Qualcomm Dragonwing™
IQ-8275 EVK

The Dragonwing IQ-8275 EVK is built as a comprehensive evaluation platform to test the industrial-grade performance of the Dragonwing IQ-8275 processor for IoT designs.

The Dragonwing IQ-8275 EVK showcases the key capabilities of the Dragonwing IQ-8275 processor, purpose-built for robotics, edge AI boxes, gateways, AMRs, industrial automation, and many more applications that require multi-thread computing, independent AI, and graphics processing while minimizing cost and power requirements. Engineered for edge AI operations, it is designed to enable robust computing, high-speed connectivity, and long lifecycle support for mission-critical deployments.

Related Products

The Dragonwing IQ-8275 processor is part of the Dragonwing IQ8 Series, developed to deliver powerful and efficient workload processing in demanding industrial environments.

Highlights

Performance
Build and evaluate IoT solutions. The octa-core CPU can handle demanding workloads for sustained industrial operation.

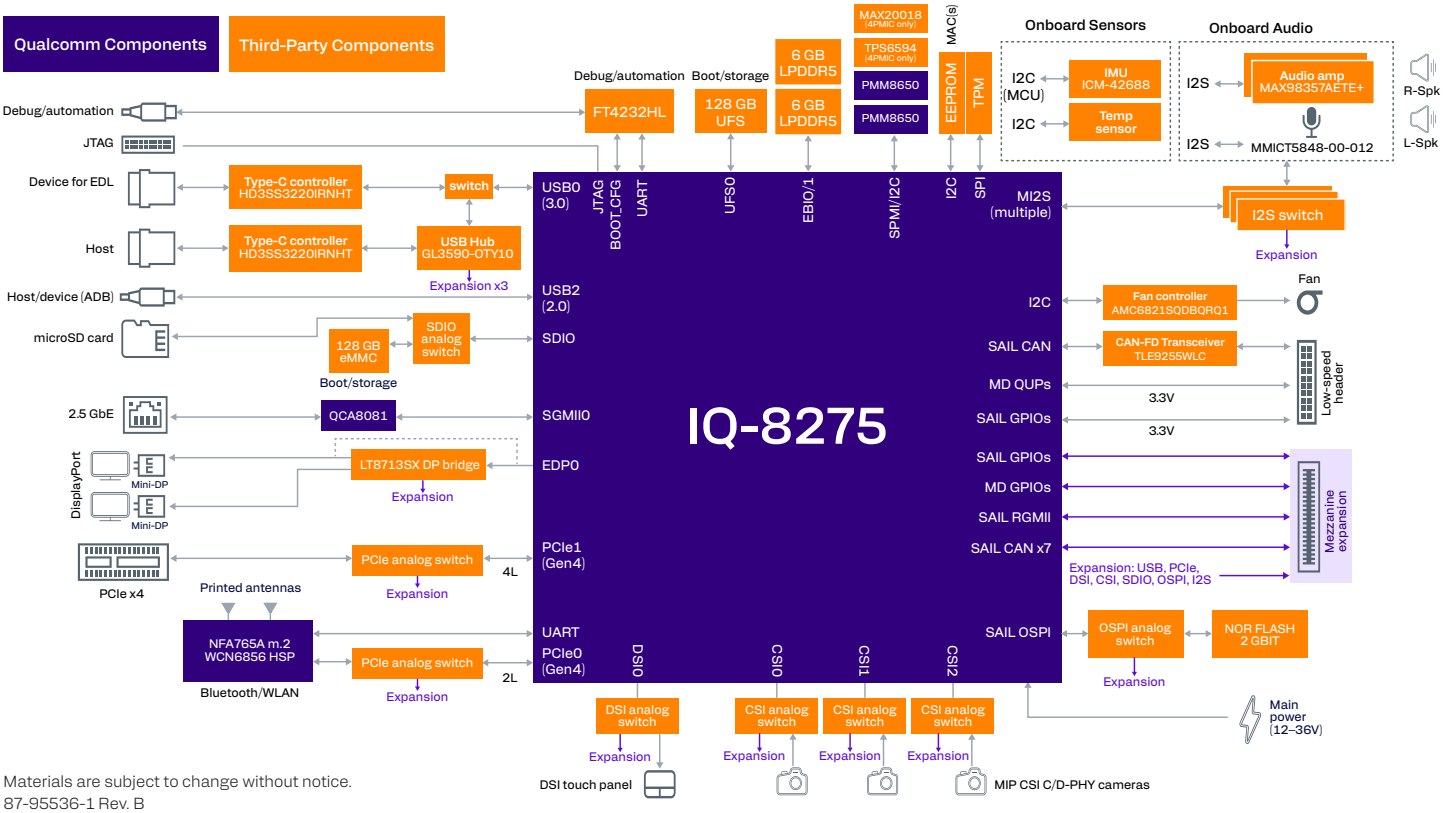
Edge Artificial Intelligence
Evaluate on-device AI with a dedicated Qualcomm® Hexagon™ Tensor Processor delivering up to 40 dense TOPS of AI performance.

