QUALCOMM® SNAPDRAGON™
800 PROCESSORS

Model: APQ8074

The Snapdragon 800 processor (APQ8074) is designed to enable blazing fast computation, visually stunning graphics and breakthrough multimedia for embedded applications such as digital signage, robotics, wearable displays, video streaming/conferencing, and medical devices.

The Snapdragon 800 represents a leap forward in performance and power efficiency. Designed to deliver an outstanding user experience, the Snapdragon 800 expands the possibilities of seamless connected computing while enabling new high-end features including Ultra HD video, multichannel HD audio and advanced imaging. When you need the latest in advanced embedded computing capability, the Snapdragon 800 offers the ultimate in features, performance and energy efficiency.

Custom built and optimized for mobile featuring:

+ Superior Qualcomm® Krait™ CPU architecture

+ Custom designed Qualcomm® Adreno™ mobile graphics

+ Multithreaded Qualcomm® Hexagon™ DSP for ultra-low power applications

+ Dedicated multimedia subsystem for rich media and longer battery life

+ Broad sensor support for advanced application enablement

+ End-to-end content and platform security using Qualcomm® Snapdragon StudioAccess™ technology and Qualcomm® SecureMSM™ technology

WHY SNAPDRAGON 800 PROCESSOR FOR EMBEDDED SYSTEMS?

The Snapdragon 800 supports more performance, advanced features and capabilities than its predecessors:

+ Capture, playback and display in UltraHD video (with four times 1080p pixel density)

+ Dual Image Signal Processors for Qualcomm® Snapdragon™ Camera support simultaneous camera/video, ultrafast 640 Megapixel/second capture speeds and computational camera

+ HD multichannel audio with DTS-HD and Dolby Digital Plus for enhanced audio

+ Higher display resolutions (up to 2560x2048) and Miracast 1080p HD support

FEATURES

CPU

+ Upgraded architecture for sustained peak performance in a mobile power profile

+ Quad core CPU for advanced multitasking and multithreaded application support

+ LP-DDR3 memory for high performance and low latency

GPU

+ Updated Adreno 330 GPU delivers up to 50% increase in graphics performance[1]

+ Support for advanced graphic and compute APIs, including OpenGL ES 3.0, DirectX, OpenCL, Renderscript Compute and FlexRender™ technology[2]

+ Support for popular middleware and game engines like Unity, Epic, and Unigine

DSP

+ Hexagon DSP supports ultra-low power operation for a variety of applications like music playback, enhanced audio and advanced editing applications

+ Hexagon DSP now supports floating point calculations, dynamic multithreading and expanded multimedia instructions for enhanced low power performance

Connectivity

+ USB 3.0 for ultra-fast transfers

+ 802.11an 2x2 Wi-Fi, Bluetooth 4.1

+ Qualcomm® IZat™ GNSS location technology combines multiple location services into a single high performance navigation system

Power Management

+ Energy efficient High Performance for Embedded Computing

+ aSMP dynamic CPU power control for sustained peak performance

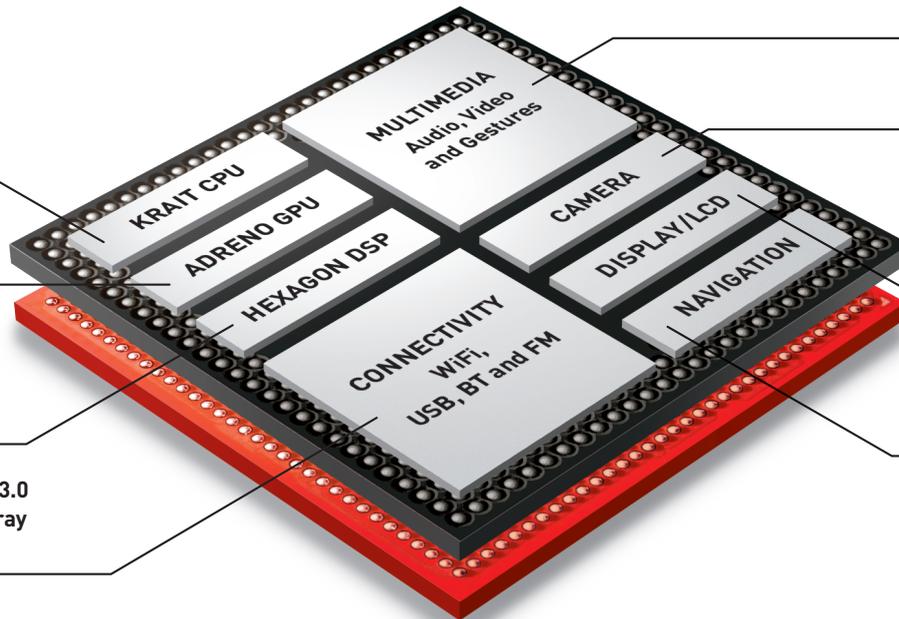+ New Qualcomm® Quick Charge™ 2.0 technology integrated for up to 75% faster battery charging[4]

SNAPDRAGON 800 (APQ8074) PROCESSOR FOR EMBEDDED

Krait 400 CPU 28HPm process technology and superior 2GHz+ performance

Adreno 330 for advanced graphics

Hexagon QDSP6 for ultra low power applications and custom programmability

Integrated 802.11ac[3], USB 3.0 and BT 4.0 offers broad array of high speed connectivity

Ultra HD Capture and Playback

DTS-HD and Dolby Digital Plus audio

Expanded Gestures

55MP with dual ISP

Support for up to 2560x2048 display

Miracast 1080p HD support

IZat GNSS with support for three GPS constellations

Chip diagram labels: KRAIT CPU, ADRENO GPU, HEXAGON DSP, MULTIMEDIA Audio, Video and Gestures, CAMERA, DISPLAY/LCD, NAVIGATION, CONNECTIVITY WiFi, USB, BT and FM

SPECIFICATIONS

System
+ 28nm HPm quad core Krait 400 CPU at up to 2.3GHz per core
+ Adreno 330 GPU
+ Hexagon QDSP6 V5

Multimedia
+ Video: 4k x 2k Ultra HD video capture/playback
+ Camera: Up to 55 Megapixel, stereoscopic 3D, Dual ISP
+ Display: 2560x2048 + 1080p and 4K external displays
+ Audio: HD multichannel sound with DTS-HD and Dolby Digital Plus

Connectivity
+ USB 3.0/2.0[3]
+ 802.11n 2x2 2.4GHz/5GHz WiFi
+ BT4.1
+ IZat GNSS
+ Support for NFC, Gigabit Ethernet, HDMI, DisplayPort, SATA, SDIO, UART, I2C, GPIOs, and JTAG

To learn more visit snapdragon.com or mydragonboard.org

Qualcomm® snapdragon™

[1] Compared to its predecessor, Adreno 320
[2] FlexRender is designed to help the Adreno GPU boost speed and save power by dynamically switching between drawing pixels in direct or deferred rendering mode
[3] Available only in select processors
[4] As compared to devices without quick charge technology
Snapdragon 800 processors include the following part numbers: 8074, 8274, 8674 and 8974