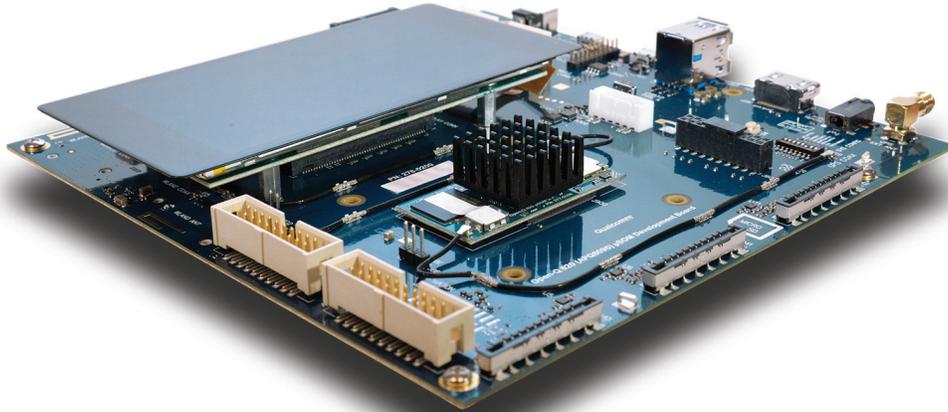# LANTRONIX®

Open-Q™ 820 µSOM Development Kit
Based on the Qualcomm® APQ8096 SoC

Lantronix'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® APQ8096 SoC.

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 Lantronix'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® APQ8096 SoC
- 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

Engineering Services:

We provide a full solution – our unparalleled engineering expertise and product development skills deliver innovative products that are cost-effective and can jumpstart your Go-to-Market timeline.

Our business model offers turnkey product development services, or we can augment your team in specific areas of development. The choice is yours.

Key development expertise in:

- Camera development and tuning
- Voice control
- Machine learning
- Mechanical & RF design
- Thermal & power optimization

IoT Product Development made easy

Qualcomm

LANTRONIX®

Lantronix Open-Q™ 820 µSOM Development Kit

Hardware Specifications:

Open-Q™ 820 µSOM

• **Processor**	Qualcomm® 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 Interfaces**	3x 4-lane MIPI CSI camera connectors for optional camera accessories

• **Audio Interfaces**	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 Interfaces**	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 versions — see latest SW release notes for details

Optional Display and 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.

Purchasing Information:

• **Open-Q™ 820 µSOM Dev Kit**	PN: QC-DB-I10003
• **Open-Q™ 820 µSOM**	PN: QC-DB-I10004
• **Open-Q™ LCD**	PN: QC-DB-G00005
• **Open-Q™ 13MP Camera**	PN: QC-DB-I10006

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