

QUALCOMM®  
SNAPDRAGON™

412

PROCESSOR

## A “Ubiquitous 4G LTE Processor”

The Snapdragon 412 processor offers many advantages:

- + Integrated X5 LTE
  - Support for Category 4 speeds up to 150 Mbps download, and up to 50 Mbps upload
  - Support for LTE dual SIM, dual standby (DSDS)
- + Broad selection of RF options, including support for the Qualcomm RF360™ solution
- + Superior CPU architecture that is both 32-bit and 64-bit capable — ARM® quad Cortex®-A53 CPUs are designed to enable an improved user experience
- + New ARMv8-A ISA enables improved instruction set efficiency
- + 13MP camera support with Wavelet Noise Reduction and JPEG Decoder done in hardware
- + Qualcomm® Adreno™ 306 Graphics with support for advanced APIs, including OpenGL ES 3.0, DirectX, and OpenCL
- + QRD Option for a comprehensive development platform
- + Content and platform security using Qualcomm® Snapdragon StudioAccess™ technology and Qualcomm® SecureMSM™ foundation

To learn more visit:

[snapdragon.com](http://snapdragon.com) or [mydragonboard.org](http://mydragonboard.org)

## USER EXPERIENCES



### Access to Fast 4G LTE networks

Integrated X5 LTE with support for Cat 4 speeds (up to 150Mbps) and support for Qualcomm RF360™ front end solution for lightning-fast download speeds on a broad selection of networks around the globe



### Capture and playback videos and images at high-res

Snapdragon 412 processor supports up to 1080p resolutions and 13 MP camera



### Play multiplayer 3D online games in real time

Adreno 306 GPU facilitates 3D gaming with support for latest APIs



### Connect to multiple networks with dual SIM support

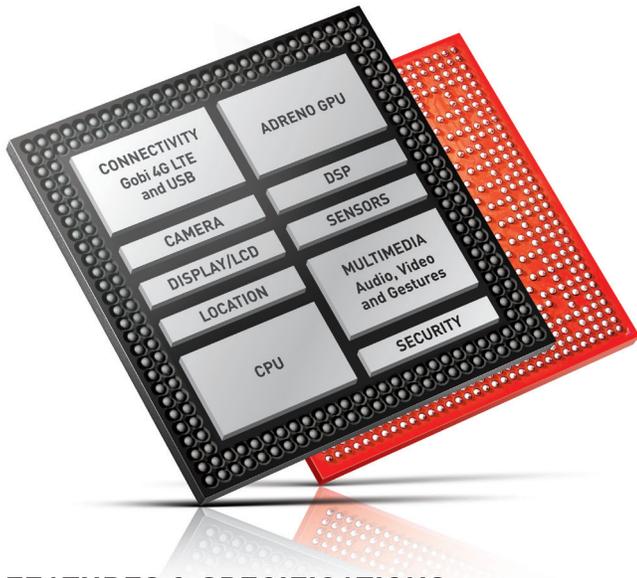
Support for dual SIM, dual standby (DSDS) for more network and mobile plan choices



### All day battery life and easier, faster charging

Tight integration and support for Qualcomm® Quick Charge™ 1.0 technology

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When you need advanced processors for high-volume, mainstream mobile devices, the Snapdragon 412 processor enables comprehensive smartphone and tablet design solution for a powerful combination of features and performance and battery efficiency.

## FEATURES & SPECIFICATIONS

### CPU

- + Quad ARM® Cortex® A53 up to 1.4GHz with both 32-bit and 64-bit support

### GPU

- + Adreno 306 GPU: OpenGL ES 3.0, OpenCL, DirectX, content security, and decreased power consumption<sup>1</sup>

### DSP

- + QDSP6 DSP

### Memory

- + LPDDR2/LPDDR3@600MHZ
- + eMMC 4.5
- + SD 3.0 (UHS-I)

### Display

- + 1920x1200
- + 1080p external displays supported
- + 720p Miracast™ Support

### Modem

- + Integrated X5 LTE Global Mode modem, supporting LTE FDD, LTE TDD, WCDMA (3C-HSDPA, DC-HSUPA), CDMA1x, EV-DO Rev. B, TD-SCDMA and GSM/EDGE
- + Cat 4 LTE download speeds up to 150 Mbps, and upload speeds up to 50Mbps
- + Support for next-generation calling and messaging, including VoLTE with SRVCC, HD voice, native video calling, Wi-Fi calling with call continuity to LTE, and advanced messaging with Rich Communication Service (RCS)
- + LTE Broadcast and LTE multimode dual SIM, dual standby (DSDS)

### RF

- + Next Gen RF including 2nd gen 28nm RF transceiver and Qualcomm RF360™ for 7-mode bands, lower power and PCB & BOM reduction

### Multimedia

- + 1080p@30fps
- + FHD HEVC playback
- + FHD H.264 capture
- + Snapdragon Voice Activation
- + 5.1 surround sound with Dolby and DTS

### Camera

- + Single ISPs can support 1.5GP/s throughput and image sensors up to 13MP

### Connectivity

- + 802.11n (2.4GHz)
- + Qualcomm® IZat™ location technology Gen8C
- + USB 2.0
- + BT4.1

### Security

- + SecureMSM foundation
- + Snapdragon StudioAccess technology



<sup>1</sup> As compared to its predecessor, the Adreno 305 GPU in the Snapdragon 400 processor