Radxa CM-Q64 Product Brief

Built for Edge AI, Powered by Qualcomm QCS6490

Draft 0.9

2026-05-09

Radxa Computer

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1 Revision Control Table

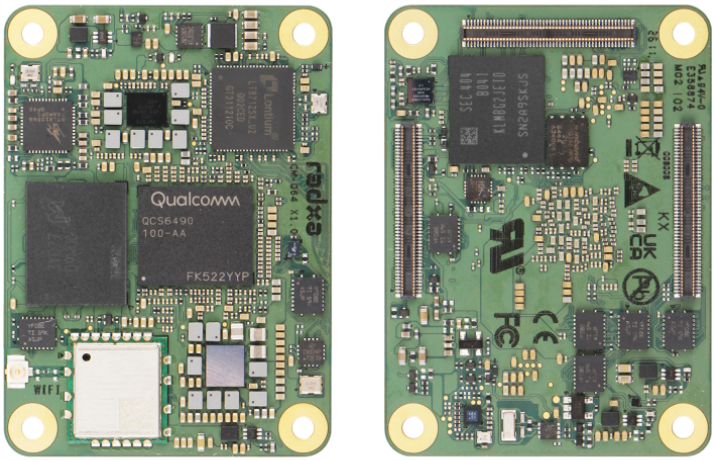
Version	Date	Changes from previous version
0.8	2026-03-25	Draft version
0.9	2026-04-09	Update product brief with enhanced Introduction and specification

2 Introduction

The Radxa CM-Q64 is a compute module based on the Qualcomm Dragonwing QCS6490 platform, designed for commercial IoT, edge computing, robotics, and embedded vision applications. Built on 6nm process technology with an 8-core Kryo 670 CPU (up to 2.7GHz) and Qualcomm Hexagon 770 NPU delivering 12 TOPS of AI compute, the CM-Q64 brings flagship-class performance to space-constrained modular designs.

Featuring LPDDR5 memory up to 16GB, 4K video encoding/decoding capabilities, triple ISP for multi-camera support, and a comprehensive suite of connectivity options including 2.5GbE, Wi-Fi 6, and USB 3.2, the CM-Q64 provides a powerful and flexible foundation for next-generation edge AI products. The 55mm × 40mm form factor and 5V DC power input make it ideal for compact, power-efficient designs.

The CM-Q64 supports Qualcomm Linux, Windows, and Ubuntu, enabling rapid development and deployment across diverse application scenarios.



