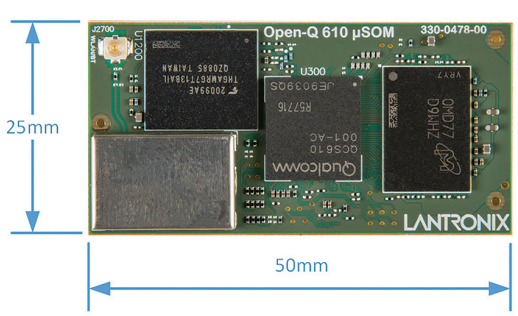
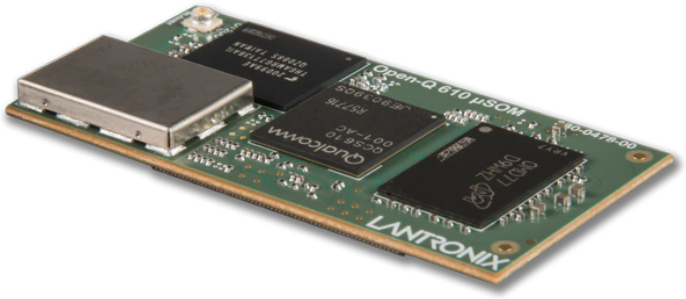
LANTRONIX®

Open-Q™ 610 µSOM (micro System on Module)

Based on the Qualcomm® Dragonwing™ QCS610 processor





Compact but Powerful

- Ideal for advanced visual intelligence applications; cost-effective high performance SOM solution with 4k30 encode/decode
- Improved camera, video, AI/ML software support and performance to power your latest AI camera product
- Product lifecycle extended to 2030 under the Qualcomm Dragonwing™ Platform's longevity program

Lantronix's Open-Q™ 610 µSOM stands out as an optimal solution for cutting-edge visual intelligence applications, offering a cost-effective yet high-performance System-on-Module (SOM) with 4k30 encode/decode capabilities.

With an advanced Qualcomm Dragonwing™ QCS610 SoC and a built-in Neural Processing Engine, this ultra-compact (50mm x 25mm) SOM is tailored for on-device edge AI applications. Specifically designed for connected visual intelligence applications, the 610 µSOM is capable of supporting features[1] such as

- Staggered HDR
- Lens de-warp
- Dual-camera stitching
- Image de-fog

With improved camera, video, AI/ML software support, and performance enhancements, it serves as the ideal platform to power your latest AI camera product. The SOM is available with Android 12 and Yocto Dunfell (kernel 5.4), with a product lifecycle extended to 2030 as part of Qualcomm's product longevity program.

Supported by Qualcomm optimizations, GStreamer audio/video framework, and AI capabilities for TensorFlow Lite and Qualcomm SNPE, the 610 µSOM comes with a full-featured development kit, facilitating seamless evaluation and Proof of Concept (POC) development for both Android and Linux models.

Key Features

- SoC 11nm technology for high performance with low power
- On-device artificial intelligence & machine learning
- Native Ethernet interface for reliable high-speed connectivity
- Three camera ports for multi-camera systems
- Yocto Linux or Android 12 with connected camera SDK
- RTSP streaming support with GStreamer
- Multiple options for AI inference engines

Applications

- AI connected cameras
- Video conference systems
- Edge AI computing platforms
- 360-degree pano cameras
- Companion robots
- Dash cameras
- Machine vision platforms

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

Qualcomm Dragonwing

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[1] *Required software enablement, please contact Lantronix Sales*

Lantronix Open-Q™ 610 µSOM

Production Ready
Computing Module

Hardware Specifications:

• **Processors**	Qualcomm® Dragonwing™ QCS610: Qualcomm® Kryo™ 460 CPU: 2 Kryo Gold 2.2 GHz cores + 6 Kryo Silver low-power 1.8GHz cores Qualcomm® Hexagon™ Compute DSP with Hexagon Vector eXtensions (HVX) Qualcomm® Adreno™ 612 GPU @ 845 MHz, with OpenGL ES 3.2, Vulkan® 1.1, OpenCL 2.0	
• **Memory/Storage**	Non-PoP Memory: 4GB LPDDR4X SDRAM, 64GB eMMC Flash Storage	
• **Wireless**	Wi-Fi 802.11a/b/g/n/ac 2.4/5Ghz (WCN3980) + Bluetooth 5.x	
• **Display Interfaces**	1x 4-lane MIPI DSI D-PHY 1.2, up to 1920 x 1080p at 60 fps DisplayPort v1.4 on USB Type-C or separate DisplayPort connector	
• **Camera Interfaces**	3x 4-lane MIPI CSI	Qualcomm® Spectra™ 230 Image Signal Processor
• **Video Performance**	Encode: 4K30 8-bit HEVC	Decode: 4K30 10-bit: HEVC/VP9
• **Audio Interfaces**	Supports Qualcomm® WCD9340 advanced audio codec on carrier board SLIMBus, SoundWire, and MI2S interfaces for a variety of audio solutions	
• **I/O Interfaces**	2 USB ports: 1x USB3.1 with support for Type-C + DisplayPort v1.4 + 1x USB2.0 Ethernet RGMII interface, 4-bit SD 3.0, UART, I2C, SPI, configurable GPIOs	
• **Sensor Core Interface**	SPI, I2C, GPIO connections to sensor core DSP	
• **Power/Battery Management**	Power management and battery charging solution on SOM Qualcomm® PM6150 + PM6150L	
• **Operating Environment**	Input voltage: 3.7V nominal Operating Temperature: -25°C to +85°C Tc (component case temperature)	
• **Form Factor**	50mm x 25mm with 1x 120-pin + 2x 100-pin board to board connectors	

Software:

• **OS Support**	Linux, Yocto Dunfell, Kernel v5.4 Android 12

Companion Development Kit available separately

Purchasing Information:

Description	P/N
Open-Q 610 µSOM (4GB/64GB, Android 12, or Yocto)	QC-DB-V10004B
Open-Q 610 µSOM (2GB/32GB, Yocto Dunfell)	QC-DB-V10004A
Open-Q 610 Dev Kit (2GB/16GB, Yocto Dunfell)	QC-DB-V10004
Open-Q 610 Dev Kit (4GB/64GB - Android) Bundle includes display, camera, and power supply	LOQ-610-EVK

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: americas_sales@lantronix.com

Planned Certifications

Learn more at lantronix.com/open-q-610-som

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