LANTRONIX®

NEW!

Open-Q™ 9075IQ SOM

Based on Qualcomm® IQ9 Series Dragonwing® Processor

IQ9 Series SOMs for Industrial and Robotics Applications

- Qualcomm® Kryo™Gen 6 octal-core CPU and Adreno™ 663 GPU
- On-device Qualcomm® AI Engine™ (scales 48 – 100 INT8 TOPs) for machine vision, neural networks, deep learning workloads at low power
- Image signal processor supporting up to 16 concurrent video streaming cameras
- Extended operating temperature range from -40°C to 90°C

The Open-Q 9075IQ System-on-Module (SOM) solutions offer scalable, power-efficient, and robust computing capabilities for autonomous devices and next-generation Industry 4.0 designs. These advanced AI-powered SOMs enable a range of critical functionalities, including robust safety features for autonomous mobile robots with enhanced device robustness through fault-tolerant ECC memory support and a dedicated real-time subsystem.

The new SOM series facilitates the deployment of interactive industrial edge AI systems by integrating Large Language Model (LLM) support, achieving a generation rate of up to 22 tokens per second when running the Llama 27B parameter model.

Combined with over 20 years of hardware design and software development experience, and 1200+ successful projects, Lantronix will be your long-term partner, ensuring the ongoing success of your product journey.

Key Features

- Qualcomm® IQ-9075 SoC
- Up to 18GB or 36GB LPDDR5 SDRAM
- On-device AI Engine up to 100 INT-8 TOPS
- Support up to 16 concurrent cameras
- Multiple PCIe, USB, and CAN-FD interfaces
- 2.5Gbps Time Sensitive Ethernet (TSN)
- Dedicated real-time subsystem
- Qualcomm® Linux

Applications

- Multi-camera and smart camera systems
- Autonomous mobile robots
- Industrial drones
- Industrial gateway
- Edge AI gateways
- Video processing box system
- Retail

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 simplified.

Qualcomm Dragonwing

PRODUCT LONGEVITY PROGRAM

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Lantronix Open-Q™ 9075IQ SOM

Production Ready
Computing Module

Hardware Specifications:

• **Processors**		Qualcomm® IQ-9075 SoC built on 5nm LPE process. Kryo™ Octa-core CPU: 1 Prime @ 3.36 GHz + 3 Gold @ 2.8 GHz + 2 Silver @ 2.0 GHz Quad Kryo Gold Prime with 512 KB L2 cache per core, targeting up to 2.36 GHz 2 MB shared L3 cache per cluster	
		Adreno™ 663 GPU Spectra™ Image signal processor 690 Adreno™ 670 Video processing unit Adreno™ 1199 Display processing unit	Dual Hexagon Tensor Processor (integrated with Hexagon DSP, quad Hexagon Vector eXtensions, and dual Hexagon Matrix eXtensions co-processors), two general-purpose DSPs and one audio DSP Safety Island subsystem (9100IQ) or Real-time subsystem (9075IQ)
• **Memory/Storage**		18GB or 36GB LPDDR5 up to @ 3200MHz, two UFS 3.1 gear 4, 2-lane interfaces, NVMe via PCIe NOR flash memory as SAIL domain boot up device	
• **Wireless**		Supports Wi-Fi 6 802.11ax 2x2 MU-MIMO with external PCIe module	
• **Display Interfaces**		2x 4-lane MIPI DSI with VESA DSC v1.2, D-PHY v1.2 up to 20 Gbps total, or C-PHY v1.1 up to 34 Gbps total 4x eDP/DisplayPort v1.4 at 8.1 Gbps/lane, 32.4 Gbps/port, MST, and VESA DSC v1.2a and forward error correction Up to maximum of 48MP, example configuration is up to 5x 4K display	
• **Camera Interfaces**		4x MIPI CSI D-PHY 1.2 or C-PHY 2.0 camera ports with eight dedicated CCI I2C	Up to 16 concurrent cameras, 2 IFE + 5 IFE Lite
• **Video Performance**	Decode	Video decode up to UHD275. Native decode support for AV1, HEVC, H.264, H.265, VP9, and MPEG-2 codecs	
	Encode	Video encode up to UHD170. Native encode support for HEVC, H.264, and H.265	
	Dec & Enc	Concurrent UHD120 decode and UHD60 encode, or UHD60 decode and UHD120 encode	
• **Audio**		Support LS-I2S interfaces, PCM/TDM interfaces, and High-speed I2S interfaces	
• **High Speed Connectivity**		1x PCIe Gen4 2-lane, 1x PCIe Gen4 4-lane 2x USB 3.1 Gen 2 (HS + SS, support device and host modes) 1x USB 2.0 (HS, support device and host modes) 1x SAIL domain RGMII interface with MDIO for Ethernet with AVB 8x CAN-FD interfaces located in SAIL domain 2x SGMII interfaces supporting up to 2.5 Gbps each	
• **I/O Interfaces**		Qualcomm Universal Peripheral (QUP), UART, I2C, SPI master, SPI slave, QSPI, GPIO ports, and SAIL domain GPIO ports	
• **Power/Battery**		Power management	
• **Operating Environment**		Input voltage: 3.3V Typical Operating Temperature: -40 to +90°C Junction temperature	
• **Form Factor**		65 x 65 x 4.55 mm LGA SOM	

Software:

• **OS Support**	Qualcomm® Linux

** Open-Q 9075IQ Chipset Performance, see SOM Release Notes for details on tested configurations and platforms.*

Companion EVK available separately

Purchasing Information:

QC9075-1WN-GXT	Open-Q 9075IQ SOM (18GB) TAA
QC9075-1WN-JXT	Open-Q 9075IQ SOM (36GB) TAA
LOQ-9075IQ-EVK	Open-Q 9075IQ EVK (36GB LPDDR5) SOM and accessories

Alternate SOM configurations available by special order (minimum order quantities apply)
- e.g. different memory size, etc. Contact sales to discuss your specific needs today.

Certifications

Learn more at lantronix.com/open-q-9075IQ-som

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