QUALCOMM® SNAPDRAGON™
801 PROCESSOR

The Snapdragon 801 processor is designed to support incredibly fast apps and web browsing, visually stunning graphics, breakthrough multimedia capabilities, smooth communications virtually anytime, anywhere, and outstanding battery life for premium smartphones, tablets, Smart TVs and digital media adapters.

The Snapdragon 801 processor represents a leap forward in mobile performance and power efficiency. Designed to support outstanding device capabilities, the Snapdragon 801 processor expands the possibilities of seamless connected computing while supporting premium mobile capabilities, including Ultra HD video capture and playback and advanced mobile imaging.

Custom built and optimized for mobile:

+ Superior Qualcomm® Krait™ CPU architecture
+ Qualcomm® Adreno™ GPU for rich UIs and console quality gaming
+ Multithreaded Qualcomm® Hexagon™ DSP for ultra-low power applications
+ Dedicated, integrated multimedia subsystem for rich media
+ Broad sensor support for advanced application support
+ Comprehensive content and platform security using Qualcomm® Snapdragon StudioAccess™ technology and Qualcomm® SecureMSM™ technology

When you need the latest in advanced mobile computing capability, the Snapdragon 801 processor offers the ultimate in features and performance.

NEW USER EXPERIENCES

The Snapdragon 801 processor support many of the industry's most advanced mobile user experiences.

+ Capture, play back and display video in Ultra HD resolution (with four times 1080p pixel density)
+ Capture and edit even sharper images faster with Dual Image Signal Processors (ISPs), support for larger sensors and improved image post processing
+ HD multichannel audio with DTS-HD and Dolby Digital Plus for enhanced audio
+ Support for high resolution displays (up to 2560x2048) and Miracast 1080p HD

CUSTOM BUILT FEATURES

CPU
+ Custom architecture for sustained peak performance in a mobile power profile
+ Quad core Krait 400 CPU for advanced multitasking and multithreaded application support
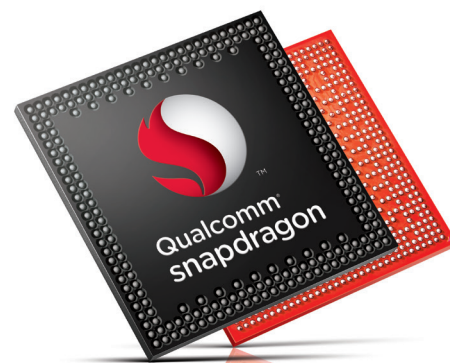+ LP-DDR3 memory for high performance and low latency

GPU
+ Speed-enhanced Adreno 330 GPU delivers up to 25% increase in graphics performance[1]
+ Support for FlexRender™ technology[2] and advanced graphic and compute APIs, including OpenGL ES 3.0, DirectX, OpenCL, and Renderscript Compute
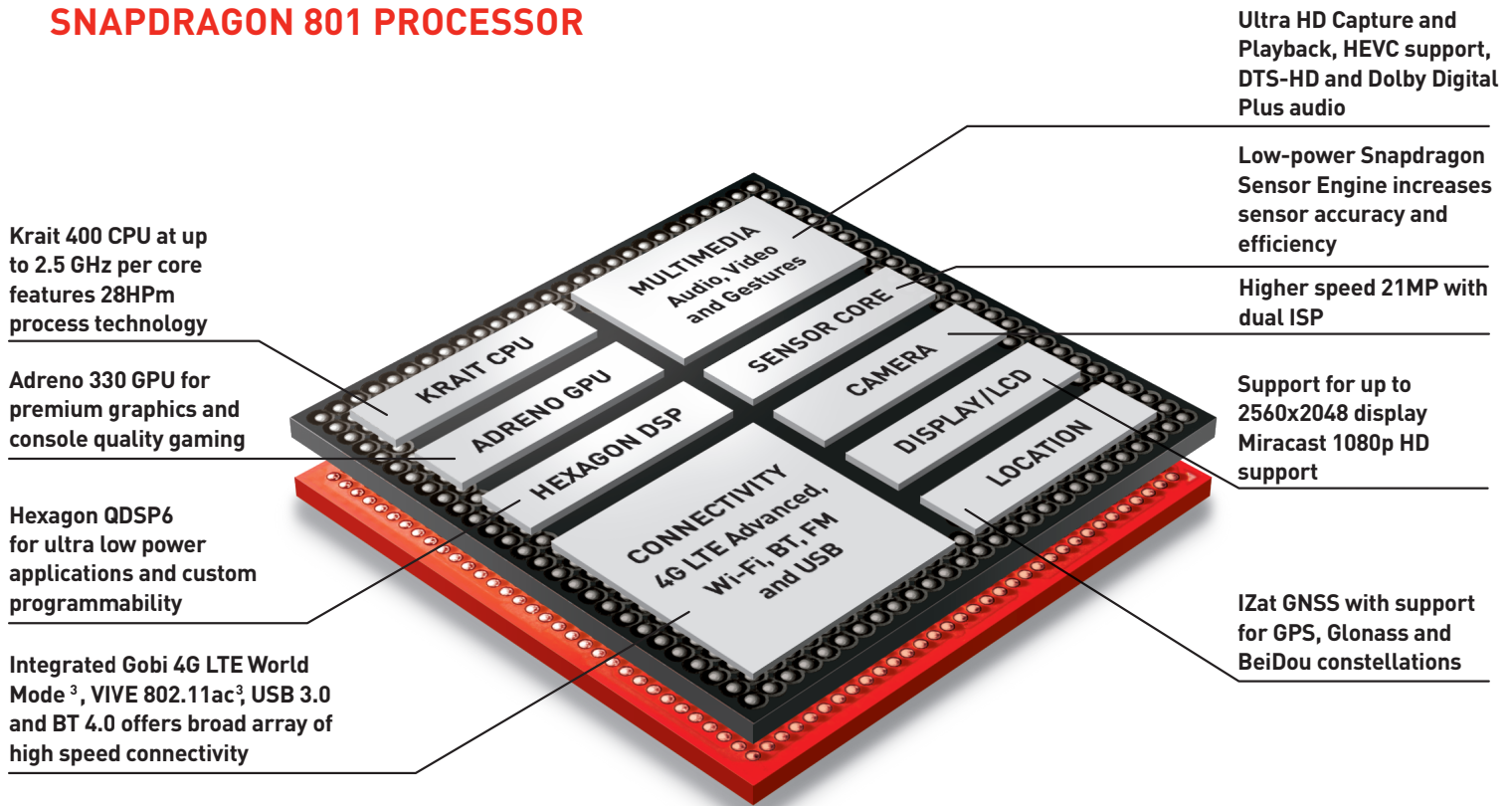+ Support for popular middleware and game engines from Unity, Epic, and Unigine

