

Open-Q™ 820Pro μSOM

Based on the Qualcomm® Snapdragon™ 820E Long-Life, Second-Gen, System-on-Chip

Intrinsyc's Open-Q™ 820Pro μSOM provides an even better power-performance combination than our standard 820 μSOM, with higher performance, more memory, and long-life in the same μSOM form factor. The ultra-compact, production ready, pre-certified 820Pro μSOM is a pin compatible, drop-in replacement for the existing 820 μSOM, requiring only SW changes to provide higher performance and long-term availability. With 9% faster CPU and 5% faster GPU at the same power consumption, combined with 33% more RAM, the 820Pro μSOM can provide either more processing power for your demanding applications, or lower average power consumption for the same processing tasks.

Intrinsyc supports the latest Android and Linux SW for the 820 and offers a supporting development kit to allow quick and easy evaluation of the 820Pro μSOM and to fast-track new product development.

Key Features

- Long-life Snapdragon™ 820E SoC (APQ8096SG)
- Kryo™ Quad-Core @ 2.342 GHz/1.593GHz
- 4GB LPDDR4 and 32GB UFS
- FCC/IC Pre-certified Wi-Fi/BT Module
- Ultra-compact 50mm x 25mm
- Android™ 9, Debian Linux®

Applications

- Next-gen computer vision systems
- Robotics / drones / UAVs
- Industrial IoT
- Digital Signage
- Virtual reality / augmented reality applications
- Stereo-vision cameras
- Retail analytics cameras



Hardware Specifications

Processor	Qualcomm® Snapdragon™ 820E (APQ8096SG) built on 14nm technology Qualcomm® Kryo™ Quad-Core 64-bit CPU: 2X Gold cores @ 2.342 GHz, 2X Silver cores @ 1.593 GHz Qualcomm® Adreno™ 530 GPU @ 652.8 MHz with OpenGL ES 3.1, OpenCL 2.0 Full, DirectX 11, Path Rendering Qualcomm® Hexagon™ 680 DSP @ 825 MHz
Memory/Storage	4GB LPDDR4 SDRAM dual-channel PoP @ 1866MHz 32GB UFS 2.0 Flash 1-lane, gear 3
Wireless	Pre-certified Wi-Fi 802.11a/b/g/n/ac 2.4/5Ghz 2x2 MU-MIMO (QCA6174A) with U.FL antenna connector Bluetooth 4.2 + BLE
Location Services	Qualcomm® IZat™ Gen 8C— GPS, GLONASS, Compass (WGR7640) with U.FL antenna connector
Display Interfaces	2x MIPI-DSI 4-lane, up to 3840x2400 @60fps, 1x HDMI 2.0 up to 4K @ 60fps Up to 3 concurrent displays — 2 panels + external
Camera Interface	3x 4-lane MIPI CSI supporting up to 28MP with dual ISP Qualcomm® Spectra™ Dual 14-bit ISP
Video	H.264 (AVC): Video Playback and Capture at 4K60 H.265 (HEVC): Video Playback at 4K60 and video capture at 4K30
Audio	1x SLIMbus supporting WCD9335 audio codec (external), and 2x I2S, or 3x I2S for other external audio devices
Power/Battery Management	Power management and battery charging (PMI8996)
I/O	1x USB 3.0 client or host, 1x USB 2.0 client or host, 2x PCIe v2.1, 8x BLSP configurable ports (I2C, SPI, UART or GPIO), 1x SDIO, LED driver outputs
Operating Environment	Input 3.6V to 4.2V Operating Temperature -10°C to +70°C
Form Factor	3x 100 pin board to board connectors 50mm x 25mm

Software

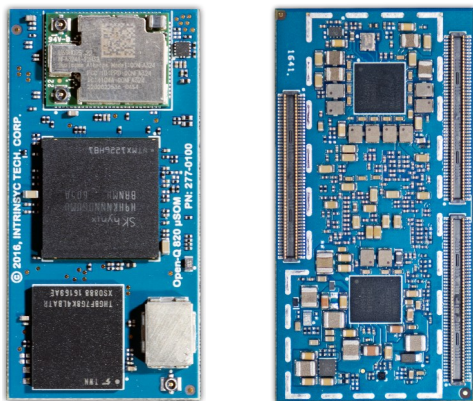
OS Support	Android™ 9, Debian Linux® *Note that all hardware features may not be supported by all SW — see latest SW release notes for details
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Purchasing Information

Open-Q™ 820Pro μSOM Part number: QC-DB-I20004 [Store Link](#)

Alternate SOM configurations available by special order (minimum order quantities apply) - e.g. no GPS, different memory size, etc.
Contact sales to discuss your specific needs today:

sales@intrinsyc.com



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