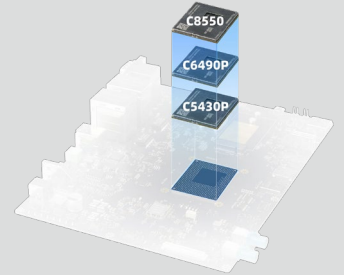


TURBO X C6490P SOM



Universal Carrier Board

TurboX C6490P 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). TurboX C6490P 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.

TurboX C6490P SOM is pin-to-pin compatible with the TurboX C8550 SOM, with a more compact design and smaller size. It forms a high-AI performance module series matrix with the C8550 SOM, accelerating customer product iteration cycles and saving secondary development costs.

Applications



Rugged Handheld



Rugged Tablet



Edge Computing

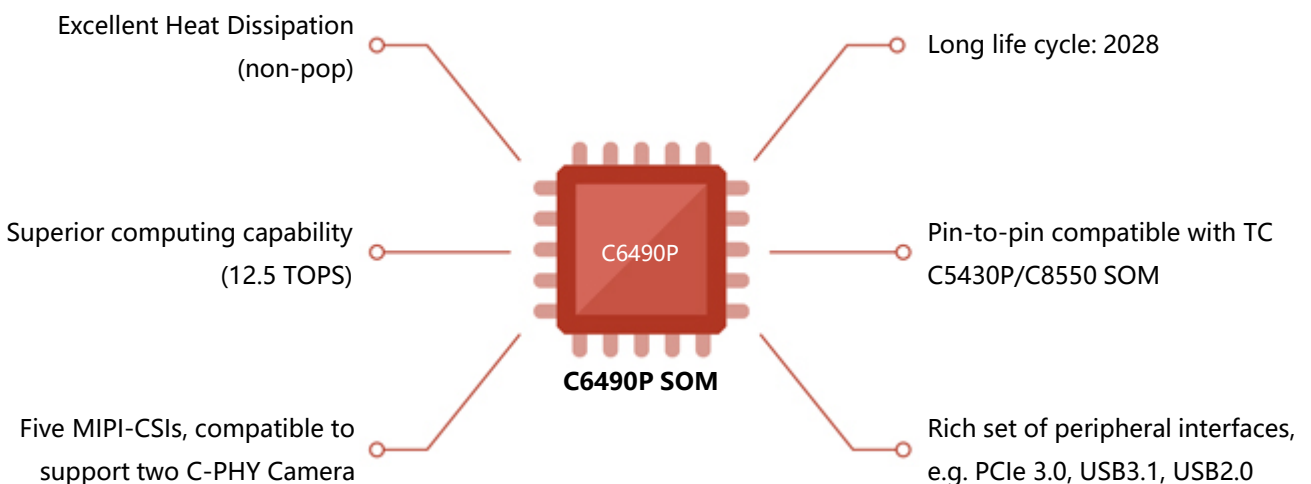


Service Robot



Industrial Robot

Features



TurboX C6490P SOM Specifications

Category	C6490P 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	Operation Temperature: -35°C ~ +75°C # Operation Humidity: 5%~95%, non-condensing
Form Factor	LGA
Certification	RoSH*/REACH*
Voltage	3.4V~4.5V
Dimensions	39mm x 33mm x 2.75mm (excluding height of the bottom shielding case)
Operating System	Android 13 & Ubuntu; LE (Planning)

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

*: Planning

TurboX C6490P Development Kit Specifications

Category	C6490P Development Kit
SOM on board	TurboX C6490P 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 module 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	Operation Temperature: -35°C ~ + 75°C Operation Humidity: 5% ~ 95%, non-condensing
Dimensions	150mm x 200mm
OS Support	Android 13 & Ubuntu



General Interfaces on Mother Board

