LANTRONIX®

NEW!

Open-Q™ 8550CS SOM

Based on Qualcomm® Dragonwing™ QCS8550 System-on-Chip

Ideal for Advanced Video and AI Applications

The Open-Q™ 8550CS offers a premium performance level of 48 INT8, 12 FP16 TOPs, meeting the higher AI/ML requirements for extreme edge computing, including Edge devices, Edge servers and Edge AI boxes. Based on Qualcomm's Dragonwing™ QCS8550, the Open-Q 8550CS offers several benefits: low power consumption with a 4nm process, maximum heterogeneous computing, an 8th-generation AI Engine delivering 10x performance over the previous generation, enterprise-level connectivity with Wi-Fi 7 supporting up to 5.8Gbps, and best-in-class performance across compute processing, camera, AI, security, and audio.

Lantronix offers TAA and NDAA compliant products with at least 10 years of longevity for the Open-Q 5430CS, Open-Q 6490CS, Open-Q 5165RB, Open-Q 8250CS, and Open-Q 8550CS with strict Bill-of-Material and quality control. Combined with over 20 years of hardware design and software development experience, and 1200+ successful projects, Lantronix will be your long-term partner, ensuring the ongoing success of your product journey.

BLUE UAS FRAMEWORK LISTED

DCMA-vetted, NDAA-compliant AI companion computer for drones. Build on a module already approved for Blue UAS and reduce your time to market.

BLUE UAS

Key Features

- Qualcomm® 8550 SoC
- Up to 16GB LPDDR5 RAM + 128GB UFS Flash
- Android™ 13 and Linux Yocto Kirkstone
- On-device AI Engine with Qualcomm Hexagon™ Tensor Processor (HTP)
- Dedicated Computer Vision Engine
- Multiple MIPI camera and display ports
- Multiple high speed connectivity options
- Blue UAS Framework listed

Applications

- Multi-camera and smart camera systems
- Edge AI gateways
- Video collaboration
- Retail
- Cloud Gaming
- Industrial drones
- Autonomous mobile robots

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 Dragonwing

PRODUCT LONGEVITY PROGRAM

LANTRONIX®

Lantronix Open-Q™ 8550CS SOM

Production Ready Computing Module

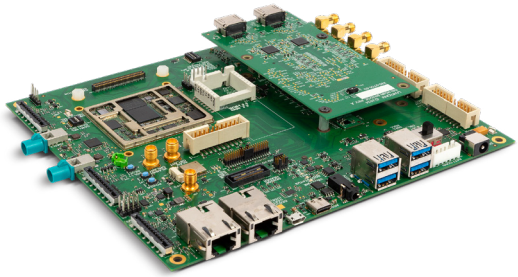
Hardware Specifications:

• **Processors**		Qualcomm® 8550CS SoC built on 4nm technology: Kryo™ Octa-core CPU: 1 Prime @ 3.2 GHz + 4 Gold @ 2.8 GHz + 3 Silver @ 2.0 GHz	
		Adreno™ 740 GPU Spectra™ Image signal processor Adreno™ 8550 video processing unit	Adreno™ 1295 display processing unit Dual eNPU V3, 4x HVX, HMX, 48 INT8, 12 FP16 TOPs Secure processing unit
• **Memory/Storage**		8GB LPDDR5x @ 4200MHz, and 128GB UFS, or 16GB LPDDR5x @ 4200MHz and 128GB UFS	
• **Wireless**		Wi-Fi 7 802.11be 2x2 MU-MIMO + Bluetooth 5.3 capable	
• **Display Interfaces**		Up to four concurrent displays. Up to QHD+ @ 144Hz on-device display, up to 4K@60 Hz external display 2x 4-lane MIPI DSI D-PHY 1.2 Support DisplayPort v1.4 on USB Type-C with USB3.1 Gen 2	
• **Camera Interfaces**		8x MIPI CSI D-PHY 1.2 or C-PHY 2.0 camera ports + CCI I2C control	Up to five concurrent cameras, 18bpp, 64 + 36 MP30, or 3x 36 MP30, or 1x 108 MP 30 fps ZSL, 3IFE + 2 IFE Lite, Always-on camera
• **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	
	Encode	Video encode up to 4K120/8K30. Native encode support for H.265 Main 10, H.265 Main, H.264 High	
	Dec & Enc	Concurrent 4K60 Dec and 4K60 Enc	
• **Audio**		Supports WCD938x high fidelity audio codec and WSA884x speaker amp on carrier board. Dedicated Hexagon™ audio DSP, SoundWire, MI2S, DMIC interfaces for audio devices on carrier board	
• **High Speed Connectivity**		2x PCIe Gen3 2-lane Support SGMII and USXGMII interfaces 1x USB 3.1 Gen 2 with support for Type-C + DisplayPort v1.4 1x USB 3.1 Gen 1	
• **I/O Interfaces**		2x SDC v 3.0, 1x SD, UART, I2C, I3C, SPI, configurable GPIOs, sensor I/O to Qualcomm Sensing Hub 3.0	
• **Power/Battery**		Power management and battery charging solution on SOM	
• **Operating Environment**		Input voltage: 3.7V nominal Operating Temperature: -25°C to +85°C	
• **Form Factor**		54 x 45 x 3.61 mm LGA SOM	

Software:

• **OS Support**	Android™ 13 and Linux Yocto Kirkstone

** QCS8550 Chipset Performance, see SOM Release Notes for details on tested configurations and platforms.*



Companion Development Kit, accessories available separately

Purchasing Information:

QC-SIP-8550W-A	8GB LPDDR5x, 128GB UFS, Wi-Fi, SOM
QC-SIP-8550W-B	16GB LPDDR5x, 128GB UFS, Wi-Fi, SOM
QC-SIP-8550W-C	8GB LPDDR5x, 1TB UFS, Wi-Fi, SOM
LOQ-8550-EVK	Open-Q 8550CS SOM Development Kit

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

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Learn more at lantronix.com/open-q-8550-som

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