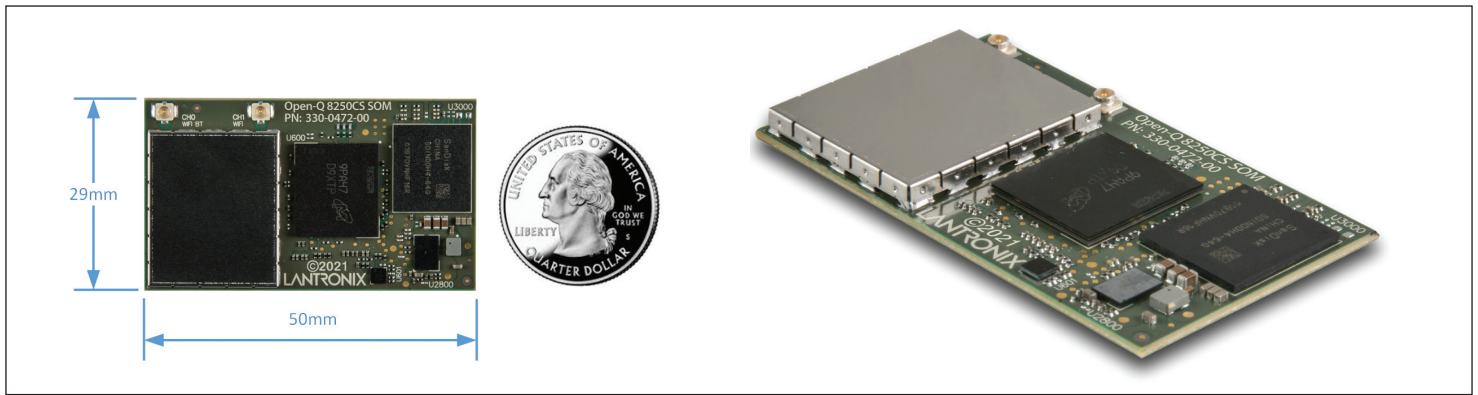


Open-Q™ 8250CS SOM (System on Module)

Based on Qualcomm® QCS8250 System-on-Chip with Android 13 OS



Premium Processor for Compute Intensive Camera and Edge AI Applications

- SOM with powerful specialized processing cores
- On-device Qualcomm® AI Engine™ (15 TOPS) for machine vision, neural networks, deep learning workloads at low power
- Powerful image signal processor for up to 24 video streaming cameras
- 8K video encode/decode, up to 64MP photo and video capture
- WiFi 6, Bluetooth Low Energy v5.1

The Open-Q™ 8250CS production ready computing SOM provides a power platform for edge computing:

- Collect** – significant communications and video capture and processing capabilities
- Connect** – integrated WiFi 6 & BLE 5.1 in chipset
- Compute** – powerful CPU and GPU engines
- Comprehend** – neural, computer vision and DSPs
- Control** – many I/O interfaces to external systems to provide intelligent feedback.

The development software package supports multiple concurrent decode+encode sessions, live tuning for cameras (not customer facing), 2A sync for 2 cameras, UVC/UAC source mode for video collaboration bars to function as a USB class device, low-latency MS codecs and MS Teams video extensions with a roadmap to include background blur and replacement, an AI director framework to track and zoom a camera onto the person speaking and QSAT for smooth zoom.

Key Features

- Qualcomm® 8250CS SoC – long life IIoT chipset
- 8GB LPDDR5 RAM + 128GB UFS Flash
- Android™ 13
- On-device AI Engine up to 15 TOPS
- Dedicated Computer Vision Engine
- Multiple MIPI camera and display ports
- Multiple high speed connectivity options
- Ultra-compact 50 x 29 mm form factor

Applications

- Video conference systems
- Multi-camera and smart camera systems
- Machine vision platforms
- Fleet management
- Advanced high resolution multi-display systems
- Medical imaging, connected healthcare
- Smart Retail, self check out
- AI box –multi-stream encode/decode/AI processing

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.