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
+ Qualcomm® Gobi™ 4G LTE Advanced with Carrier Aggregation for download speeds of up to 150 Mbps
+ Gobi 4G LTE World Mode[3], supporting LTE FDD, LTE TDD, WCDMA, CDMA1x, EV-DO, TD-SCDMA and GSM
+ Dual-SIM/dual active (DSDA) support in hardware
+ New USB 3.0 for ultra-fast transfers
+ Qualcomm® VIVE™ 802.11ac for high-performance Wi-Fi streaming and downloads
+ Qualcomm® IZat™ location technology combines multiple location services into a single high performance navigation system for auto and pedestrian applications
+ Bluetooth 4.1 for point-to-point connections

[1] Compared to the Adreno 330 GPU in the Snapdragon 800 processor
[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

SNAPDRAGON 801 PROCESSOR

Krait 400 CPU at up to 2.5 GHz per core features 28HPm process technology

Adreno 330 GPU for premium graphics and console quality gaming

Hexagon QDSP6 for ultra low power applications and custom programmability

Integrated Gobi 4G LTE World Mode [3], VIVE 802.11ac[3], USB 3.0 and BT 4.0 offers broad array of high speed connectivity

Ultra HD Capture and Playback, HEVC support, DTS-HD and Dolby Digital Plus audio

Low-power Snapdragon Sensor Engine increases sensor accuracy and efficiency

Higher speed 21MP with dual ISP

Support for up to 2560x2048 display Miracast 1080p HD support

IZat GNSS with support for GPS, Glonass and BeiDou constellations

Chip labels: MULTIMEDIA Audio, Video and Gestures · KRAIT CPU · ADRENO GPU · SENSOR CORE · CAMERA · DISPLAY/LCD · LOCATION · HEXAGON DSP · CONNECTIVITY 4G LTE Advanced, Wi-Fi, BT, FM and USB

Power Management
+ Energy efficient High Performance for Mobile (HPm) technology
+ aSMP dynamic CPU power control for sustained peak performance
+ Qualcomm® Quick Charge™ 2.0 technology for up to 75% faster battery charging[4]

SPECIFICATIONS

System
+ 28nm HPm quad core Krait 400 CPU at up to 2.5GHz per core, EMMC 5.0 memory interface
+ Adreno 330 GPU
+ Hexagon QDSP6 V5

Multimedia
+ Video: 4k x 2k Ultra HD video capture/playback, HEVC support
+ Camera: Higher speed 21 Megapixel with dual ISP
+ Display: 2560x2048 + 1080p and 4K external displays
+ Audio: HD multichannel sound with DTS-HD and Dolby Digital Plus

Connectivity
+ Gobi 4G LTE Advanced World Mode[3]
+ Dual-SIM/dual active (DSDA) support in hardware
+ USB 3.0/2.0[3]
+ Bluetooth (BT) 4.1 + Integrated digital core
+ VIVE 802.11n/ac (2.4/5GHz)[3] + Integrated digital core[3]
+ IZat GNSS

Qualcomm® snapdragon™

To learn more visit snapdragon.com or mydragonboard.org