

reComputer RK 35xx Series

An Open Source Rockchip AI Box for AI Application



Features

-  **RK3576/RK3588** 8-core 64-bit high-performance CPU
-  **6 TOPS NPU** for INT4/INT8/INT16/FP16 computing
-  **8K@60HZ Video Codec** for professional vision
-  **Modular PCIe Expansion** for storage and AI compute
-  **One-click AI Deployment** via Seeed reComputer AI Lab
-  **Onboard Wi-Fi 6 & BT5.4** ; supports 4G, LoRaWAN, and Wi-Fi HaLow

Specification

		reComputer RK3576	reComputer RK3588
SoC		Rockchip RK3576	Rockchip RK3588
	CPU	4x Cortex-A72@2.2GHz + 4x Cortex-A53@2.0GHz	4x Cortex-A76@2.4GHz + 4x Cortex-A55@1.8GHz
	GPU	ARM Mali-G52 MC3	ARM Mali-G610 MC4
	NPU	INT8@6TOPS; Supporting INT4/8/16/FP16/BF16/TF32 mixed operations	
RAM		LPDDR5: 4GB / 8GB / 16GB	LPDDR5: 8GB / 16GB / 32GB
Video Encoder		H.264 / H.265 multivideo encoder up to 4K@60fps	H.264 / H.265 multivideo encoder up to 8K@30fps
Video Decoder		H.265 / H.264 / AV1 / AVS2 multivideo decoder up to 8K@30fps	H.265 / H.264 / AV1 / AVS2 multivideo decoder up to 8K@60fps
Storage		1x microSD Card Slot; 1x SPI Flash for Bootloader	1x microSD Card Slot; 1x SPI Flash for Bootloader
Ethernet		1x Gigabit Ethernet; 1x Gigabit Ethernet with PoE support(Additional PoE Module Required)	1x 2.5 Gigabit Ethernet; 1x 2.5 Gigabit Ethernet with PoE support(Additional PoE Module Required)
		Onboard WiFi6 & BT5.4 with FPC Antenna	
		1x miniPCIe for 4G/LoRaWAN/Wi-Fi Halow	
		1x SIM Card Socket	
PCIe	M.2 Key M 2280	PCIe2.1x 1 for NVMe SSD or AI Accelerator	PCIe3.0x 4 for NVMe SSD or AI Accelerator
	M.2 Key M 2242	-	PCIe2.1x 1 for NVMe SSD or AI Accelerator
I/O	USB	1x Type A USB 3.0; 3x Type A USB 2.0; 1x Type C for OTG & DP	4x Type A USB 3.0; 1x Type C for OTG & DP
	CSI Camera	2x 4-lane MIPI CSI(22pin)	
	Display	1x HDMI2.1; 1x DP1.4 via USB Type C port; 1x 4-lane MIPI DSI(22pin)	2x HDMI2.1; 1x DP1.4 via USB Type C port; 1x 4-lane MIPI DSI(22pin)
	Video Input	-	1x HDMI2.0
	Audio	1x 3.5mm Headphone Jack with Microphone Input	
Miscellaneous	Button	1x Power; 1x Recovery; 1x MaskROM	
	LED	1x Power; 1x Status; 1x User;	
	RTC	1x 2-PIN Header	
	FAN	1x 4-PIN Header	
	GPIO	1x 40-Pin Expansion header	
Power Supply		9V-19V DC	
Dimension (W x D x H)		123mm x 93mm x 51mm(PCBA: 115mm x 85mm)	
Warranty		1-year	
Operating Conditions		0 ~ 60°C	0 ~ 55°C
Compliance Certification		FCC/CE/TELEC/RoHS	

reComputer RK 35xx Series

An Open Source Rockchip AI Box
for AI Application



Only
\$99
with 4GB RAM

RK3588 / RK3576



Quad-core Cortex-A76
+ Quad-core Cortex-A55



Arm Mali-GPU



LPDDR5 up to 32G

6 TOPS NPU

Powerful On-Device AI Performance



YOLOv11 @ 60FPS (640x640)



