Thundercomm

TURBOX

C6490 SOM

TurboX C6490 SOM (System on Module) is integrated with Qualcomm® QCS6490 SoC, a 6nm processor with superior performance, power efficiency and powerful computing (12.5 TOPS). It supports 4K@60FPS video decoding, 4K@30FPS video encoding, Wi-Fi 6E with DBS, Long Range Bluetooth, five MIPI CSIs, as well as a rich set of peripheral interfaces, including GPIO, UART, I2C, I3C, SPI, DSI, USB 3.1 and PCIe. C6490 SOM is a high performance AIoT SOM for building handheld devices, industrial robots, service robots, rugged tablet and edge computing, providing customers with hardware interfaces and software SDK to validate functions and build the prototype quickly.

Applications

Rugged Handheld	Rugged Tablet	Edge Computing	Service Robot	Industrial Robot

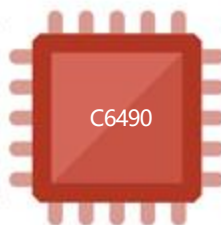## Features

6nm, power efficiency

Superior computing capability (12.5 TOPS)

5 x 4-lane MIPI CSI D-PHY
(2 of them compatible with 3-trio MIPI CSI C-PHY up to 48M camera)

C6490

Wi-Fi 6E with DBS,
BT5.2 with Long Range Bluetooth

Long life cycle, up to 2028

Rich set of peripheral interfaces,
e.g. PCIe 3.0, USB3.1, USB2.0, DSI

Specifications

Category	C6490
Platform	Qualcomm® QCS6490 Qualcomm® Kryo™ CPU 670 Qualcomm® Adreno™ GPU 642L, 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	6GB+128GB or 8GB+128GB
Connectivity	802.11 ax over PCIe with DBS, 2x2 MIMO (Wi-Fi 6E), Bluetooth 5.2
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+ (1080x2520) 8L@144FPS; 4K@60FPS display support over DisplayPort
Camera Interfaces	5 x 4-lane MIPI CSI D-PHY (2 of them compatible with 3-trio MIPI CSI C-PHY up to 48M camera)
Peripherals	1 x USB 3.1 with DP, 1 x USB2.0, 1 x PCIe Gen3 2-lane, 2 x SoundWire, 1 x SDC for SD card, 3 x DMIC Interfaces, GPIOs, QUPs (UART/I2C/SPI)
Operating Environment	Operation Temperature: -25°C ~ +75°C # Operation Humidity: 5%~95%, non-condensing
Form Factor	LGA
Certification	FCC/CE/JATE*/TELEC*/KC*
Voltage	3.4V~4.5V, Typ. 3.8V
Dimensions	42.5mm x 35.5mm x 2.7mm
Operating System	Android 12/13, Ubuntu

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

*: Planning

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