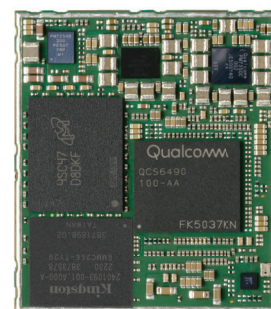


Qualcomm® Dragonwing™ QCS6490 SoM

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 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	30mm x 45mm 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

SMARC form-factor SoM
enabled by EP-200Q

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