



# EC-A3576JD4

Low-power Large-model Computer



V1.0 2025-11-11

T-CHIP INTELLIGENCE TECHNOLOGY



# Product features



## High-performance Octa-core 64-bit AIOT processor, RK3576

RK3576, the new octa-core 64-bit AIOT processor, features a big.LITTLE architecture (4×A72 +4×A53), an advanced lithography process, and a frequency of up to 2.2GHz. It ensures strong support for high-performance computing and multitasking.



## 4K@120fps high frame rate video decoding

It supports 4K@120fps decoding (H.265/HEVC, VP9, AVS2, and AV1), 4K@60fps decoding (H.264/AVC), and 4K@60fps encoding (H.265/HEVC and H.264/AVC).



## The private deployment of large language models

Support the private deployment of ultra-large-scale parameter models under the Transformer architecture, including large language models such as Gemma-2B, ChatGLM3-6B, Qwen-1.8B, Phi-3-3.8B. Support Docker container management technology.



## Multiple deep learning frameworks

It supports traditional network architectures such as CNN, RNN, and LSTM, and supports the import and export of RKNN models; Support a variety of deep learning frameworks, including TensorFlow, TensorFlow Lite, PyTorch, Caffe, ONNX and Darknet. It also supports the development of custom operators.

# Product features



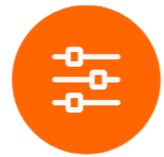
## Various operating systems

Support Android 14, Linux OS, and Buildroot. These provide safe and stable systems for product research and production.



## Industrial-grade metal enclosure with efficient fanless passive cooling

The device features an industrial-grade, all-metal enclosure with an aluminum alloy structure for efficient heat dissipation. Its fanless design contributes to silent operation, ensuring 24/7 uninterrupted and stable performance.



## Abundant expansion interfaces

Equipped with HDMI2.1, PCIe2.0, USB 3.0, RS485, RS232, CAN, TF Card, SIM Card, Type-C and other expansion interfaces, convenient for connecting various external devices.



## A wide range of applications

It is widely used in: edge computing, large model localization, smart commercial display, cloud terminal products, industrial control computer, automotive electronics and other industries.

