
Radxa rCore-Q6490

Compact BGA SoM Powered by Qualcomm QCS6490

Draft 0.8

2026-07-10



Radxa Computer



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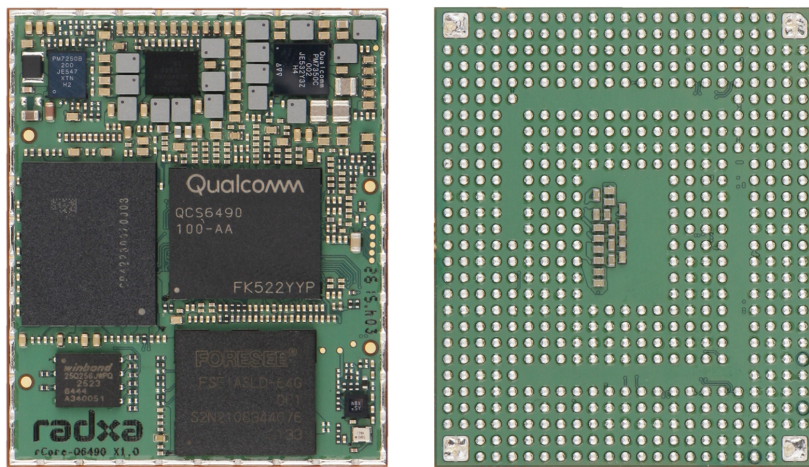
1 Revision Control Table

Version	Date	Changes from previous version
0.8	2026-07-10	First release

2 Introduction

Radxa rCore-Q6490 is a compact, energy-efficient System-on-Module based on the Qualcomm® Dragonwing™ QCS6490 platform, integrated into a 540-ball BGA package.

Built on a 6 nm process, it combines an 8-core Kryo 670 CPU, Adreno 643 GPU, and Hexagon AI Engine with up to 12 Dense TOPS. With USB 3.1 Gen 1, PCIe Gen 3, and up to 5 MIPI CSI cameras, it delivers strong compute and flexible high-speed I/O in a compact 42 mm × 36 mm form factor.



3 Specification

Product Name	Radxa rCore-Q6490
SoC	Qualcomm® Dragonwing™ QCS6490
CPU	Qualcomm® Kryo™ 670 CPU - 8-core CPU - 1x Kryo Gold Prime @ 2.7 GHz - 3x Kryo Gold @ 2.4 GHz - 4x Kryo Silver @ 1.9 GHz - 64-bit CPU Architecture - 6 nm Process Technology
GPU	Qualcomm® Adreno™ 643 GPU - OpenGL ES 3.2 - OpenCL 2.0 - Vulkan 1.x - DirectX 12
AI Performance	Qualcomm® Hexagon™ 770 - Up to 12 Dense TOPS - Dual HVX + Hexagon CP 2.0 + Hexagon Tensor Accelerator
Codec	Qualcomm® Adreno™ 633 VPU - Video decode: up to 1x 4K@60 / 2x 4K@30 / 4x 1080p60 (H.264 / H.265 / VP9) - Video encode: up to 1x 4K@30 / 4x 1080p30 (H.264 / H.265) - Video concurrency: 1080p60 decode + 1080p60 encode / 4K@30 decode + 1080p30 encode - HDR playback: HDR10 / HDR10+
PCIe	PCIe Gen3

	- 1× PCIe Gen3 ×2, for NVMe SSD expansion - 1× PCIe Gen3 ×1, for wireless expansion
Memory	LPDDR5 - Capacity: Up to 16 GB - Memory bus width: 32-bit (2 channels × 16-bit)
Storage	On module eMMC 5.1 microSD via SDIO 3.0 UFS via UFS 3.1 NVMe over PCIe
Display	Qualcomm® Adreno 1075 DPU - 1× 4-lane eDP / DisplayPort - 1× 4-lane MIPI DSI
Camera	Qualcomm® Spectra™ 570L ISP - 5× 4-lane MIPI CSI - Up to 64 MP @ 30 fps ZSL
USB	1× USB 3.1 Gen 1 (5 Gbps) with DisplayPort Alt Mode 1× USB 2.0
Audio	Qualcomm® Low-Power Audio Subsystem (LPASS) - SoundWire codec bus for external audio codec and smart amplifier
Connectivity	QUP - Supports I2C / I3C / SPI / UART serial interfaces
Package	540-ball BGA
Temperature	0°C to 60°C

4 Software Support

- Radxa OS
- Ubuntu
- Deepin
- Yocto
- ...

5 Mechanical Specification

42 mm × 36 mm

6 Availability

Radxa guarantees availability of the Radxa rCore-Q6490 until at least June 2036.

Note: Component shortages or third-party supplier discontinuations may affect actual delivery times.

7 Support

For support, please refer to the hardware documentation section of the [Radxa Documentation Center](#) and post questions to the [Radxa Forum](#).