8 Gbps
- Wi-Fi Security: WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal
- High-band simultaneous Multi-Link

Integrated Bluetooth

- Bluetooth 5.3
- Dual Bluetooth

## Security

Secure Boot, Secure Debug, Trust Zone, Hardware Root of Trust, Full DDR Encryption

Secure Processor, Trusted VM

## Memory

4x16 LP-DDR5 memory, up to 3.2 GHz

8 MB system cache (LLC)

## General Specifications

Storage: UFS 3.1, SD 3.0 / SDExpress 7.0

Peripherals: 1x USB3.1, 3x PCIe

