

Technical Specifications

Processor details

Item	Details
AI SoC	Qualcomm Dragonwing IQ9075
CPU	8 CORE KRYO Gen 6 GOLD PRIME, ARM Cortex v8.2 Architecture 227K DMIPS
GPU / NPU	Adreno 663 GPU Dual Hexagon Tensor processor NPU 100 TOPS Dense, 200 TOPS sparse
Threads	8 CPU threads, up to 64 GPU threads (dynamically allotted by the compiler)
Frequency	2.36GHz

Operating System, Memory and Storage

Item	Details
Operating System	Linux LTS (64 Bit)
Memory	12GB LPDDR5, 64GB UFS 3.1
Memory Slots	Onboard Unified memory DDR5 x 3
Maximum Memory Capacity	36GB LPDDR5, 128GB UFS
Memory Speed	3200MHz LPDDR5, 6400MT/s
ECC Support	Yes
Expansion	One 2-lane PCIe Gen4; PCIe0 (RC + EP) One 4-lane PCIe Gen4; PCIe1 (RC + EP)
Storage	M.2 M key – Multiple PCIe NVMe Gen4 and SATA

Connectivity & Physical

Item	Details
Ethernet (RJ-45)	Gigabit Ethernet 2.5Gbps
5G / LTE	M.2 B Key for 5G LTE interface
Wireless	BT 5.3, Wi-Fi 6E
USB Ports	4
Display Interfaces	HDMI and DP, 3 simultaneous displays
Audio	Integrated HD audio, 3.5 mm jack
Power	<=60W
Operating Temperature	-25° to 80°C
Thermal control	Air cooled, fan-less
Embedded System Management	Base BSP + Drivers

Key features

- **Purpose-built for surveillance AI**, unlike other platforms that are primarily designed for general-purpose computing.
- **Strong GenAI capability** (100 Dense / 200 Sparse TOPS) with real-world performance that is competitive with higher-TOPS alternatives.
- **Multiple VLM models available**, which provide great options for solving real-world use cases
- **Higher effective memory throughput** through TCM and bandwidth optimization, which is particularly important for video analytics workloads.
- **Industry-leading video processing capability**, including support for up to 32 simultaneous 1080p30 video streams, making it well suited for NVR-based surveillance applications.
- **Lowest power consumption and best performance-per-watt**, resulting in lower operating costs and easier deployment at scale.
- **Highly integrated architecture** with AI acceleration, networking, graphics, and edge processing built in, reducing system complexity and BOM cost.

- **Rich I/O and edge capabilities**, including Ethernet, TSN support, multiple display outputs, and real-time processing features.

Bottom Line

For the use case of real-time surveillance video AI, SentriEdge.ai Q900 based on Qualcomm iQ9 offers an excellent balance of AI performance, video processing capability, memory efficiency, power consumption, and total cost of ownership, making it a highly optimized alternative to both Intel workstation-based and NVIDIA-centric solutions.