QUALCOMM®

Qualcomm® Snapdragon™ Processors

600E

The Snapdragon 600E processor for embedded computing is an ideal platform for multi-core performance and immersive 3D graphics for the IoT

Model APQ 8064E for Embedded Computing

The Snapdragon 600E processor is designed to deliver high-performance computing, low power consumption and a rich multimedia experience for embedded products and is an ideal platform for developing products for the Internet of Things (IoT).

The Snapdragon 600E processor is targeted for embedded devices and designed for longevity; with extended availability and support for a minimum of ten years from the initial commercial release*, in order to support customers with long product life cycles. It is designed to run 1080p HD video, handle up to 21MP images and render intensive 3D on dedicated components, freeing the quad-core Qualcomm® Krait™ CPU for the main embedded application.

Build advanced embedded systems with multi-core performance and immersive 3D graphics on the energy efficient Snapdragon 600E platform designed to support exceptionally long battery life and smaller industrial designs.

Snapdragon 600E processors for embedded are designed for IoT devices and support a clear deployment path for embedded device OEMs and developers—from development kits to customized solutions—including integration services, production-ready, customizable SoMs (System-on-Modules), and SBCs (single-board computers).

Solution Highlights

Powerful processing for Robotics

Robot Operating System (ROS) support for integrated, low-power solution for advanced robotics applications.

Attached connectivity for industrial and home appliances

Companion Wi-Fi/WLAN, Bluetooth and precision GNSS (GPS + GLONASS) for portable applications.

HD video encode and decode for smart surveillance cameras

Up to 3 cameras - with support for 21MP, image stabilzation, zero shutter lag and High Dynamic Range for combining different exposures.

Digital media and TV dongles: 3D graphics and multimedia

Qualcomm® Adreno™ 320 GPU supports OpenGL ES 3.0/2.0/1.1 for next-generation media players.

*The initial commerical release of the Snapdragon 600E processor was in 2015.

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Materials are subject to change without notice.
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Embedded Computing Applications

IoT | Industrial Automation | Digital Media & TV Dongles | Medical Devices | Smart Home Devices | HD Video

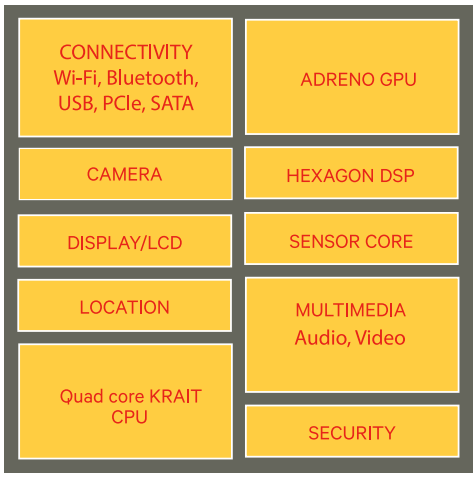
Features

- Quad-core Krait 300 CPU at up to 1.5GHz for advanced multi-tasking and multi-threaded application support
- Performance-enhanced floating-point and SIMD functional unit with 128-bit data path, designed to use the ARM instruction set architecture (ISA), software and ecosystem
- Optimized computational units, including double-precision calculations for fast speed on demanding applications
- Asynchronous SMP (aSMP) technology with dedicated power management processor for optimal battery life
- Adreno 320 Graphics with support for multiple APIs and console-quality 3D graphics with low power consumption
- Qualcomm® Hexagon™ QDSP6 V4 (up to 500MHz) for differentiated signal processing
- 1080p video encode/decode with multi-screen HD support and integrated HDMI
- Support for up to 4 simultaneous cameras via 4-lane primary MIPI-CSI, 2-lane secondary MIPI-CSI & 1-lane 3D MIPI-CSI
- Worldwide ecosystem of Snapdragon vendors, customers, developers and embedded device OEMs

Product	Part Number
Snapdragon 600E SoC	APQ-8064E-0-784FCBGA
Power Management Module	PMM-8920AU-0-255FBGA
Audio Codec	WCD9311-0-86CSP
Wi-Fi & BT Connectivity	QCA6234XH-AM2D-R
GPS and Glonass RF Receiver	RGR-7640AU-0-24FBGA
Ethernet	AR8151-BL1A-R

To learn more visit:
snapdragon.com/embedded
or developer.qualcomm.com

Block Diagram



Snapdragon 600E Specifications

Package	23mm x 23mm (784 BGA, 0.8mm pitch) RoHs compliant
CPU	Quad-core Krait 300 CPU @ up to 1.5GHz per core
Memory and Storage	DDR3/DDR3L dual-channel 533MHz eMMC 4.51, SATA3, SDIO 3.0 (UHS-I)
Connectivity	802.11 a/b/g/n/ac 2x2 dual-band 2.4GHz/5GHz Wi-Fi, Bluetooth 4.0LE/3.x
GPU	Adreno 320: OpenGL ES 3.0/2.0/1.1, OpenCL 1.1e (Android only)
Display Support	Up to 2048x1536 display via 4-lane DSI 1080p external display and integrated HDMI
Camera Support	Integrated ISP supports up to 21MP & stereoscopic 3D
Multimedia	1080p HD (MPEG-4, MPEG-2, H.264, DivX, VC-1, WMV-9) H.264 playback & capture
Interfaces	SATA, PCIe 2.0, HDMI, LVDS, HSIC, 3x USB2.0, 3x MIPI-CSI, 2x MIPI-DSI, SD3.0 & eMMC v4.5 with DDR support
Security	Qualcomm® SecureMSM™ foundation, with secure boot process and Qualcomm® Secure Execution Environment with ARM Trust Zone technology
Operating Systems	Android and Linux
Longevity	Product availability and support extended for a minimum of 10 years from initial commercial release (to 2025)

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