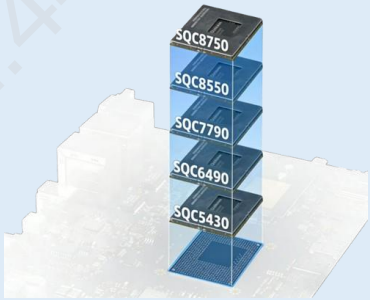
Sapphire Stream Technology

SQC6490 SOM





Universal Carrier Board

SQC6490 SOM (System on Module) integrates a high-performance and power-efficient Qualcomm® 6nm QCS6490 SoC with strong computing power (12.5 TOPS). This SOM supports 4K@60FPS video decoding, 4K@30FPS video encoding, five MIPI CSI interfaces, and rich external interfaces (GPIO, UART, I2C, I3C, SPI, USB 3.1, PCIe). SQC6490 SOM is a high-performance IoT intelligent module that can be used in industrial handheld device, industrial tablet, service robot, industrial robot, and edge computing. Customers can use its hardware interfaces and software SDK for functional verification and rapid prototyping.

SQC6490 SOM is pin-to-pin compatible with the SQC8550 SOM, with a more compact design and smaller size. It forms a high-AI performance module series matrix with the SQC8550 SOM, accelerating customer product iteration cycles and saving secondary development costs.

Applications

Rugged Handheld

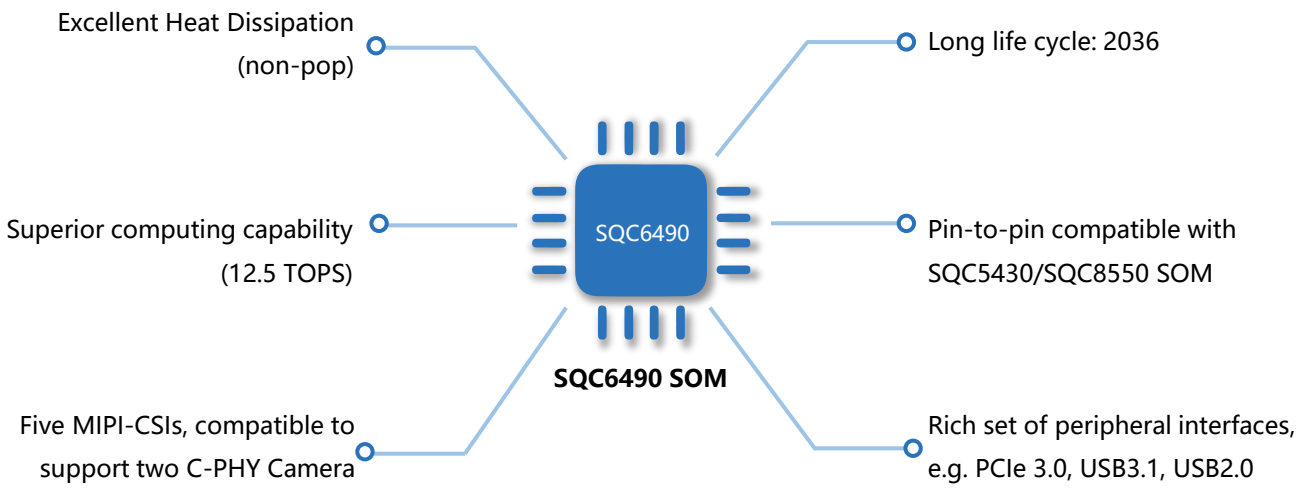
Rugged Tablet

Edge Computing

Service Robot

Industrial Robot

Features



SQC6490 SOM Specifications

Category	SQC6490 SOM
Platform	Qualcomm® QCS6490 Qualcomm® Kryo™ CPU 670 Kryo Gold plus: High-performance core up to 2.7 GHz Kryo Gold: Three high-performance cores at 2.4 GHz Kryo Silver: Four low-power cores at 1.9 GHz Qualcomm® Adreno™ GPU 643, Adreno 633 VPU, Adreno DPU 1075 Qualcomm® Compute Hexagon™ DSP with dual HVX, Hexagon Co-processor (Hexagon CP) 2.0 and Hexagon Tensor Accelerator Qualcomm® Spectra™ 570L image processing
Memory	LPDDR4x 8GB + UFS2.x 128GB, uMCP
Video Encode	4K@30FPS for H.264/H.265
Video Decode	4K@60FPS for H.264/H.265/VP9
Display interfaces	1x MIPI-DSI 4-lane; FHD+ (1080×2520) 8L @144FPS
Camera Interfaces	5 x 4-lane MIPI CSI D-PHY (2 of them compatible to support C-PHY)
Peripherals	1 x USB 3.1 with DP, 1 x USB2.0, 2x PCIe Gen 3 (1-lane, 2-lane), 2 x SoundWire, 2 x SDC (4-bit), 3 x DMIC interfaces, GPIOs, QUPs (UART/I2C/SPI)
Operating Environment	Operating Temperature: -35°C ~ +75°C #
Package	FTGA628 1)
Certification	RoHS*/REACH*
Voltage	3.4V~4.5V
Dimensions	39mm x 33mm x 2.75mm (excluding height of the bottom shielding case)
OS Support	Android 13 & LU; LE (Planning)

1) FTGA=Fused Tin Grid Array, featuring pre-fused tin solder pads, enabling reliable surface-mount interconnections through reflow soldering.

#: The SOM operating temperature shall not exceed relevant IC temperature scope.

*: Planning

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SQC6490 Development Kit Specifications



Category	SQC6490 Development Kit
SOM on board	SQC6490 SOM
Display Interfaces	1 x HDMI OUT 1 x DP V1.4 (Over Type-C)
Audio Interfaces	1 x Speaker OUT 1 x HDMI IN with Audio (Over I2S interface) 1 x HDMI OUT with Audio (Over I2S interface)
Camera Interface	3 x 4-lane D-PHY Camera 2 x GMSL
General Interfaces on Mother Board	1 x USB 3.1 Type-C 7 x USB 3.0 Type-A 2 x Micro USB for debug (one for 5G/LTE moudle debug) 1 x SDIO Wi-Fi 5 module 2 x 1000M Ethernet Port 1 x M.2 for 5G/LTE 5G module 1 x HDMI OUT 1 x HDMI IN 2 x DMIC connector, support up to 6 DMICs 2 x DB9 connectors (for RS232 and RS485 respectively) 1 x CAN 1 x HS connector 1 x 3.5mm connector 1 x Fan connector
Power Supply	12V DC in jack
Operating Environment	Operating Temperature: -35℃ ~ + 75℃
Dimensions	150mm x 200mm
OS Support	Android 13 & LU

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