

Experience Open-Source Innovation with ArmSoM's RK3588 AI Module7: The Alternative to Nvidia Jetson Nano

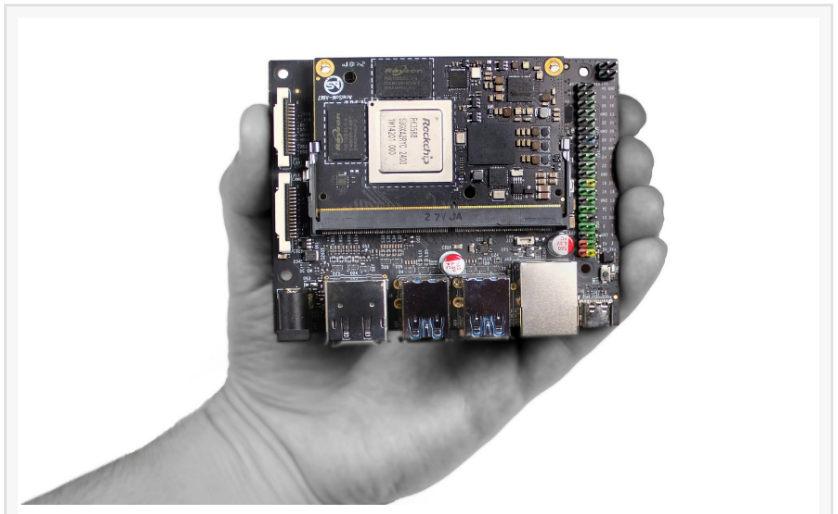
A low-power AI module prides itself on offering enhanced connectivity, a high-performance CPU, and a specialized NPU accelerator.

SHENZHEN, CHINA, August 15, 2024 /EINPresswire.com/ -- [ArmSoM](https://www.armso.com) is excited to announce the launch of its crowdfunding campaign for the [RK3588 AI Module7](#), a powerful AI development module designed for a wide range of applications including edge computing, AI, and high-performance computing clusters.

The RK3588 AI Module7, featuring the Rockchip RK3588 processor, offers unparalleled performance with its octa-core CPU architecture and 6 TOPS NPU, ensuring seamless execution of intensive AI algorithms. With support for up to 32 GB of LPDDR4X memory and advanced video encoding/decoding capabilities up to 8K resolution, this module is poised to redefine the possibilities in AI development.

The RK3588AIModule7 outperforms the Jetson Nano with:

- A faster CPU, delivering 4 times the performance
- Ample LPDDR4X memory, 8 times greater than Jetson Nano
- Advanced codec capabilities, 4 times more powerful