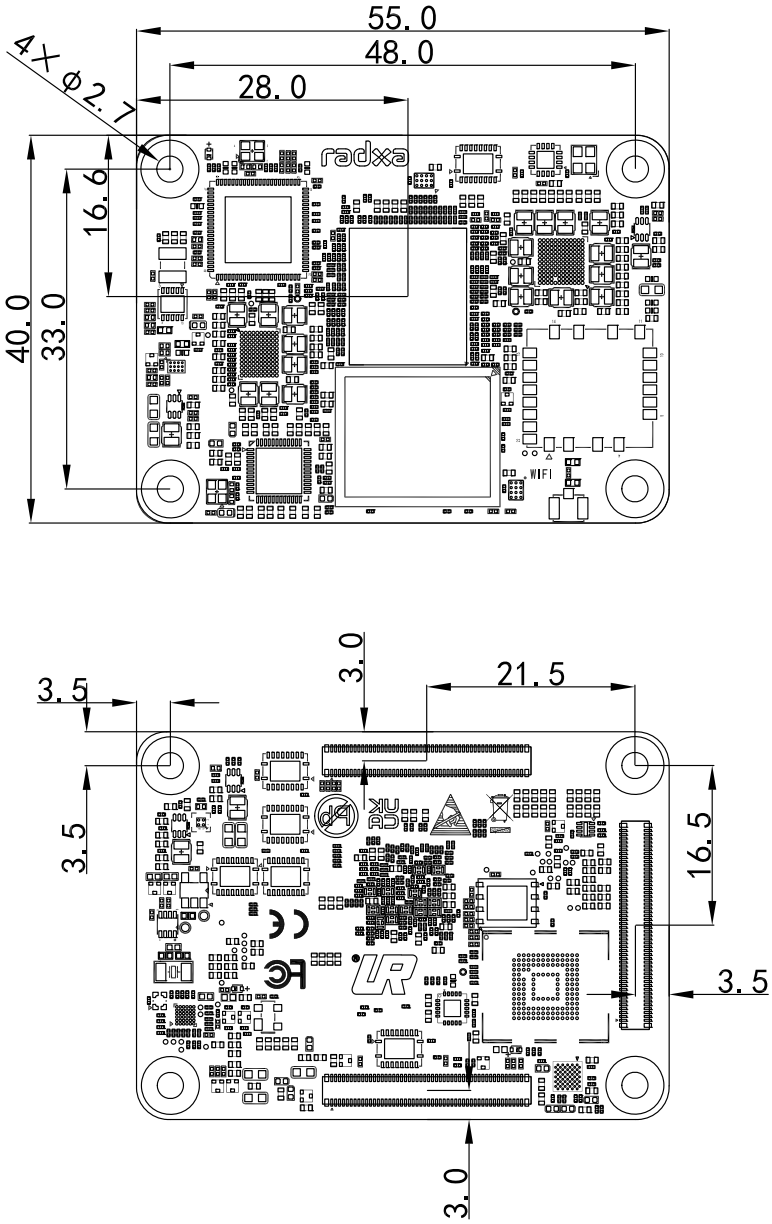
3 Specification

Product Name	Radxa CM-Q64
SoC	Qualcomm Dragonwing QCS6490
CPU	8-core Kryo 670 CPU - 1x Kryo Gold Prime @ 2.7 GHz - 3x Kryo Gold @ 2.4 GHz - 4x Kryo Silver @ 1.9 GHz - 6nm process
AI Performance	Qualcomm Hexagon 770 - 12 TOPS dense compute - Dual HVX + Hexagon CP 2.0 + Hexagon Tensor Accelerator
GPU	Qualcomm Adreno 643 GPU @ 812 MHz - OpenGL ES 3.2 - OpenCL 2.0 - Vulkan 1.x - DirectX 12
Memory	LPDDR5 - Capacity: Up to 16GB - Data rate: Up to 5500 MT/s - Bus width: 32-bit (2 channels × 16-bit)
Codec	Qualcomm Adreno 633 VPU - Decoding: 1×4K60 / 2×4K30 / 4×1080p60 (H.264 / H.265 / VP9) - Encoding: 1×4K30 / 4×1080p30 (H.264 / H.265) - Concurrent: 1080p60 decode + 1080p60 encode / 4K30 decode + 1080p30 encode

	- HDR: HDR10 / HDR10+
Display	Qualcomm Adreno 1075 DPU - 1× DP 1.4 (up to 4K60) - 1× HDMI 2.0 (up to 4K60) - 1× MIPI DSI (4-lane) - Up to dual independent displays
Camera	Qualcomm Spectra 570L ISP (Triple ISP) - 2× MIPI CSI (2-lane) - 1× MIPI CSI (4-lane, configurable as 2-lane + 1-lane or 1-lane + 1-lane) - Up to 4 camera inputs depending on lane allocation and software support
Storage	microSD expansion (SDIO 3.0) Onboard eMMC 5.1 or UFS 3.1 (Optional) NVMe expansion (PCIe Gen3 ×2)
Networking	Onboard Ethernet controller (1GbE or 2.5GbE optional) Onboard FCU760K wireless module (Wi-Fi 6 + BT 5.4, optional)
USB	USB 3.2 Gen 1 USB 2.0
Audio	Qualcomm Hexagon DSP (1980 MPPS) + WCD9385 audio codec - Supports headphone output and microphone input
Connectivity	Supports UART, I2C, SPI, PWM, GPIO
Connector	3× 100-pin B2B Connector
Power	5V DC

Operating System	Qualcomm Linux Windows Ubuntu
Dimension	55 mm × 40 mm
Longevity	July 2036

4 Mechanical Specification



Unit: mm

5 Availability

Radxa guarantees availability of the Radxa CM-Q64 until at least July 2036.

6 Support

For support, please refer to the hardware documentation section of the Radxa Documentation Center and post questions to the Radxa Forum.