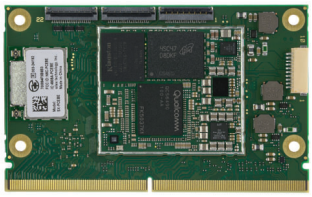
When it **Absolutely Must** Connect

Qualcomm® Dragonwing™ QCS6490 SMARC SoM

EP-200Q SMARC SOM with integrated Wi-Fi 7 connectivity



EP-200Q-CB

Product Overview

The EP-200Q-CB is a SMARC SoM integrating EP-200Q and SX-PCEBE, the industry's first Wi-Fi 7 PCIe + Bluetooth combo module. It is highly integrated SoM delivering an always-on connectivity for vision edge AI. The EP-200Q-CB is the standard form-factor SoM delivering the versatile connectivity interfaces, not only Wi-Fi 7 but also Ethernet. The EP-200Q-CB is the solution to enable compute-intensive system providing high-performance and highly reliable Wi-Fi connectivity.

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

High-performance and highly reliable Wi-Fi 7 connectivity

Silex integrates SX-PCEBE together with the EP-200Q into the SMARC SoM. The EP-200Q-CB delivers enhanced reliable Wi-Fi 7 connectivity 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-CB 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 triple/dual-camera experience, or seamless support for up to five concurrent cameras, 4K video record and streaming at 30 fps.

Versatile interfaces

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

Standard form-factor SMARC SoM

The EP-200Q-CB is highly integrated SMARC SoM with 82mm x 50mm size.

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

Qualcomm® Dragonwing™ QCS6490 SMARC SoM

EP-200Q-CB

Feature List

Model number	EP-200Q-CB	
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	
Network Interfaces	Tri-band (2.4GHz/5GHz/6GHz) Wi-Fi 7 2x2 station, MHF-4 connectors Gigabit Ethernet MDI (Ethernet PHY integrated)	
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	3x 4-lane MIPI CSI D-PHY v1.2 (onboard connector) 1x 4-lane MIPI CSI D-PHY v1.2 (SMARC connector) 1x 2-lane MIPI CSI D-PHY v1.2 (SMARC connector)	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) 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	2x SPI, 2x I2C, 2x 4-wire UART, 2x 2-wire UART (one for debug console), 13x GPIO	
Power supply	DC 3.8V±5%	
Power consumption	T.B.D.	
Size	82mm x 50mm x (height T.B.D.)	
Operating temperature	-25℃ - 75℃	
Operating humidity	20% - 80% without condensation	

Software

Qualcomm Linux - Yocto

Android - version T.B.D.

Related Product - EP-200Q

500-pin LGA SoM enabled by QCS6490

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