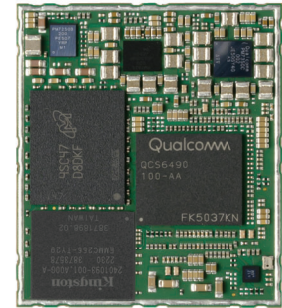


# Qualcomm® Dragonwing™ QCS6490 SoM

## High-performance system-on-module for on-device vision AI



## EP-200Q

### Product Overview

The EP-200Q, enabled by Qualcomm Dragonwing QCS6490, is a SoM that delivers a pre-validated QCS6490 subsystem, delivering an always-on connectivity for vision edge AI. The EP-200Q is compact, versatile, and power efficient, with high-performance Wi-Fi 7 connectivity. The EP-200Q can be seamlessly integrated with Silex's reliable Wi-Fi 7 driver for the SX-PCEBE, the industry's first Wi-Fi 7 PCIe + Bluetooth combo module powered by Qualcomm QCS2076.

### Benefits

#### Real-time, on-device processing

The powerful processing units enable compute-intensive applications like autonomous robotics, smart vision, and industrial automation. The EP-200Q is the perfect fit for machine vision/computer vision on-device AI product with its 12 TOPS AI performance.

#### Machine vision AI product enablement

EP-200Q supports up to 5 MIPI CSI cameras for machine vision/computer vision systems. The EP-200Q enabled products can run on-device vision AI to make intelligent decision. The EP-200Q enabled by QCS6490 provides the superior vision AI performance per power consumption, which is suitable for mobility devices such as drones, mobile handheld devices and mobile robots.

#### Seamless integration with high-performance Wi-Fi 7 connectivity

Silex integrates SX-PCEBE driver into the SDK to support advanced Wi-Fi 7 connectivity for the QCS6490, delivering enhanced reliability with Silex-optimized Wi-Fi drivers. Its pre-validated Wi-Fi integration streamlines development, reducing time to market.

#### Simplified development onboarding and enhanced support

As a Qualcomm Embedded Design Center, Silex leverages its expertise to provide dedicated engineering support and collateral. We offer user guides, development support materials, and hands-on engineering assistance to ensure a seamless integration process.

#### Long-term availability and support

Qualcomm offers over 10-years of longevity for QCS6490. Combining silex's expertise for the long-term product support and Qualcomm's longevity program, customers long-term product availability is ensured.

### Features

#### High-performance Processor

The EP-200Q features octa-core Qualcomm Kryo™ CPUs, integrated Qualcomm Adreno™ GPU, and a powerful AI engine (NPU + DSP), delivering up to 12 TOPS.

#### Advanced camera interfaces and ISP

A high-performing triple-ISP provides advanced dual-camera experience, or seamless support for up to five concurrent cameras, 4K video record and streaming at 30 or 60fps.

#### Versatile interfaces

The EP-200Q supports a variety of interfaces to support various peripheral devices such as touch screens, a Wi-Fi module, a cellular module, a variety of sensors, a speaker and a microphone, cameras, displays and USB devices.

#### Small form-factor surface mount SoM

The EP-200Q is a highly integrated SoM with 35mm x 40mm size with 500-pin LGA package.

### Applications

- Machine vision robots/drones
- AI-powered industrial handheld devices
- AI-powered video recorder
- Smart multi-camera system
- Kiosk/PoS

## Getting started - EP-200Q-EVK

EP-200Q Evaluation Kit



### Feature List

Model number	EP-200Q	
CPU	Kryo™ 670 Octa-core CPU: 1 Prime @ 2.7 GHz + 3 Gold @ 2.4 GHz + 4 Silver @ 1.8 GHz	
GPU	Qualcomm® Adreno™ 643L up to 812 MHz - OpenGL® ES 3.2, DirectX® FL 12, OpenCL™ 2.0, Vulkan®	
DSP	Qualcomm® Hexagon™ 770 - Qualcomm® Hexagon™ Tensor Accelerator - Qualcomm® Hexagon™ Scalar Accelerator - Qualcomm® Hexagon™ Vector eXtensions (HVX)	12 TOPS
ISP	Qualcomm® Spectra™ 570L ISP - Triple ISP with 14-bit bit depth	
DPU	Qualcomm® Adreno™ 1075	
VPU	Qualcomm® Adreno™ video processing unit 633	Decode: up to 4K60 for H.264/H.265/VP9 Encode: 4K30 for H.264/H.265 Concurrency: 1080p60 decode/encode, 4K30 decode/1080p30 encode HDR10 and HDR10+ support HFR capture: 720p at 480 fps or 1080p at 240 fps
Memory/Storage	8GB LPDDR5 32-bit up to 3200MHz 128GB eMMC Ver 5.1 compliant	
Display Interfaces	1x 4-lane MIPI DSI D-PHY v1.2 (4 lane) 1x eDP1.4 1x DisplayPort 1.4 over USB Type-C DP-Alt mode	Internal display: up to FHD+ @ 144 Hz External display: up to 4K @ 60Hz Up to two concurrent display output
Camera Interfaces	5x 4-lane MIPI CSI D-PHY v1.2	Triple camera: 22+22+22 MP, Dual camera: 36+22MP Single Camera (MFNR, ZSL, 30 fps): 108MP Single Camera (ZSL, 30 fps): 64MP Video capture: 4K @ 30fps, 720p @ 960 fps
PCI Express	1x PCIe Gen 3 (1 lane) for Wi-Fi module 1x PCIe Gen 3 (2 lane)	
USB	1x USB3.1 Gen1 Type-C w/ DP Alt-mode 1x USB2.0 OTG	
SDC	1x 4-bit SDIO	
Audio Interface	I2S to interface with an external audio codec	
Peripheral interfaces	SPI, I2C, UART, GPIO	
Power supply	DC 3.8V±5%	
Power consumption	T.B.D.	
Size	35mm x 40mm x (height T.B.D.)	
Operating temperature	-25°C - 75°C	
Operating humidity	20% - 80% without condensation	

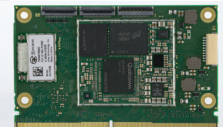
### Software

Qualcomm Linux - Yocto

Android - version T.B.D.

### Related Product - EP-200Q-CB

Edge card form-factor SoM  
enabled by EP-200Q



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#### silex global sales & support locations



**US Office**  
silex technology america, Inc.  
+1-657-218-5199  
www.silextechnology.com  
sales@silexamerica.com

**Europe Office**  
silex technology europe, GmbH  
+49-2154-88967-0  
Germany toll free 0800-7453938  
www.silextechnology.com  
sales@silexeurope.com

**China**  
silex technology beijing, Inc.  
+86-10-8497-1430  
www.silex.com.cn  
contact@silex.com.cn

**Corporate Headquarters**  
silex technology, Inc.  
+81-774-98-3781  
www.silex.jp  
support@silex.jp