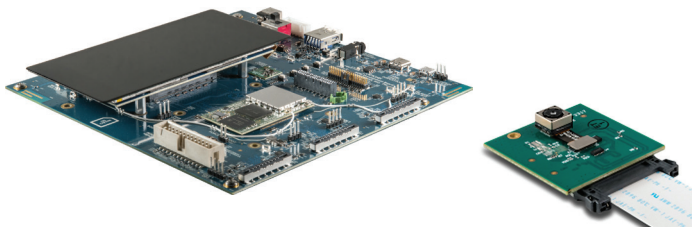
Hardware Specifications:

Processors		Qualcomm® 8250CS SoC built on 7nm technology: Kryo™ 585 Octa-core CPU: 1 Kryo Gold prime @ 2.84 GHz + 3 Kryo Gold @ 2.42 GHz + 4 Kryo Silver @ 1.81 GHz Hexagon™ 698 DSP with quad Hexagon Vector eXtensions	
		Adreno™ 650 GPU @ Fmax = 587 MHz Spectra™ 480 Image Signal Processor Adreno™ 665 Video Processing unit	Adreno™ 995 Display Processing unit NPU230 Neural Processing unit SPU240 Secure Processing unit
Memory/Storage		8GB or 16GB LPDDR5 @ 2750MHz, 128GB UFS	
Wireless		802.11ax 2x2 MU-MIMO + Bluetooth 5.1, Bluetooth Milan ready	
Display Interfaces		Up to three 4K displays (1 internal display through DSI and 2 external displays through DisplayPort) 2x 4-lane MIPI DSI D-PHY 1.2, up to 5040 × 2160 @ 60 fps (or 120 Hz in VR mode) + touchscreen support DisplayPort v1.4 on USB Type-C, at 8.1 Gbps/lane, with USB3 and USB2 data concurrency	
Camera Interfaces		3x 4-lane MIPI CSI camera ports + CCI I2C control	Spectra 480 ISP supporting multiple concurrent cameras 64 MP 30 fps ZSL with a dual ISP
Video Performance	Decode	Video decode up to 4K240/8K60. Native decode support for H.265 Main 10, H.265 Main, H.264 High, VP9 profile 2, VP8, and MPEG-2 codecs	
	Encode	Video encode up to 4K120/8K30. Native encode support for H.265 Main 10, H.265 Main, H.264 High, and VP8 codecs	
	Dec & Enc	Concurrent 4K60 Dec and 4K30 Enc	
Audio		Supports WCD938x high fidelity audio codec and WSA881x speaker amp on carrier board Dedicated Hexagon™ audio DSP, SoundWire, MI2S, DMIC, TDM/PCM interfaces for audio devices on carrier board	
High Speed Connectivity		1x PCIe Gen3 2-lane 1x USB 3.1 with support for Type-C + DisplayPort v1.4 with USB SS data concurrency 1x USB 3.1 Type-A	
I/O Interfaces		4-bit SD 3.0, UART, I2C, I3C, SPI, configurable GPIOs, sensor I/O to dedicated Hexagon™ sensor DSP	
Power/Battery		Power management and battery charging solution on SOM	
Operating Environment		Input voltage: 3.7V nominal Operating Temperature: -25 to +85°C	
Form Factor		50mm x 29mm with 2x 100-pin + 1x 120-pin board to board connectors	

Software:

OS Support	Android™ 13
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* QCS8250 Chipset Performance, see SOM Release Notes for details on tested configurations and platforms.



Companion Development Kit, display and camera accessories available separately

Purchasing Information:

• Open-Q™ 8250CS SOM (8+128GB)	PN: QC-SOM-8250CS-A
• Open-Q™ 8250CS SOM (16+128GB)	PN: QC-SOM-8250CS-D
• Open-Q™ 865 Dev Kit (SOM not included)	PN: QC-865-DK-CARRIERBRD

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

