

QUALCOMM®
SNAPDRAGON™

810

PROCESSOR

Model APQ8094 for Embedded Computing

The Snapdragon 810 processor – the “Ultimate Connected Mobile Computing Processor” – is designed for the most advanced embedded computing applications. It supports the demanding embedded requirements of performance, multimedia, graphics, gaming and power-efficiency.

- + Two clusters of 64-bit quad-core ARM® Cortex®-A57 and quad Cortex®-A53 CPUs, designed for high performance
- + New ARMv8-A ISA offers more efficient instruction set
- + Combined 14-bit dual image signal processors (ISPs) support 1.2GP/s throughput and image sensors up to 55 MP
- + HEVC H.265 hardware decoding and encoding for bandwidth and power efficiency
- + Integration and support for Qualcomm® Quick Charge™ 2.0 and Qualcomm® WiPower™ technologies
- + Worldwide ecosystem of Snapdragon partners, customers, developers and embedded device OEMs

To learn more visit:

snapdragon.com or mydragonboard.org

EMBEDDED COMPUTING USE CASES



Medical Devices: Multiple computing cores

64-bit computing on 8 CPU cores plus Qualcomm® Hexagon™ DSP for processor-intensive tasks



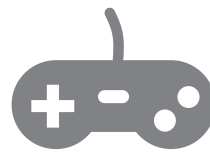
Robotics: Computer vision and image capture

Multiple cameras, dual ISPs, integrated sensor core and high-definition video capture for drones and robots



Smart Glasses: High performance and energy efficient

Small footprint for head-mounted displays and see-through digital eyewear



Gaming: Console-quality 3D output

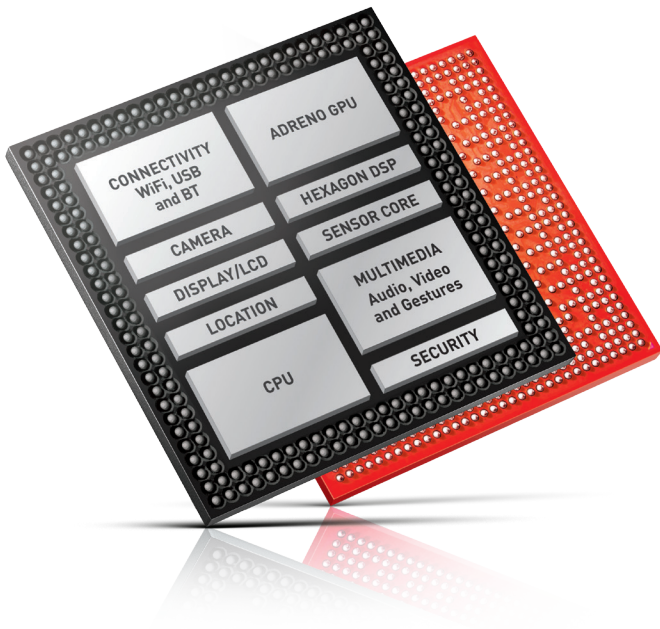
New Qualcomm® Adreno™ 430 GPU and display engine for 3D gaming on 4K displays



Digital Signage and Media: 4K video playback

4K Ultra HD output to HDTV for improved picture sharpness and stunning detail

Qualcomm®
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For premium-tier mobile computing in embedded devices, the Snapdragon 810 processor supports 64-bit computing and rich multimedia capabilities with low power consumption.

Snapdragon supports a clear deployment path for embedded device OEMs and developers – starting with single-board computers and development kits and scaling up to customer solutions, integration services and production-ready, customizable system-on-modules (SOM).

FEATURES & SPECIFICATIONS

CPU

- + Quad ARM® Cortex®-A57 and quad Cortex-A53 cores with 64-bit and ARMv8-A ISA support

GPU

- + Adreno 430 GPU: OpenGL ES 3.1¹, OpenCL1.2 Full², DX11.2, content security, plus hardware tessellation, geometry shaders, programmable blending and decreased power consumption³

DSP

- + Hexagon QDSP V56 DSP

Display

- + 4Kx2K@60fps primary display
- + 4Kx2K@30fps external display with HDMI 1.4a or wireless 1080p@60fps with Miracast
- + 3:1 Frame Buffer Compression ratio

Memory

- + LPDDR4 2x32@1600MHz
- + eMMC 5.0

Sensor Core

- + Supports more accurate, low-power, always-on sensors

Security

- + Qualcomm® Snapdragon StudioAccess™ technology and Qualcomm® SecureMSM™ digital rights management platform

Camera

- + Combined 14-bit dual ISPs supporting 1.2GP/s throughput and image sensors up to 55MP

Multimedia

- + 4Kx2K@30fps, 1080p@120fps
- + Hardware HEVC encode and decode
- + DASH support
- + Next Gen codec (WCD9330) support for Low Power Snapdragon Voice Activation
- + 11.1 surround sound with Dolby and DTS

Connectivity

- + Qualcomm® VIVE™ 2-stream 802.11n/ac technology with Multi-user MIMO
- + Qualcomm® IZat™ location services Gen8C
- + USB 3.0/2.0
- + BT4.1



¹ Product is based on a published Khronos specification and is expected to pass the Khronos Conformance Testing Process when available. Current conformance status can be found at www.khronos.org/conformance

² Product is based on a published Khronos Specification, and is expected to pass the Khronos Conformance Testing Process. Current conformance status can be found at www.khronos.org/conformance

³ As compared to its predecessor, the Adreno 420 GPU in the Snapdragon 805 processor