
Radxa rCore-Q8550

SoM Powered by Qualcomm QCS8550

Revision 1.0

2026-09-11



Radxa Computer



Contents

1	Revision Control Table	2
2	Introduction	3
3	Specification	4
4	Software Support	6
5	Mechanical Specification	7
6	Availability	8
7	Support	8

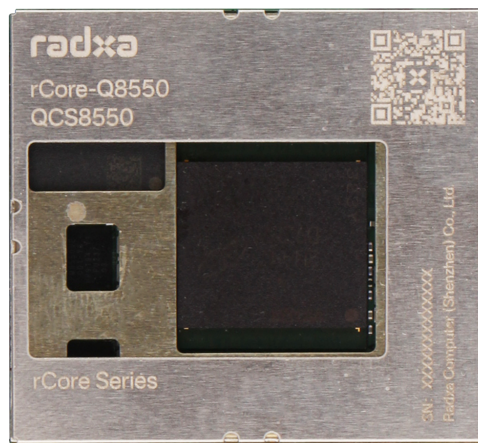
1 Revision Control Table

Version	Date	Changes from previous version
0.8	2026-07-01	First release
0.9	2026-07-13	Update introduction and related specifications
1.0	2026-09-11	Update specifications

2 Introduction

Radxa rCore-Q8550 is a high-performance SoM powered by Qualcomm® Dragonwing™ QCS8550 in a compact 36 × 32 mm footprint. It combines an 8-core Kryo™ CPU and Adreno™ 740 GPU with up to 16 GB LPDDR5X memory and 128 GB UFS 3.1 storage. An optional AI configuration delivers up to 48 Dense INT8 TOPS for edge AI, machine vision, and industrial terminals.

The module supports multiple camera inputs, up to 8K60 video decoding and 8K30 encoding, plus PCIe, USB 3.1 Gen 2, and peripheral interfaces for storage, display, and capture expansion. Support for Radxa OS and Ubuntu provides a foundation for embedded product development and integration.



3 Specification

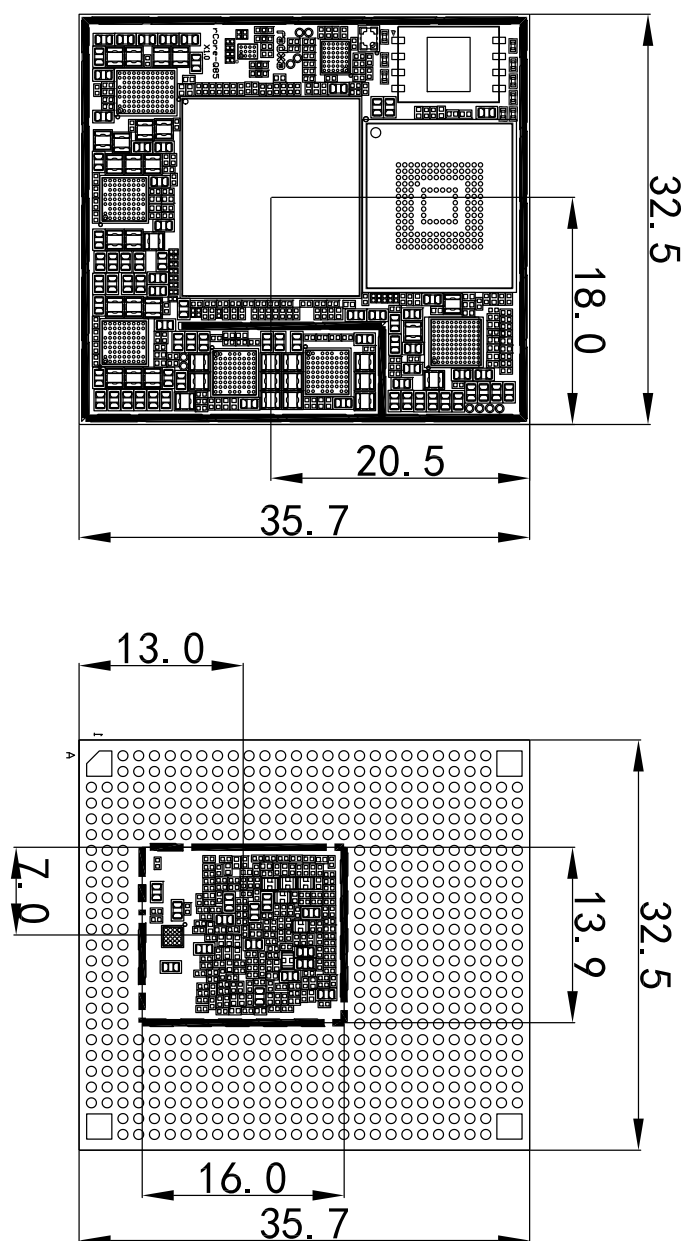
Product Name	Radxa rCore-Q8550
SoC	Qualcomm® Dragonwing™ QCS8550
CPU	8-core Qualcomm® Kryo™ CPU - 1× GoldPlus @ up to 3.2 GHz - 4× Gold @ up to 2.8 GHz - 3× Silver @ up to 2.0 GHz - 64-bit architecture - 4 nm process
NPU (Optional)	Qualcomm® Hexagon™ AI Processor - Dual eNPU V3, 4× HVX and HMX - Up to 48 Dense INT8 TOPS Optional configuration without NPU
GPU	Qualcomm® Adreno™ 740 GPU - Hardware-accelerated ray tracing - OpenGL® ES 3.2 - Vulkan® 1.2 - OpenCL™ 3.0 Full Profile - Adreno NN Direct
Memory	Up to 16GB LPDDR5X
Codec	Qualcomm® Adreno™ VPU - Video decode: H.265, H.264, VP9 and AV1, up to 4K240 or 8K60 - Video encode: H.264 and H.265, up to 4K120 or 8K30
Display	Qualcomm® Adreno 1295 DPU - 2× 4-lane MIPI DSI

	- DP 1.4 over USB-C, up to 2x 4K60 with MST
Camera	Qualcomm® Spectra™ ISP - Up to 6x 4-lane MIPI CSI - Up to 108 MP @ 30 fps ZSL - Up to 200 MP non-ZSL snapshot
Storage	On-module 128 GB UFS 3.1 On-module 32 MB SPI NOR Flash microSD: SD 3.0 interface NVMe: NVMe support through PCIe
PCIe	1x PCIe Gen 4 x2 1x PCIe Gen 3 x2
USB	USB 3.1 Gen 2, up to 10 Gbps - USB-C with DisplayPort 1.4 Alt Mode - eUSB 2.0
Audio	Qualcomm® Hexagon™ V73M dual-cluster, 4-thread DSP - SoundWire - DMICs
GPIO	QUP - Support UART, I2C, I3C, SPI
Operating System	Radxa OS Ubuntu ...
Package	516-Ball BGA Package
Dimension	36 × 32 mm

4 Software Support

- Radxa OS
- Ubuntu
- ...

5 Mechanical Specification



Unit: mm

6 Availability

Radxa guarantees availability of the Radxa rCore-Q8550 until at least 2033.

7 Support

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