INTRINSYC®

EMBEDDED & IoT SOLUTIONS

Qualcomm snapdragon

Open-Q™ 820 System on Module
Based on the Qualcomm® Snapdragon™ 820 processor

START DESIGNING YOUR EMBEDDED AND IOT DEVICES TODAY

Intrinsyc's Open-Q™ 820 System on Module (SOM) is our production ready SOM based on Qualcomm's cutting edge Snapdragon 820 processor. The SOM's advanced technology, and extensive range of supported peripherals provide the perfect platform for creating high performance embedded and mobile devices. Leverage the highly integrated, class leading SOM to fast track your new product development.

Technical Information

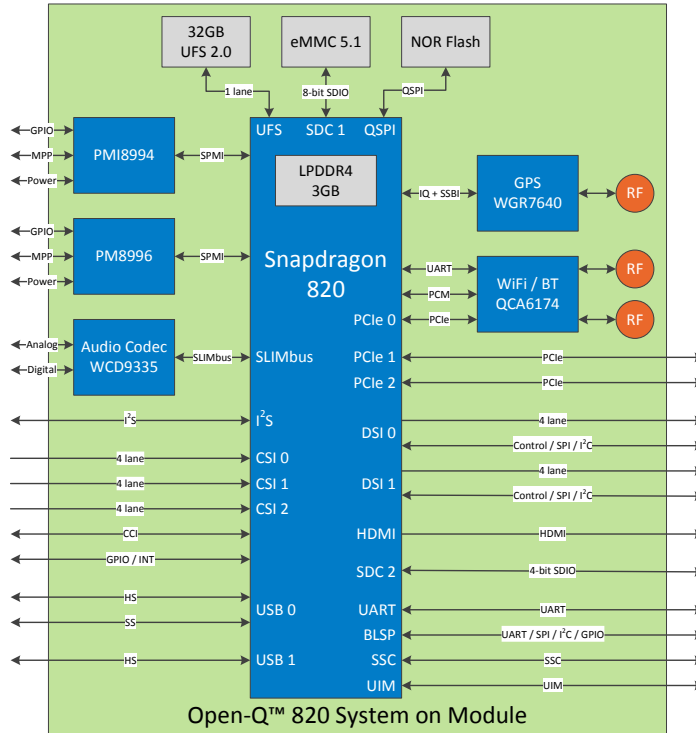|	

Processor	Snapdragon™ 820
	   Qualcomm® Kryo™ CPU Quad-Core, 64-bit, 2.2GHz
	   Qualcomm® Adreno™ 530 GPU
	   Qualcomm® Hexagon™ 680 DSP

Memory / Storage	3GB LPDDR4 RAM (1866MHz), 32GB UFS 2.0 Flash 1-lane, gear 3
Wireless	Wi-Fi 802.11a/b/g/n/ac 2.4/5.0 GHz 2x2 MU-MIMO Bluetooth 4.2 + BLE
Location	Qualcomm® IZat™ Gen 8C GPS
Display	2x MIPI-DSI 4-lane, 60fps, up to 2560x1600 (single port), 4096x2160 (dual port) 1x HDMI 2.0 up to 4096x2160, 60fps
Camera	Qualcomm® Spectra™ ISP 3x MIPI-CSI 4-lane, dual ISP, up to 28MP
Audio	Codec (WCD9335) 3x I2S 1x PCM 6x Analog in 6x Analog out 3x Digital mic
Other Interfaces	1x USB 3.0 client or host 1x USB 2.0 client or host 2x PCIe v2.1 8x BLSP 4-pin port configurable as I2C, SPI, UART or GPIO 1x SDIO
OS Support	Android 7 Nougat, Android 8 Oreo™, Android 9 Pie Call sales for Linux
Operating Environment	Power input: 3.6V to 4.2V Operating Temperature: -10°C to +70°C Size: 82mm x 42mm

Implement Hi-Fi quality surround sound with 3D positional audio, multi-codec support including 24bit/192kHz FLAC playback. Record multi-channel audio with voice activation and active noise cancellation offered by Fluence™.

Realize DSLR quality image capture with the new Spectra ISP offering advanced noise reduction, low light performance and fast focus methods such as PDAF and contrast AF. With dedicated HVX (Hexagon Vector Extensions) running on the Hexagon 680 DSP provides powerful image processing and computer vision solutions.

Use the latest Gen 8C GPS technology. Track, tag and embed additional information with real time device location data.

Design and develop smart connected devices with integrated wireless connectivity. Support for the fastest 802.11ac 2x2 MU-MIMO Wi-Fi offering the quickest data transfers and streaming speeds as well as Bluetooth 4.2 for low energy peripheral connectivity.

Record, stream and playback high quality multi-media video with H.265 (HEVC) encode and decode. Deliver eye catching visuals with both wired and wireless displays up to 4K UHD at 60fps.

Offering seamless connectivity to external memory, sensors, and a host of other peripheral devices via the comprehensive list of configurable IO. The Open-Q™ 820 SOM offers improved reliability, quality and speed.

Deliver a superior, immersive user experience with the new custom 64-bit Kryo CPU. The tightly integrated heterogeneous architecture including the Hexagon 680 DSP and Adreno 530 GPU, offers more intelligent solutions with the highest peak performance, and greatest power efficiency, enabling all day performance.

Block Diagram: Open-Q™ 820 System on Module — 32GB UFS 2.0, eMMC 5.1, NOR Flash, PMI8994, PM8996, Audio Codec WCD9335, LPDDR4 3GB, Snapdragon 820, GPS WGR7640, WiFi / BT QCA6174, RF

Features

- Qualcomm® Snapdragon™ 820 CPU (APQ8096)
- Highest power/performance
- 3GB LPDDR4 RAM 1866MHz (POP)
- 32GB UFS 2.0 FLASH
- Qualcomm® PMICs (PM8996 & PMI8996)
- Qualcomm® Wi-Fi/BT (QCA6174)
- Qualcomm® GPS RF front end (WGR7640)
- Qualcomm® Codec (WCD9335)
- Android 7 Nougat, Android 8 Oreo™, Android 9 Pie, Linux
- 82mm x 42mm

REACH COMPLIANT

RoHS Compliant

Datasheet: Open-Q 820 SOM r1.6