Camera and Computer Vision
Process up to three concurrent 4K video streams for computer vision and multi-sensor fusion applications.

Wireless Connectivity
Support fast, reliable device communication with the onboard Wi-Fi 6E and Bluetooth® 5.3 technology for high throughput and extended range.

Rich Peripheral Extensibility
Connect to a wide range of peripherals through low- and high-speed connectors, standard interfaces, and protocol supports.

Block Diagram



Materials are subject to change without notice.
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Target Applications

The Dragonwing IQ-8275 EVK enables developers to evaluate the industrial-grade performance of the Dragonwing IQ-8275 processor for prototype IoT solutions, including:

- Drones
- Autonomous Mobile Robots (AMRs)
- Industrial Automation
- Smart Infrastructure
- On-Device AI
- Robotics and Vision Systems
- Unmanned Aerial Vehicles (UAVs)

Features

AI Model Development and Prototyping

Build, test, and refine AI models for smart vision, language processing, and edge intelligence. It is designed to enable developers to deploy benchmark AI workloads directly on the Hexagon NPU delivering up to 40 dense TOPS of AI performance.

Robotics and Industrial Automation

High-performance CPU, GPU, and NPU provide the compute power for responsive decision making and reliable automation. Build proof of concepts for autonomous mobile robots, industrial machinery, drones, and unmanned vehicles with real-time, on-device AI inference and motion control.

Multi-Sensor and Camera Fusion

Design and validate multi-camera systems with real-time HDR image processing. Combine visual and sensor data for navigation, object recognition, quality inspection, and predictive maintenance applications.

High-Performance Edge Computing

Develop scalable and powerful edge AI solutions with concurrent workloads and balanced thermal management, supporting performance in the harshest conditions.

Ordering Information

Part Number
EVK-IQ8275-STARTER-1.0

Specifications

Processor	Dragonwing IQ-8275 (See more here) SKU: QCS8275-0-AA
Operating System	Ubuntu, Upstream Linux with Yocto Support
Memory	12 GB LPDDR5 with link ECC
Storage	128 GB UFS
PCIe/Connectivity	• 1x PCIex4 slot • 1x m.2 E key (Wi-Fi + Bluetooth)
Display	• 2x mini-DP • DSI flex connection
Camera	3x MIPI CSI (C/D-PHY) flex connectors
USB	• USB0 Type-C (only for EDL and fastboot) • USB1 Type-C (host mode) • USB2 2.0 (OTG mode (ADB))
Audio	• 1x I2S mic • 2x I2S speaker amps • Additional I2S on GPIOs
Video	Decode: 4K135 / Encode: 2x 4K85
Ethernet	RJ45 (2.5 GbE)
Additional I/Os	• 2x UART (RX/TX), 1x UART (RX/TX/CTS/RFR), 1x SAIL_UART (RX/TX) • 1x SAIL_SPI (CS0), 1x SAIL_SPI (CS0, CS1) • 5x I2C, 3x CCI_I2C, 1x SAIL_I2C • 44x SOC GPIO, 30x PMIC GPIO (after using above listed QUPs, I2S) • 6x QUP (L0/1), 3x QUP (L0-3), 1x QUP (L2/3), 1x QUP (QSPI), 1x QUP (L0-3, CS0, CS1)
TPM	ST33HTPH2x32AHE4 on mainboard
Sensors	• IMU: ICM-42688 • Temp: TMP411DQDGKRQ1
Debug/UI	FTDI
Thermal Management	Heatsink and fan
Power	DC barrel plug
Size	106 x 106 x 46 mm
Other Parts Included in Kit	Power adapter provided

Specifications are subject to change.

To learn more visit: qualcomm.com