

QUALCOMM®  
SNAPDRAGON™

# 616

PROCESSOR

## First Commercial 64-bit Dual Quad-core Chipset with Integrated X5 LTE

The Snapdragon 616 processor offers many advantages:

- + 64-bit processing
- + Quad 1.7GHz ARM® Cortex™ A53 + Quad 1.2GHz A53 CPU
- + 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) and Qualcomm® RF360™ solution
- + Software and pin compatibility with the Snapdragon 410 processor
- + Integrated Qualcomm® Adreno™ 405 GPU brings premium tier graphics quality to the Snapdragon high tier
- + HEVC H.265 hardware decoding for bandwidth and power efficiency
- + High-performance ISP (image signal processor) offers support for up to 21MP image sensors

To learn more visit:

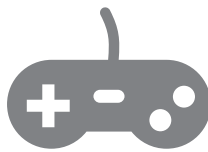
[snapdragon.com](http://snapdragon.com) or [mydragonboard.org](http://mydragonboard.org)

## USER EXPERIENCES SUPPORTED



### Capture and edit HD 1080p video more efficiently

Multi-core processing and advanced video codec offer high-res video capturing and editing using less battery power



### Surprisingly realistic graphics and gaming

Integrated Adreno 405 GPU brings premium tier graphics quality and capabilities to the Snapdragon high tier



### Stay connected and get faster downloads

Integrated X5 LTE with support for Cat 4 speeds up to 150 Mbps download, and up to 50 Mbps upload



### Capture and send sharp camera images quickly

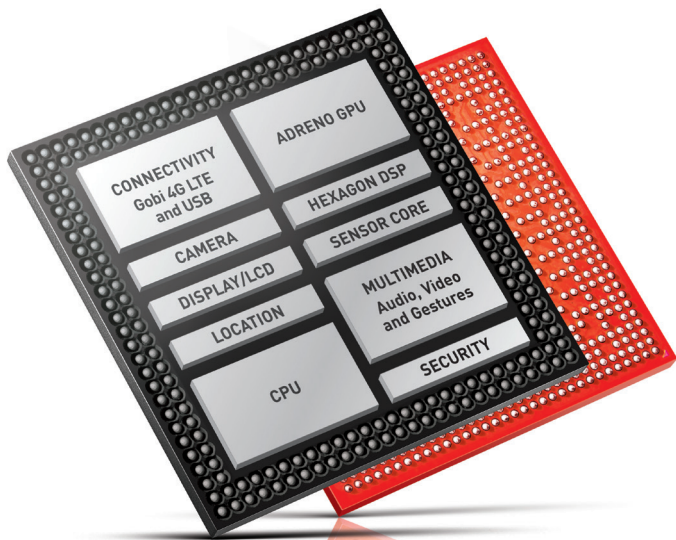
Support for up to 21 megapixel photos and super-fast connectivity, from 4G LTE to WiFi



### Efficient, high-quality video streaming

Embedded HEVC H.265 hardware decoder and integrated Qualcomm® VIVE™ 802.11ac WiFi and Bluetooth 4.0 solutions

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The Snapdragon 616 processor sets the standard for high-tier mobile device design with the mobile industry's first dual quad-core 64 bit capable CPU architecture with integrated X5 LTE.

## FEATURES & SPECIFICATIONS

### CPU

- + Quad 1.7GHz ARM® Cortex™ A53 + Quad 1.2GHz A53 CPUs

### GPU

- + Adreno 405 GPU: OpenGL ES 3.1, DirectX 11.2, OpenCL Full Profile, plus hardware tessellation and geometry shading

### DSP

- + Qualcomm® Hexagon™ V50 DSP

### Display

- + Full HD@60fps primary display
- + Full HD@60fps external display, wireless 1080p@60fps with Miracast
- + 3:1 Frame Buffer Compression ratio

### Memory

- + Single channel LPDDR3 800MHz
- + eMMC 4.51 ratio

### Camera

- + ISP can support up to 600MP/sec throughput and image sensors up to 21MP

### 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

- + 3rd gen power efficient LTE multimode transceiver with Qualcomm Technologies' integrated and system optimized Qualcomm® RF360 front end solution for 7-mode bands, lower power and PCB reduction

### Security

- + Qualcomm® SecureMSM™ foundation
- + Qualcomm® Snapdragon StudioAccess™ technology

### Multimedia

- + 1080p@60fps playback, 1080p@30fps capture
- + Hardware HEVC H.265 decode
- + DASH support
- + Support for Low Power Snapdragon Voice Activation
- + 5.1 surround sound with Dolby and DTS

### Connectivity

- + VIVE 1-stream 802.11n/ac
- + Qualcomm® IZat™ location services Gen8C
- + USB 2.0
- + Bluetooth Smart v4.0



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