

# Open-Q™ 820 μSOM (micro System on Module)

Based on the Qualcomm® Snapdragon™ 820 processor

Intrinsyc's Open-Q™ 820 μSOM is our best combination of power and performance in an ultra-compact, production ready, pre-certified SOM. The 820 μSOM features advanced technology and an extensive peripheral set, providing the ideal platform for creating high performance embedded, IoT and mobile devices. Despite its ultra-small size, the SOM offers seamless connectivity to external memory, sensors and a host of other peripheral devices via a comprehensive list of configurable IO. Leverage our best power—performance combination in a class leading form factor with support for a variety of Android and Linux releases to fast track your product development.

Intrinsyc also offers a supporting development kit for the 820 μSOM to allow easy evaluation of the SOM and to fast-track new product development.

## Key Features

- Qualcomm® Snapdragon™ 820 SoC (APQ8096)
- 3GB LPDDR4 and 32GB UFS
- FCC/IC Pre-certified Wi-Fi/BT Module
- Qualcomm® IZat™ Gen 8C GNSS location solution
- Battery Charging support
- Ultra-compact 50mm x 25mm
- Android™ 9, Debian Linux®

## Applications

- Wearable cam / Action cam / 360 degree cam
- Smart home / IP cam / Security cam
- Industrial machine vision camera
- Stereo-vision camera
- Retail analytics camera
- Robotics / drones



## Hardware Specifications

<b>Processor</b>	Qualcomm® Snapdragon™ 820 (APQ8096) built on 14nm technology Qualcomm® Kryo™ Quad-Core, 64-bit 2.15GHz Qualcomm® Adreno™ 530 GPU OpenGL ES 3.1, OpenCL 2.0 Full, DirectX 11, Path Rendering Qualcomm® Hexagon™ 680 DSP
<b>Memory/Storage</b>	3GB LPDDR4 RAM (1866MHz) 32GB UFS 2.0 Flash 1-lane, gear 3
<b>Wireless</b>	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
<b>Location Services</b>	Qualcomm® IZat™ Gen 8C— GPS, GLONASS, Compass (WGR7640) with U.FL antenna connector
<b>LCD/Touchscreen Interface</b>	2x MIPI-DSI 4-lane, up to 4K Ultra HD 60fps 1x HDMI 2.0 up to 4K @ 60fps
<b>Camera Interface</b>	Qualcomm® Spectra™ ISP Up to 28MP with 3x 4-lane MIPI CSI and dual ISPs
<b>Video</b>	Video Capture up to 4K Ultra HD at 30fps Video Playback 4K Ultra HD H.264 (AVC) and H.265 (HEVC)
<b>Audio</b>	1x SLIMbus and 2x I2S, or 3x I2S                      Qualcomm™ Flurance™ HD with Noise Cancellation (optional)
<b>Power/Battery Management</b>	Power management and battery charging (PMI8996)
<b>I/O</b>	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
<b>Operating Environment</b>	Input 3.6V to 4.2V Operating Temperature -10°C to +70°C 3x 100 pin board to board connector 50mm x 25mm

## Software

<b>OS Support</b>	Android™ 9, Android™ 8, Android™ 7, Debian Linux® *Note that all hardware features may not be supported by all SW — see latest SW release notes for details
-------------------	--

## Purchasing Information

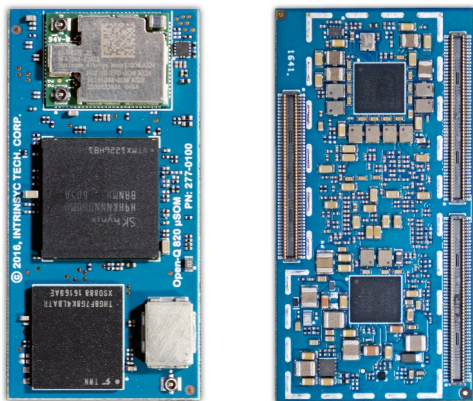
**Open-Q 820  
μSOM**

Part number: QC-DB-I10004

[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](mailto:sales@intrinsyc.com)



Specifications are subject to change without notice. Not all features listed may be supported in software. All brand or product names are trademarks or registered trademarks of their respective owners. Qualcomm Snapdragon, Qualcomm Kryo, Qualcomm Spectra, Qualcomm Adreno, Flurance and Qualcomm Hexagon are products of Qualcomm Technologies, Inc. Qualcomm IZat is a product of Qualcomm Atheros, Inc. Qualcomm, Snapdragon, Adreno, Flurance and Hexagon are trademarks of Qualcomm Incorporated, registered in the United States and other countries. Kryo, Spectra and IZat are trademarks of Qualcomm Incorporated. Used with permission. Cortex is a trademark of ARM Holding plc. Used with permission.