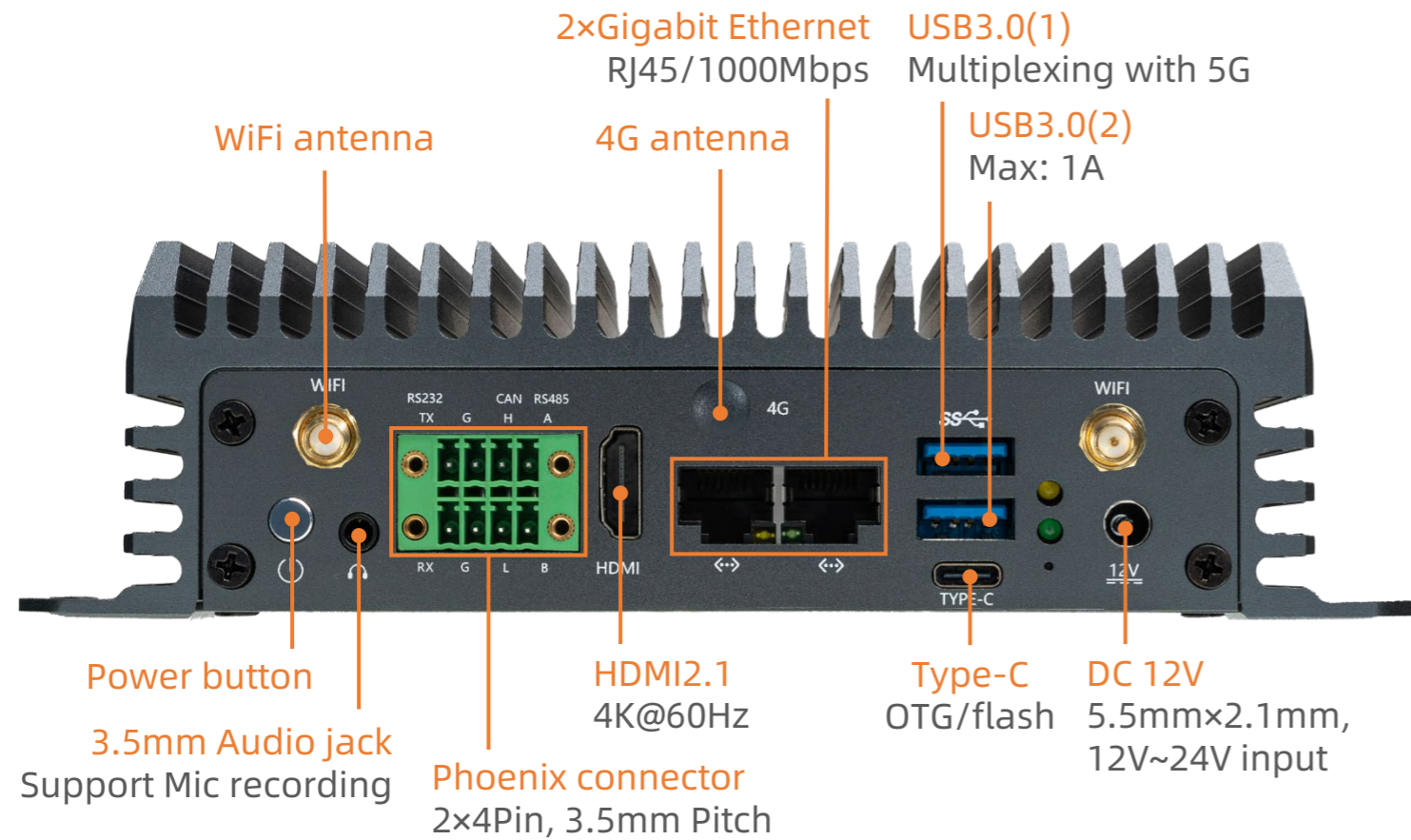
# Specifications



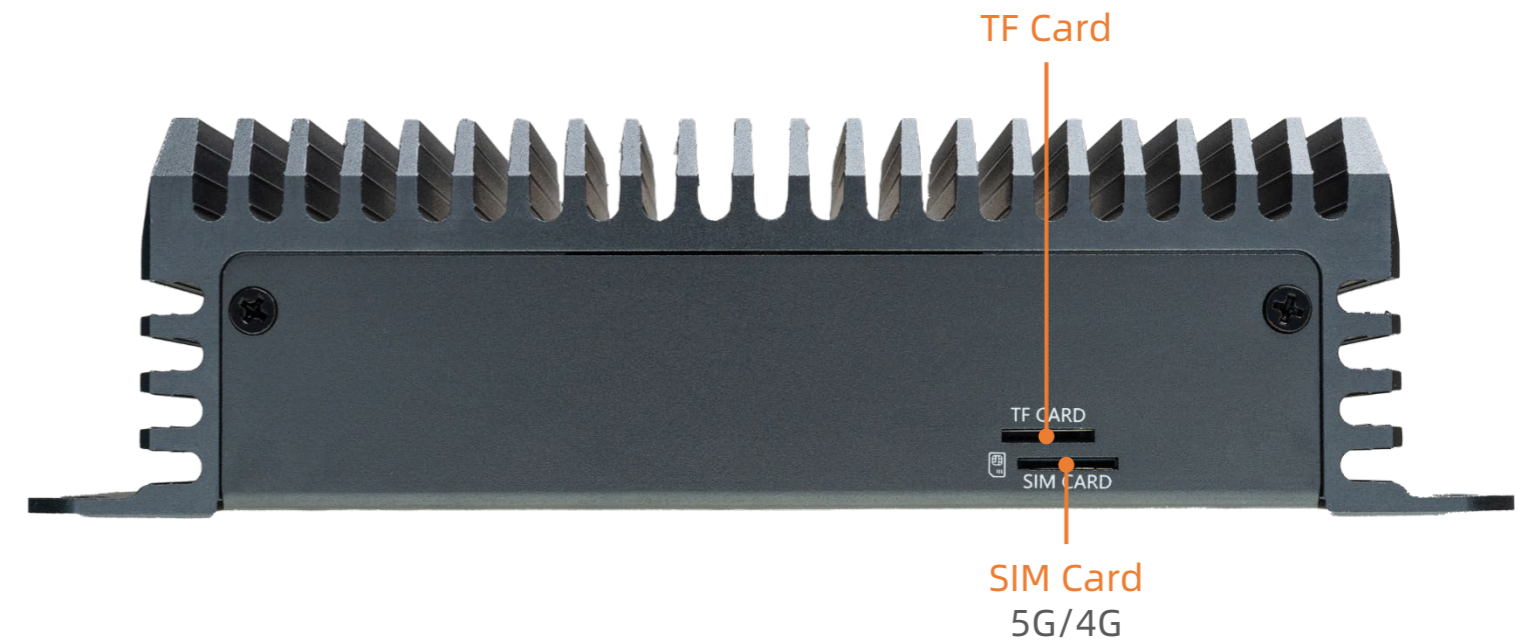
## Specifications

Specifications		
Basic Specifications	SOC	Rockchip RK3576
	CPU	Octa-core 64-bit processor (4xA72 + 4xA53), main frequency up to 2.2GHz
	GPU	G52 MC3 @ 1GHz, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, embedded high-performance 2D acceleration hardware
	NPU	6 TOPS NPU, supports INT4/8/16/FP16/BF16/TF32 mixed operations
	ISP	Built-in 16 million pixel ISP, support low-light noise reduction, support RGB-IR sensor, support up to 120dB HDR, AI-ISP to improve low-noise image effect
	Encoding/Decoding	Decoding: 4K@120fps: H.265/HEVC, VP9, AVS2, AV1, 4K@60fps: H.264/AVC Encoding: 4K@60fps: H.265/HEVC, H.264/AVC
	RAM	LPDDR4/LPDDR4x/LPDDR5 (4GB/8GB/16GB optional)
	Storage	eMMC (16GB/32GB/64GB/128GB/256GB optional), UFS2.0 (Optional)
	Storage expansion	1 × TF Card
	Power	DC 12V (5.5mm×2.1mm, support 12V~24V wide voltage input)
	Power consumption	Normal: 2.16W (12V/180mA), Max: 7.8W(12V/650mA), Min: 0.84W(12V/70mA)
	OS	Android, Linux OS, Buildroot
	Software support	<ul style="list-style-type: none"> <li>Support the privatization deployment of ultra-large-scale parametric models under the Transformer architecture, such as Gemma-2B, ChatGLM3-6B, Qwen-1.8B, Phi-3-3.8B and