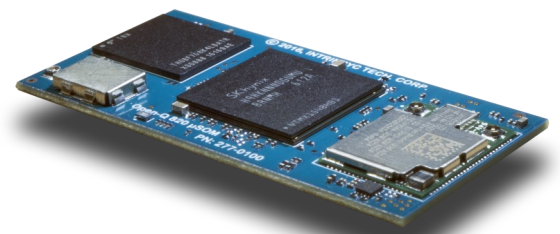# Open-Q™ 820 µSOM Development Kit

Based on the Qualcomm® Snapdragon™ 820 processor

Intrinsyc'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 Intrinsyc'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 µSOM

*See the Open-Q 820 µSOM datasheet for complete details
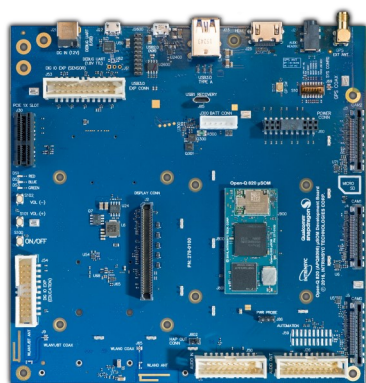
Processor	Qualcomm® Snapdragon™ 820 (APQ8096) built on 14nm technology Qualcomm® Kryo Quad-Core 64-bit 2.15MHz, Qualcomm® Adreno™ 530 GPU, Qualcomm® Hexagon™ 680 DSP
Memory/Storage	3GB LPDDR4 RAM, 32GB UFS 2.0 Flash 1-lane, gear 3
Wireless	Pre-certified Wi-Fi 802.11a/b/g/n/ac 2.4/5Ghz 2x2 MU-MIMO (QCA6174A) + Bluetooth 4.2 + BLE
Location Services	Qualcomm® IZat™ Gen 8C— GPS, GLONASS and Compass Receiver (WGR7640) with U.FL antenna connector

Open-Q 820 µSOM Carrier Board

Display Interfaces	HDMI Output — up to 4K Ultra HD 60fps Type A output Optional LCD / Touch Panel — up to 4K Ultra HD 60fps
Camera	3x 4-lane MIPI CSI camera connectors for optional camera accessories
Audio	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
I/O	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,
Wireless	Dual Wi-Fi/BT PCB antennas, GNSS front-end LNA/filter with PCB antenna and external antenna connector
Power Input	Input 12V/3A or single-cell Li-ion battery (not included)
Size	SOM 50mm x 25mm, Carrier Board Mini-ITX 170mm x 170mm

Software

OS Support	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

Optional Display & Camera

Purchasing Information

Open-Q µ820 Dev Kit	Part number: QC-DB-I10003 Store Link
Open-Q µ820 SOM	Part number: QC-DB-I10004 Store Link
Open-Q µ820 LCD	Part number: QC-DB-G00005 Store Link
Open-Q 13MP Camera	Part number: 030-0181-0101_B Store Link

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

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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Datasheet: Open-Q 820 µSOM Development Kit v3.0   Copyright 2019 Intrinsyc Technologies Corporation

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