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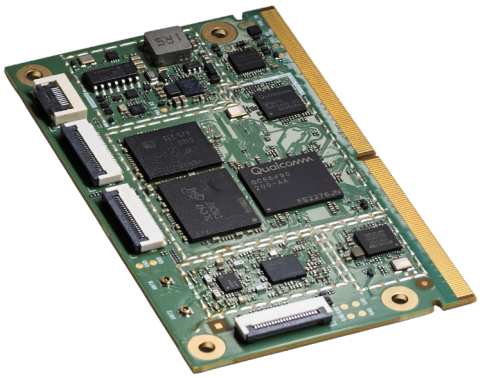
Preliminary!

Open-Q™ 6490CS SMARC SOM

Based on Qualcomm® Dragonwing™ QCS6490 System-on-Chip



Optimized Processor for Compute Intensive Cameras

The Open-Q™ 6490CS SMARC SOM is a power-efficient compute module designed for advanced edge AI and embedded applications such as industrial PC, robotics, security cameras and video surveillance, retail self-check-out, and video telematics. It is based on the Qualcomm® Dragonwing™ QCS6490 SoC, delivering strong AI/ML performance with optimized power consumption.

Built on a 6nm technology, the module supports on-device AI processing, edge computing, Wi-Fi 6E connectivity, multiple camera interfaces, and up to 4K video encoding and decoding, making it suitable for vision and multimedia applications.

The pin-compatible Open-Q™ 6490CS SMARC SOM allow customers to scale performance across their product line while reducing development effort and time-to-market.

Lantronix provides TAA and NDAA compliant solutions with 10+ years of product longevity, backed by strict BOM control, quality assurance, and over 20 years of embedded hardware and software development experience.

Key Features

- Qualcomm® Dragonwing™ QCS6490 SoC
- Up to 8GB LPDDR5 RAM + 64GB eMMC
- Support UFS and NVMe storage
- Android™ 13 and Qualcomm Linux
- On-device AI Engine up to 12.5 TOPS
- Dedicated Computer Vision Engine
- Multiple MIPI camera and display ports
- Multiple high speed connectivity options
- SMARC 2.2 form factor

Applications

- Security Camera and Video Surveillance
- Edge AI Gateway
- Industrial PC
- Video telematics
- Retail self-check-out
- Digital signage
- Rugged Handhelds

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
- AI/ML Application
- Mechanical & RF design
- Thermal & power optimization

IoT product development made easy.

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Lantronix Open-Q™ 6490CS SMARC SOM

Production Ready Computing Module

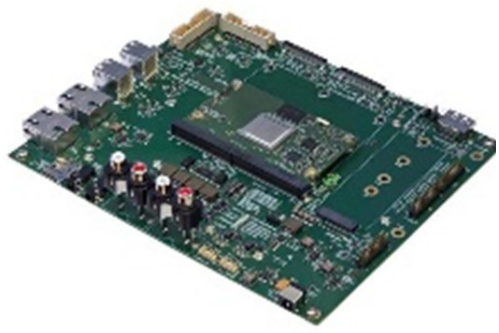
Hardware Specifications:

• **Processors**		Qualcomm® Dragonwing™ QCS6490 SoC built on 6nm technology: Kryo™ 670 Octa-core CPU: 1 Prime @ 2.7 GHz + 3 Gold @ 2.4 GHz + 4 Silver @ 1.8 GHz Hexagon™ 770 with Hexagon Vector eXtensions (HVX)	
		Adreno™ 643L GPU @ Fmax Spectra™ Spectra™ 570L ISP Adreno™ 633 video processing unit	Adreno™ 1075 display processing unit 6th Gen Qualcomm AI Engine Secure processing unit
• **Memory/Storage**		Up to 8GB LPDDR5 and 64GB eMMC configuration (other configurations available upon request) Supports external UFS and NVMe storages	
• **Wireless**		Supports up to Wi-Fi 6E, 2x2 MU-MIMO + Bluetooth 5.2	
• **Display Interfaces**		1x 4-lane MIPI DSI D-PHY 1.2, up to FHD+ touchscreen support Support for USB3.1 Type-C with DisplayPort v1.4 and USB 2.0 Option to support eDP or the LVDS above	
• **Camera Interfaces**		5x 4-lane MIPI CSI D-PHY 1.2	Spectra 570L ISP supporting 36 MP + 22 MP at 30 fps or three 22 MP at 30fps ZSL. 3x IFE, 2x IFE-lite, 5 concurrent MIPI CSI configurable in 4 + 4 + 4 + 4 + 4 + 4 configuration.
• **Video Performance**	Decode	Video decode up to 4K60. Native decode for H.265/H.265/VP9	
	Encode	Video encode up to 4K30. Native encode for H.265/H.265; Support for HDR10 and HDR10+ playback	
	Dec & Enc	Concurrent 1080p60 Decode and 1080p60 Encode or 4K30 Decode and 4K30 Encode	
• **Audio**		Support interfaces to WCD938x/WCD937x high fidelity audio codec and WSA883x speaker amp on carrier board. Hexagon™ audio DSP V66M	
• **High Speed Connectivity**		1x PCIe Gen3 2-lane; 1x PCIe Gen3 1-lane for connectivity 1x USB 3.1 with support for Type-C + DisplayPort v1.4 with USB SS data concurrency 4x USB 2.0	
• **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 on SOM	
• **Operating Environment**		Input voltage: 5V nominal Operating Temperature: -20°C to +85°C	
• **Form Factor**		SMARC 2.2 (82 x 55mm)	

Software:

• **OS Support**	Android™ 13 and Qualcomm Linux

** QCS6490 Chipset Performance, see SOM/SIP Release Notes for details on tested configurations and platforms.*



Purchasing Information:

SKU	Description
QC6490-3WN-BL	4GB LPDDR5 / 64GB eMMC with Wi-Fi/BT
QC6490-3WN-DL	8GB LPDDR5 / 64GB eMMC with Wi-Fi/BT
LOQ-615IQ-EVK	Open-Q™ 615IQ devkit bundle with 8GB/64GB 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-6490-smarc

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