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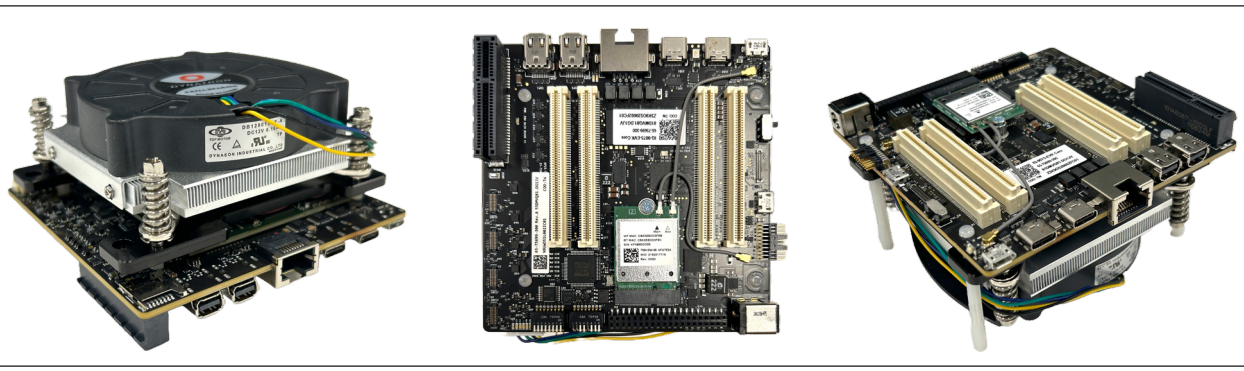
NEW!

# Open-Q™ 9075IQ EVK

## Based on Qualcomm® IQ9075 Dragonwing® Processor



## IQ9 Series EVK 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 -20°C to 70°C

The Open-Q™ 9075IQ EVK is a powerful and flexible evaluation platform designed to accelerate the development of industrial-grade edge AI solutions. Optimized for compute-heavy AI-enabled deployments, the Open-Q™ 9075IQ is ideal for next-generation robotics and Industry 4.0 applications, it showcases the high-performance capabilities of the 9075IQ processor in real-world use cases such as autonomous mobile robots (AMRs), industrial control systems, and AI-powered vision systems.

With support for heterogeneous computing that includes high-performance CPU cores, a dedicated GPU, and an NPU delivering up to 100 TOPS, the platform enables on-device execution of advanced AI models, including support for large language models with up to 13 billion parameters and a generation rate of 12 tokens per second.

The EVK includes a mainboard with standard interfaces, high-speed connectors, and optional mezzanine expansion for additional peripherals. Developers, and OEMs, can test and validate both software and hardware with built-in connectivity (Wi-Fi 6E, Bluetooth 5.3, 2.5 GBE LAN), support for up to 12 simultaneous 4K video streams, and robust peripheral integration.

## Key Features

- Qualcomm® IQ-9075 SoC
- 36GB ECC 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
- 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 made easy.

Qualcomm Dragonwing

PRODUCT LONGEVITY PROGRAM

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# Lantronix Open-Q™ 9075IQ EVK

## Hardware Specifications:

| | | | |
|---|---|---|---|
| • **Processors** | | Qualcomm® IQ-9075 SoC built on 5nm LPE process.<br>Kryo™ Octa-core CPU: 1 Prime @ 3.36 GHz + 3 Gold @ 2.8 GHz + 2 Silver @ 2.0 GHz<br>Quad Kryo Gold Prime with 512 KB L2 cache per core, targeting up to 2.36 GHz<br>2 MB shared L3 cache per cluster | |
| | | Adreno™ 663 GPU<br>Spectra™ Image signal processor 690<br>Adreno™ 670 Video processing unit<br>Adreno™ 1199 Display processing unit | Dual Hexagon Tensor Processor (integrated with Hexagon DSP, quad Hexagon Vector eXtensions, and dual Hexagon Matrix eXtensions co-processors), Real-time subsystem |
| • **Memory/Storage** | | 36GB ECC LPDDR5, 128 GB UFS | |
| • **Wireless** | | Wi-Fi/Bluetooth: M.2 module with connector on mainboard (NFA765A Wi-Fi module with RF cables) | |
| • **Display Interfaces** | | 2x mini-DP (one with MST)<br>1x DSI flex connection (display not included) | |
| • **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 | up to 4x 4K60 (concurrent 2x 4K60) or 1x 4K240 with support for AV1, HEVC, H.264, H.265 | |
| | Encode | up to 2x 4K60 (concurrent) or 1x 4K120 | |
| • **Audio** | | 1x I2S mic • 2x I2S speaker amps • Additional I2S on GPIOs | |
| • **High Speed Connectivity** | | 1x PCIex4 slot or expansion (switched)<br>1x m.2 E key (Wi-Fi) or expansion (switched)<br>1x CAN-FD on LS expansion<br>1x RJ45 (2.5 GbE) | 1x USB Type C (host or device mode)<br>1x USB Type C (host mode)<br>1x USB 2.0 (host or device mode) |
| • **I/O Interfaces (1.8V)** | | 2x UART (RX/TX)<br>1x UART (RX/TX/CTS/RFR)<br>1x SAIL-UART (RX/TX)<br>1x SAIL-SPI (CS0)<br>1x SAIL-SPI (CS0, CS1)<br>5x I2C<br>3x CCI_I2C<br>1x SAIL_I2C | 44x SOC GPIO<br>30x PMIC GPIO (After using above listed QUPs, I2S)<br>6x QUP (L0/1)<br>3x QUP (L0-3)<br>1x QUP (L2/3)<br>1x QUP (QSPI)<br>1x QUP (L0-3, CS0, CS1) |
| • **Sensors** | | ST33HTPH2x32AHE4 on mainboard | |
| • **TPM** | | IMU: ICM-42688 | |
| • **Power** | | DC barrel plug (20V/160W wall adapter provided) | |
| • **Operating Environment** | | Operating Temperature: -20°C to 70°C | |
| • **Form Factor** | | 100 x 100 mm | |

## Software:

| | |
|---|---|
| • **OS Support** | Qualcomm® Linux |

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

### Lantronix Advantage

- Unique expertise with Qualcomm products
- Addressing small to mid-size customer requirements
- Complete solutions with HW, SW, & Services
- Global TAA/NDAA-compliant manufacturer
- Focused on Edge intelligence with Qualcomm-based AI acceleration
- Qualcomm-Aligned: 100% in sync with QC IIOT Roadmap

## Purchasing Information:

| | |
|---|---|
| **LOQ-9075IQ-EVK** | Open-Q 9075IQ EVK (36GB LPDDR5) SOM power supply, USB Cables, and display adapter |

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.


MPB-00284 Rev A

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

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