

# Open-Q™ 820 μSOM Development Kit

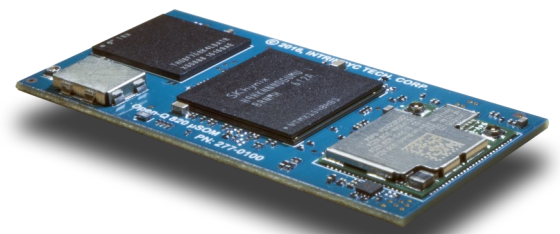
Based on the Qualcomm® Snapdragon™ 820 processor

Intrinsic's Open-Q™ 820 μSOM Development Kit is a versatile, easy-to-use, exposed board platform that is powered by our pre-certified, ultra-small, production ready, Open-Q™ 820 μSOM, based on the Qualcomm® Snapdragon™ 820 processor (APQ8096).

The development kit provides the ideal starting point for evaluating the Open-Q™ 820 μSOM or to develop next generation embedded and IoT devices with highly integrated features. The platform consists of Intrinsic's Open-Q™ 820 μSOM, a carrier board exposing all the available I/O, and a range of accessories to fast track your product development.

## Key Features

- Qualcomm® Snapdragon™ 820 SoC (APQ8096)
- Powered by the ultra-compact Open-Q™ 820 μSOM
- Mini-ITX Form-factor Carrier Board (170x170mm)
- HDMI output, 3 camera connectors, PCIe connector
- Exposed I/O for evaluation and proof of concept work
- Android™ 9, Debian Linux®



Open-Q 820 μSOM



## Hardware Specifications

### Open-Q 820 $\mu$ SOM

\*See the Open-Q 820  $\mu$ SOM datasheet for complete details

<b>Processor</b>	Qualcomm® Snapdragon™ 820 (APQ8096) built on 14nm technology Qualcomm® Kryo Quad-Core 64-bit 2.15MHz, Qualcomm® Adreno™ 530 GPU, Qualcomm® Hexagon™ 680 DSP
<b>Memory/Storage</b>	3GB LPDDR4 RAM, 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) + Bluetooth 4.2 + BLE
<b>Location Services</b>	Qualcomm® IZat™ Gen 8C— GPS, GLONASS and Compass Receiver (WGR7640) with U.FL antenna connector

### Open-Q 820 $\mu$ SOM Carrier Board

<b>Display Interfaces</b>	HDMI Output — up to 4K Ultra HD 60fps Type A output Optional LCD / Touch Panel — up to 4K Ultra HD 60fps
<b>Camera</b>	3x 4-lane MIPI CSI camera connectors for optional camera accessories
<b>Audio</b>	Hi-end Audio Codec (WCD9335) on carrier board with generous audio I/O: 1x 3.5mm ANC Jack headset 20pin Audio Input expansion header: 3x analog in, 3x digital in 20pin Audio Output expansion header: 5x analog out, 1x digital out
<b>I/O</b>	1x UART debug (USB micro-B), 1x USB 2.0 client micro-AB, 2x USB 2.0 host type A, 2x USB 3.0 host on expansion header 2x PCIe: 1x mini PCIe v1.2, 1x PCIe X1 slot v2.1 8x Digital IO 4-pin port configurable as I2C, SPI, UART or GPIO, Haptics output, LED driver outputs, microSD card socket,
<b>Wireless</b>	Dual Wi-Fi/BT PCB antennas, GNSS front-end LNA/filter with PCB antenna and external antenna connector
<b>Power Input</b>	Input 12V/3A or single-cell Li-ion battery (not included)
<b>Size</b>	SOM 50mm x 25mm, Carrier Board Mini-ITX 170mm x 170mm

## Software

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

<b>Open-Q <math>\mu</math>820 Dev Kit</b>	Part number: QC-DB-I10003 <a href="#">Store Link</a>
<b>Open-Q <math>\mu</math>820 SOM</b>	Part number: QC-DB-I10004 <a href="#">Store Link</a>
<b>Open-Q <math>\mu</math>820 LCD</b>	Part number: QC-DB-G00005 <a href="#">Store Link</a>
<b>Open-Q 13MP Camera</b>	Part number: 030-0181-0101_B <a href="#">Store Link</a>

## Intrinsyc Product Design Services

Intrinsyc also offers comprehensive product development including hardware, software, mechanical engineering, as well as specialty services such as camera, audio, DSP, and RF development. Contact Intrinsyc to discuss your product design needs today:

[sales@intrinsyc.com](mailto:sales@intrinsyc.com)



Optional Display & Camera

Development Kit includes: Carrier board, SOM, 12V power supply, HDMI cable, Quick Start Guide, access to full documentation, SW updates, and basic development kit support.

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