other large language models</li> <li>It supports traditional network architectures such as CNN, RNN, and LSTM, and supports the import and export of RKNN models; Support a variety of deep learning frameworks, including TensorFlow, TensorFlow Lite, PyTorch, Caffe, ONNX and Darknet. It also supports the development of custom operators</li> <li>Support Docker container management technology</li> </ul>
	Size	188.0mm × 88.44mm × 50.65mm
	Weight	Net weight: 0.79kg, Total weight with packaging: 1.12kg
Environment	Operating Temperature: -20°C ~ 60°C, Storage Temperature: -20°C ~ 70°C, Storage Humidity: 10% ~ 90%RH(non-condensing)	
Interface Specifications	Internet	Ethernet: 2×RJ45 (1000Mbps) WiFi: Extend WiFi/Bluetooth via M.2 E-KEY (2230), support 2.4GHz/5GHz dual-band WiFi6 (802.11a/b/g/n/ac/ax) and Bluetooth 5.2 4G: Extend 4G LTE via Mini PCIe (Shared with 5G) 5G: Extend 5G via M.2 B-KEY (Shared with 4G and USB3.0(1), not mounted by default)
	Video output	1 × HDMI2.1 (4K@60Hz)
	Audio output	1 × 3.5mm Audio jack (Support MIC recording, American CTIA standard)
	Watchdog	External watchdog
	USB	2 × USB3.0 (Max: 1A; UP: USB3.0(1), shared with 5G; DOWN: USB3.0(2))
Other interfaces	1 × Type-C (OTG/flash), 1 × SIM Card, 1 × Phoenix connector (2×4PIN, 3.5mm pitch): 1 × RS485, 1 × RS232, 1 × CAN 2.0	

