

# Qualcomm® Snapdragon™ 410E Embedded Platform

**The Snapdragon 410E embedded platform is designed for longevity and is an ideal solution for Internet of Things (IoT) applications.**

From the DragonBoard™ 410c Community Board to production-ready System-on-Modules (SoMs) for commercialization, the Snapdragon 410E embedded platform (APQ 8016E) is designed to meet the demanding requirements of embedded computing applications with its high performance, energy efficiency, multimedia features, integrated connectivity and long-term availability.

Designed for longevity, the Snapdragon 410E embedded platform provides extended availability for a minimum of ten years from the initial commercial sample (until 2025), in order to support customers with longer product life cycles. It integrates more and increasingly complex functions, while providing high performance, rich multimedia, low power consumption and support for multiple operating systems (Android, Linux and Windows 10).

The Snapdragon 410E embedded platform is an ideal solution for IoT applications requiring computing horsepower and integrated Wi-Fi and Bluetooth® connectivity, such as connected homes, building automation, industrial control, digital signage, smart surveillance and other IoT devices.

The Snapdragon 410E embedded platform is designed for IoT devices and supports a clear deployment path for embedded device OEMs and developers—from development kits to customized solutions—including integration services and production-ready, customizable SoMs and single-board computers (SBCs).

## Solution Highlights

### Integrated single-chip solution for smaller designs

Integrated CPU, GPU, Wi-Fi/WLAN, Bluetooth, DSP and memory integrated into a single SoC helps reduce system complexity while supporting small form factor designs.



### Powerful processing for industrial and home automation

Superior CPU architecture is capable of both 32-bit and 64-bit processing—designed for an improved user experience.



### HD video encode and decode for smart surveillance cameras

The Snapdragon 410E embedded platform's video core supports popular codecs including H.264, MPEG4, MPEG2 and VC1 for better software compatibility.



### 3D graphics and multimedia for digital media and TV dongles

Qualcomm® Adreno™ 306 GPU supports OpenGL ES 3.0, and DirectX 9.3 for next-generation media players.



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## Snapdragon 410E Target Applications

- Internet of Things (IoT)
- Home Automation
- Industrial Automation
- Building Automation
- Smart Cities
- Healthcare

## Features

- Quad-core Arm Cortex A53 up to 1.2GHz with both 32-bit and 64-bit support — commercialized in millions of mobile devices worldwide
- Arm v8-A ISA offers an efficient instruction set
- Adreno A306 3D GPU (up to 400MHz) with support for multiple APIs including: OpenGL ES 3.0, OpenCL, DirectX, content security, and decreased power consumption
- Qualcomm® Hexagon™ QDSP6 V5 (up to 691MHz) for differentiated signal processing
- 13MP camera support with Wavelet Noise Reduction and JPEG Decoder done in hardware
- Worldwide ecosystem of Snapdragon vendors, customers, developers and embedded device OEMs

## Ordering Information

| Product                        | Part Number        |
|--------------------------------|--------------------|
| Snapdragon 410E SoC            | APQ-8016E-1-760NSP |
| Integrated PMIC & Audio Codec  | PM8916-0-176NSP    |
| Wi-Fi & Bluetooth Connectivity | WCN3620-0-61WLNSP  |
| GPS & Glonass RF Receiver      | WGR7640-0-17WLNSP  |

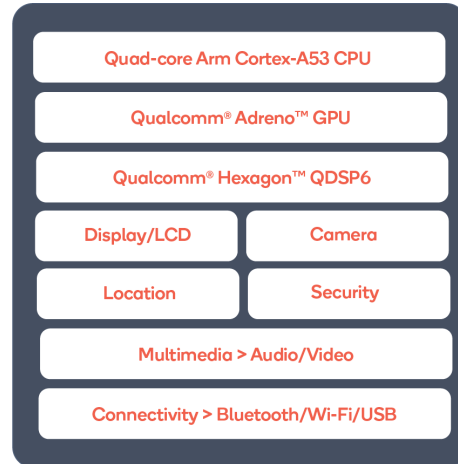
## Related Products

Develop using the **DragonBoard 410c Community Board**—designed to support rapid software development and prototyping. Available on [arrow.com](http://arrow.com)

### To learn more visit:

[snapdragon.com/embedded](http://snapdragon.com/embedded)  
or [developer.qualcomm.com](http://developer.qualcomm.com)

## Snapdragon 410E Block Diagram



## Snapdragon 410E Specifications

|                           |  |
|---------------------------|--|
| <b>Package</b>            | 12 x 14 x 0.96mm (760NSP, 04mm pitch)  |
| <b>CPU</b>                | Quad-core Arm Cortex A53 @ up to 1.2GHz per core with both 32-bit and 64-bit support                           |
| <b>Memory and Storage</b> | LPDDR2/3 @ 533MHz single channel<br>SDIO 3.0 (UHS-I), eMMC v4.5  |
| <b>Connectivity</b>       | 802.11 a/b/g/n/ Wi-Fi, Bluetooth 4.x LE, FM, GPS   |
| <b>GPU</b>                | Adreno A306 3D graphics core: OpenGL ES 3.0/2.0/1.1, OpenCL 1.1e (Android only), DirectX 9.3 (Windows 10 only) |
| <b>DSP</b>                | Hexagon QDSP6 v5 core @ up to 691MHz   |
| <b>Display Support</b>    | 1920x1200<br>1080p external displays supported, 720p Miracast support  |
| <b>Camera Support</b>     | Integrated ISP supports up to 13MP   |
| <b>Multimedia</b>         | 1080p HD @ 30fps<br>H.264 playback and capture   |
| <b>Interfaces</b>         | 1x USB2.0, 2x MIPI-CSI, MIPI-DSI, SD3.0, eMMC v4.5 with DDR support  |
| <b>Security</b>           | Secure Boot, Code signing service  |
| <b>Longevity</b>          | Product availability extended for a minimum of 10 years from initial commercial sample (to 2025)               |

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