RK3588 AI Module7 & carrier board

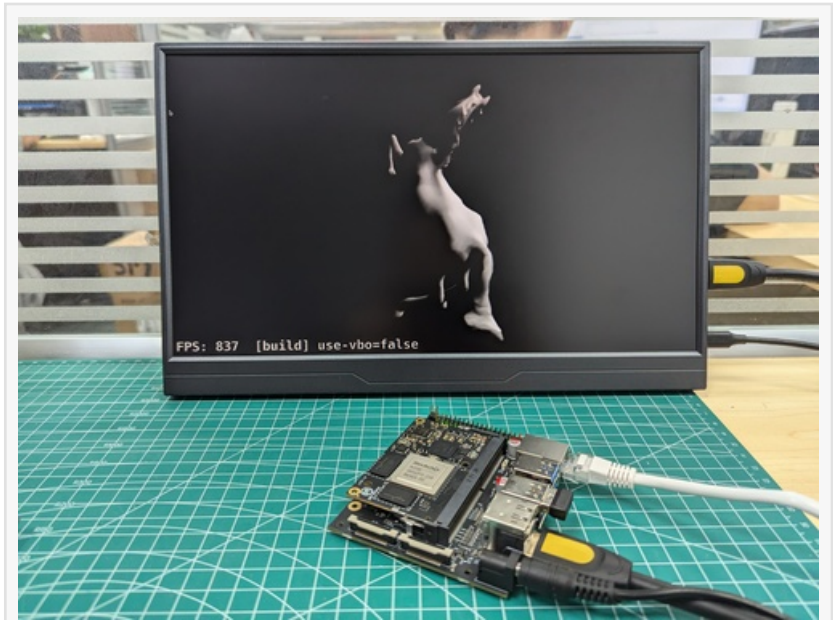
Comparisons		
Specifications	ArmSoM RK3588 AI Module7 (Rockchip)	Jetson Nano (NVIDIA)
CPU Cores	Quad-core ARM Cortex-A76 + Quad-core ARM Cortex-A55	Quad-core ARM Cortex-A57 processor
GPU Cores	ARM Mali-G610 MP4	T28-core Maxwell GPU
Memory	8 GB/32 GB LPDDR4x, 2112 MHz	4 GB LPDDR4, 1600 MHz
Storage	microSD card, 32GB eMMC 5.1 flash storage	microSD card, 16GB eMMC 5.1 flash storage
Video Encoding	8K@30 fps H.265 / H.264	1x 4K@30 (HEVC), 2x 1080p@60 (HEVC), 4x 1080p@30 (HEVC)
Video Decoding	8K@60 fps H.265/VP9/AVS2, 8K@30 H.264 AVC/MVC, 4K@60 fps AV1, 1080P@60 MPEG-2-1/VC-1/VP8	1x 4K@60 (HEVC), 2x 4K@30 (HEVC), 4x 1080p@60 (HEVC), 8x 1080p@30 (HEVC)
USB Ports	1x USB 3.0, 3x USB 2.0	1x USB 3.0, 3x USB 2.0
Ethernet	1x 10/100/1000 BASE-T	1x 10/100/1000 BASE-T
CSI Interfaces	12 channels (4x2) MIPI CSI-2 D-PHY1.1 (18 Gbps)	12 channels (3x4 or 4x2) MIPI CSI-2 D-PHY 1.1 (18 Gbps)
I/O	3 UARTs, 2 SPIs, 2 I2S, 4 I2Cs, multiple GPIOs	3 UARTs, 2 SPIs, 2 I2S, 4 I2Cs, multiple GPIOs
PCIe	1x 1/2/4 lane PCIe 3.0 & 1x 1 lane PCIe 2.0	1x 1/2/4 lane PCIe 2.0
HDMI Output	1x HDMI 2.1 / 1x eDP 1.4	1x HDMI 2.0
DP Interface	1x DP 1.4a	1x DP 1.2
eDP/DP Interface	1x eDP 1.4	1x eDP 1.4 / 1x DP
DSI Interface	1x DSI (1x2) 2 sync	1x DSI (1x2) 2 sync
OS Support	Debian, Ubuntu, Armbian	NVIDIA JetPack software suite

RK3588 AI Module7 comparison table provided by ArmSoM

- State-of-the-art high-speed interfaces, fully upgraded for PCIe, HDMI, and DP
- Comprehensive support for a variety of mainstream operating systems, including but not limited to Debian, Ubuntu, and Armbian

The RK3588AIModule7: an ideal high-performance, low-power AI development module, seamlessly compatible with the Jetson Nano ecosystem.

To fully harness the connectivity features of the RK3588 AI Module7, ArmSoM has crafted a carrier board, echoing the NVIDIA Jetson Nano Developer Kit's layout but enhancing it with extra connectivity options to maximize Module7's capabilities. ArmSoM is committed to publishing the board's schematics as part of the upcoming crowdfunding campaign, though the licensing details are yet to be disclosed.



RK3588AIModule7 in carrier board working scene provided by ArmSoM

Preliminary specifications listed for the AIM-IO carrier board:

-Memory/Storage:

- Up to 32GB LPDDR4x RAM, 2112 MHz
- Up to 32GB eMMC 5.1
- 1x MicroSD card slot

Audio/Display:

- 1x DisplayPort
- 1x HDMI-out
- 1x 4 lanes MIPI DSI up to 4K@60fps

Camera:

- 2x 2 lanes MIPI CSI
- 1x 4 lanes MIPI CSI

Connectivity:

- 1x Gigabit Ethernet port

Expansion:

- 1x M.2 slot (E-key, PCIe/USB/SDIO/UART)

I/O Interfaces:

- 40-pin GPIO expansion header

USB:

- 4x USB 3.0 Type-A

Power:

- 5V (via Barrel jack)

Mechanical:

- 100 x 80 x 29 mm

For further insights into the RK3588 AI Module7 and to stay updated on the crowdfunding initiative, visit and subscribe at the project's Crowd Supply page prior to the campaign's launch.

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