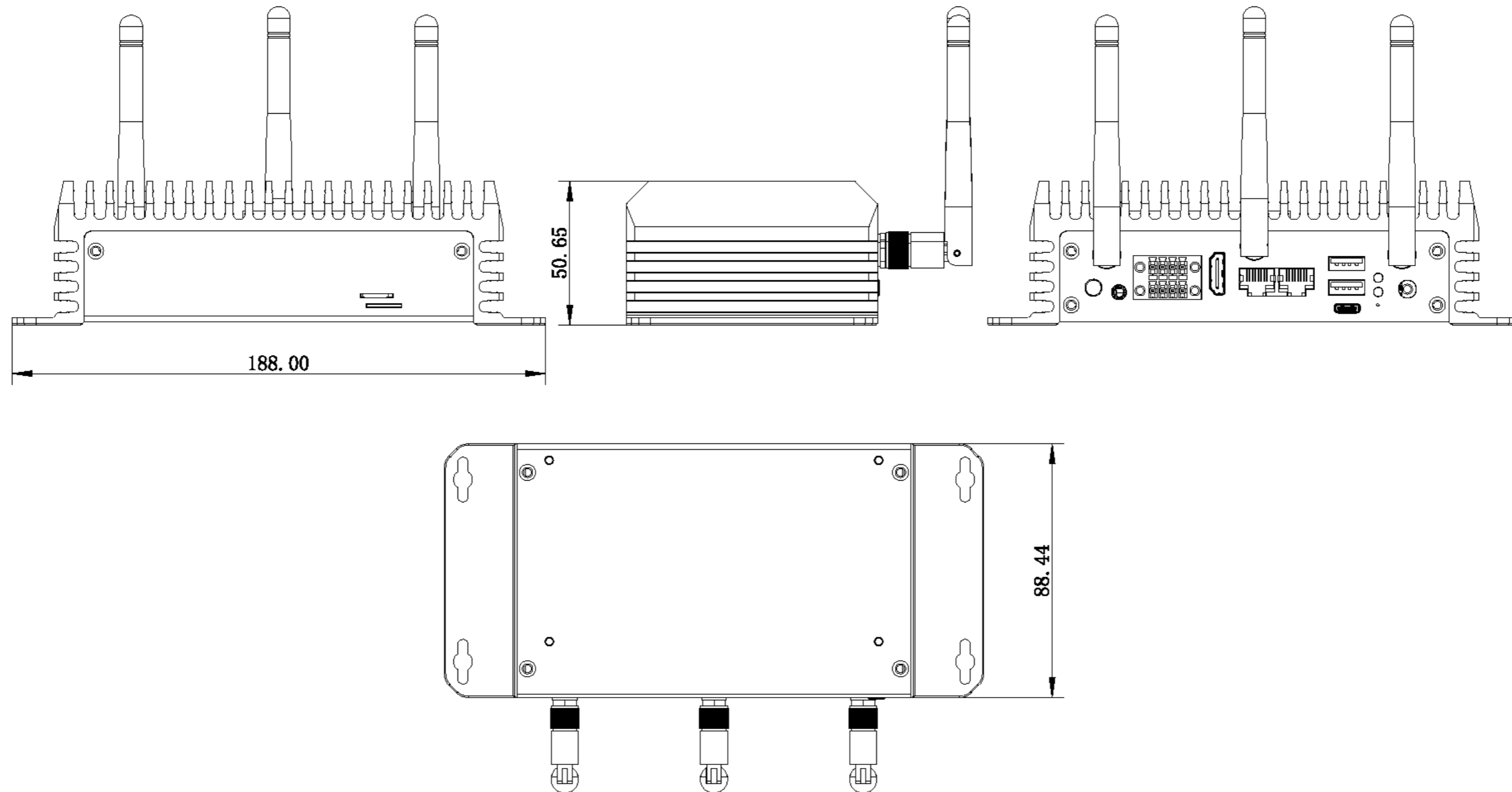
# Interface description



232-TX	GND	CAN_H	485_A
232-RX	GND	CAN_L	485_B



# Dimension





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