

QUALCOMM<sup>®</sup>  
SNAPDRAGON<sup>™</sup>

450

MOBILE PLATFORM

## The First 14nm 400-tier Snapdragon Processor

The Snapdragon 450 Mobile Platform offers many advantages:

- + Integrated X9 LTE
  - Cat 7 downlink, up to 300 Mbps
  - Cat 13 uplink, up to 150 Mbps
  - 2x20Mhz carrier aggregation with up to 64-QAM
  - Snapdragon All Mode
  - Ultra HD Voice with EVS codec
- + Qualcomm<sup>®</sup> TruSignal<sup>™</sup> Antenna Boost
- + Professional camera features and DSLR-like image quality with dual image signal processors
- + Qualcomm<sup>®</sup> Hexagon<sup>™</sup> 546 DSP provides battery-efficient enhancements to audio, video, and computer vision use cases
- + Qualcomm<sup>®</sup> Adreno<sup>™</sup> 506 PC-class graphics with support for advanced APIs and Hardware Tessellation
- + Snapdragon sensor core is designed to support new always-on use cases at reduced power levels and cost
- + Software can be utilized across other Snapdragon 400 series processors

To learn more visit: [snapdragon.com](http://snapdragon.com)

## USER EXPERIENCES



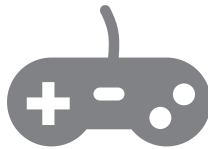
### Long Battery Life

Up to 4 hours more battery at the end of the day<sup>1</sup> with the first 14nm Snapdragon 400 tier processor



### Enhanced Photography

Dual image signal processors (ISPs) support superior mobile camera experiences, real time Bokeh, improved dynamic range, enhanced AutoFocus performance and computational photography



### Advanced Graphics and 3D Gaming

Adreno 506 GPU supports avid mobile gamers with realistic 3D imagery and developers with support for the latest graphics APIs



### Exceptional Performance

Up to 25% higher CPU and GPU performance so users can do more, faster than ever before in the 400 tier\*



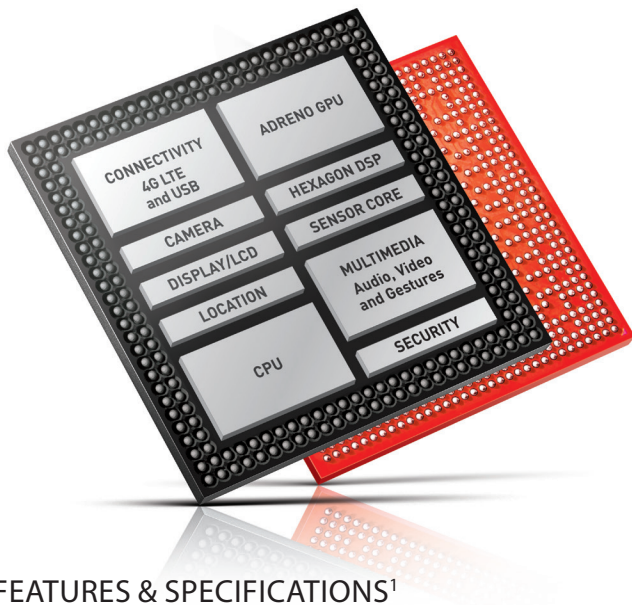
### Integrated X9 LTE

Download speeds up to 300 Mbps and advanced Wi-Fi with MU-MIMO for super-fast sharing of high res photos and videos

Qualcomm<sup>®</sup>  
**snapdragon** 

<sup>1</sup>as compared to the Snapdragon 435 processor

Qualcomm Snapdragon, Qualcomm Hexagon, Qualcomm Adreno and Qualcomm TruSignal are products of Qualcomm Technologies, Inc.



Snapdragon 400 tier processors bring high-value features to mid-tier devices, designed to support all-day battery life, fast LTE connectivity, enhanced camera, advanced graphics, and more.

## FEATURES & SPECIFICATIONS<sup>1</sup>

### CPU

- + Up to 1.8 GHz
- + 14nm process technology

### GPU

- + Adreno 506 GPU: OpenGL ES 3.1, OpenCL 2.0 Full, DirectX 12, GPU Tessellation, Geometry Shading

### DSP

- + Hexagon 546 DSP

### Memory

- + LPDDR3

### Display

- + Primary Full HD 1080p 60fps UI
- + Qualcomm® Low-Picture Enhancement & Qualcomm® TruPalette™ camera features support
- + Qualcomm® improveTouch™ technology support

### Qualcomm Aqstic™ Audio

- + Crystal clear VoLTE w/ Ultra HD Voice (EVS)
- + High fidelity music playback 24bit/192kHz
- + Dolby 5.1 support

### RF Front-End

- + Snapdragon All Mode global/regional solutions with Qualcomm® RF360™ front-end solution
- + QFE2550 antenna impedance tuner for TruSignal Antenna Boost
- + Aperture tuning
- + 3rd generation 28nm RF Transceiver

### Snapdragon X9 LTE Modem

- + X9 LTE with 2x20Mz carrier aggregation
- + Cat 7 downlink, up to 300 Mbps; up to 4x 75Mbps LTE streams
- + Cat 13 uplink, up to 150 Mbps; up to 2x 75Mbps LTE streams
- + Snapdragon Upload+
- + Up to 64-QAM
- + Snapdragon All Mode LTE FDD, LTE TDD, WCDMA (DB-DC-HSDPA, DC-HSUPA), TD-SCDMA, EV-DO, CDMA1x, and GSM/EDGE
- + Qualcomm RF360 front end solution
- + Support for LTE Broadcast, LTE multimode dual SIM and VoLTE with HD Voice and SRVCC

### Connectivity

- + Integrated 802.11ac Multi-User MIMO (MU-MIMO)
- + Qualcomm® Location technology Gen8C Lite
- + USB 3.0
- + BT4.1 + BLE

### Camera

- + Dual Camera up to 13MP
- + Single Camera up to 21MP @ 30fps, 24MP @ 24fps
- + Real-time Bokeh, Qualcomm® Clear Sight™ camera features

### Video

- + FHD+@60fps HEVC capture and playback

### Security

- + Qualcomm® Mobile Security

### Fast Charging

- + Qualcomm® Quick Charge™ 3.0 technology



Qualcomm RF360, Qualcomm Low-Picture Enhancement, Qualcomm TruPalette, Qualcomm improveTouch, Qualcomm Haven, Qualcomm Aqstic, Qualcomm Location, Qualcomm Mobile Security, Qualcomm Clear Sight, and Qualcomm Quick Charge are products of Qualcomm Technologies, Inc.

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