DeepSeek-R1-7b



Qwen2.5-vl 3b



STT: Whisper-base 2.0s (RTF 0.215)
Support real-time processing



TTS (Text-to-Speech):
rms tts eng 200 (RTF 0.069)
Support real-time processing

Extend AI Performance
with PCIe 3.0



M.2 M Key

26TOPS



ARMBIAN
pre-installed

Multiple OS
Support

Simultaneous 4-Display Output

HDMI 2.1 | DP1.4 | MIPI DSI | Type-C

Up to 8K@30fps
H.265/H.264
Video Encoder

Up to 8K@60fps
H.265/H.264/VP9/AVS2
Video Decoder

Rich Connectivity



Wi-Fi 6



Bluetooth 5.0



PoE



4G



LoRaWAN



2 x 2.5GbE



SIM Card

Rich Interfaces for Expansion

MIPI-CSI, MIPI DSI, DP1.4, USB3.0,
PCIe3.0, CAN FD, HDMI2.1,
Type C, M.2 Key, UART, PWM, I2C, SPI

Ready for Real-world AI Applications



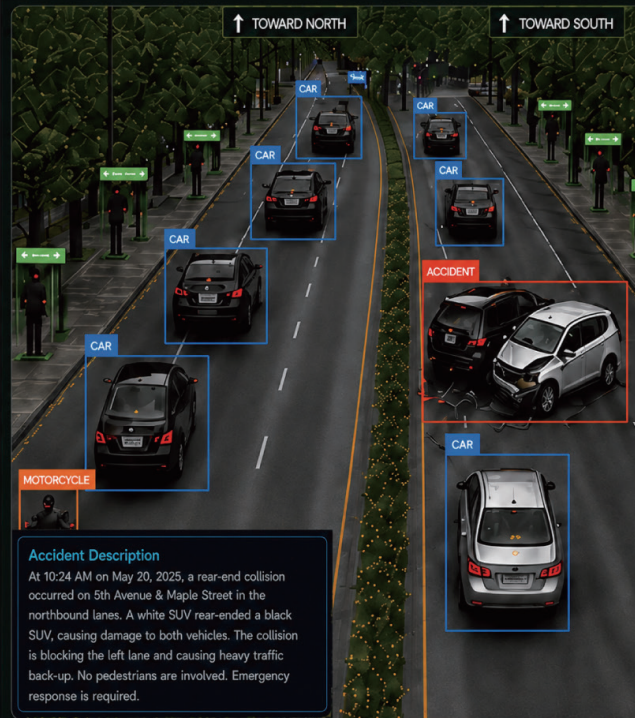
Perception AI



Generative AI



Physical AI



Accident Description

At 10:24 AM on May 20, 2025, a rear-end collision occurred on 5th Avenue & Maple Street in the northbound lanes. A white SUV rear-ended a black SUV, causing damage to both vehicles. The collision is blocking the left lane and causing heavy traffic back-up. No pedestrians are involved. Emergency response is required.

TRAFFIC STATUS OVERVIEW

Weather Condition: Clear
People Detected: 15
Congestion Level: High
Traffic Collision: Yes
Emergency Vehicle Detected: No

AI AGENT DECISION & ACTION

Incident Summary

Time: May 20, 2025 10:24 AM
Location: 5th Avenue & Maple Street
Incident: Rear-end collision between a black SUV and a silver sedan. No pedestrian involved.
Impact: Left lane blocked. Traffic slowing.

AI Decision

Immediately alert, dispatch emergency response required. Divert traffic and clear accident.

Actions Taken

Traffic Ambulance Status: Calling...
 Call Police Status: Calling...

Model Support

YOLO

MobileNet

RetinaFace

CLIP

Whisper

DeepSeek-R1

...

Framework Support: ONNX / PyTorch / TensorFlow / Caffe | Toolchain: RKNN-Toolkit2

reComputer AI Lab

One-Click Deployment Get Started in **Seconds**.

No configuration. No complexity. Just one command.

Docker

```
sudo docker run -it --privileged \
  --net=host \
  --device /dev/dri \
  --device /dev/dma,heap \
  ghcr.io/seeed-projects/rk3576-deepseek-r1-distill-qwen:1.5b-fp16-latest
```



100+
AI Models
Ready to Use



One-Click
Docker
Deployment



Comprehensive
Tutorials & Guides



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