



EC-A8550JD4

High-performance AI Computer

V1.0 2026-3-11

FIREFLY TECHNOLOGY





Product features



High-performance AI processor QCS8550

Features an octa-core 64-bit high-performance Qualcomm Kryo CPU (QCS8550), based on the ARM architecture with a maximum frequency of up to 3.36GHz, delivering robust support for high-performance computing and multitasking.



48TOPS computing power NPU

Integrated with a 48TOPS NPU, it supports INT4/INT8/INT16/FP16 mixed-precision computing, enabling intelligent data processing, speech recognition, and image analysis to meet the AI application requirements of edge computing for most terminal devices.



Powerful image processing capability

Integrated with the Adreno 740 GPU, it fully supports ray tracing technology and is compatible with OpenGL ES 3.2, Vulkan 1.2, and full-profile OpenCL 3.0. Combined with Hexagon neural network direct acceleration, it delivers enhanced graphics processing and AI computing performance.



Supports 8K video codec

Supports 8K@60fps/4K@240fps video decoding and 8K@30fps/4K@120fps video encoding; its powerful video codec capability enables 8K ultra-high-definition display with finer image quality.



Product features



The private deployment of large language models

Support the privatization deployment of ultra-large-scale parametric models under the Transformer architecture, such as Deepseek-R1 series, Gemma series, Llama series, Qwen series, Phi series and other large language models.



Multiple deep learning frameworks

Supports QNN AI inference framework, as well as various deep learning frameworks: TensorFlow, TensorFlow Lite, PyTorch, ONNX, etc.



Abundant expansion interfaces

It provides a rich array of expansion interfaces such as HDMI2.0, USB3.0, Type-C, RS485, RS232, CAN, TF Card and SIM Card to meet peripheral expansion needs for various applications.



Wide range of application scenarios

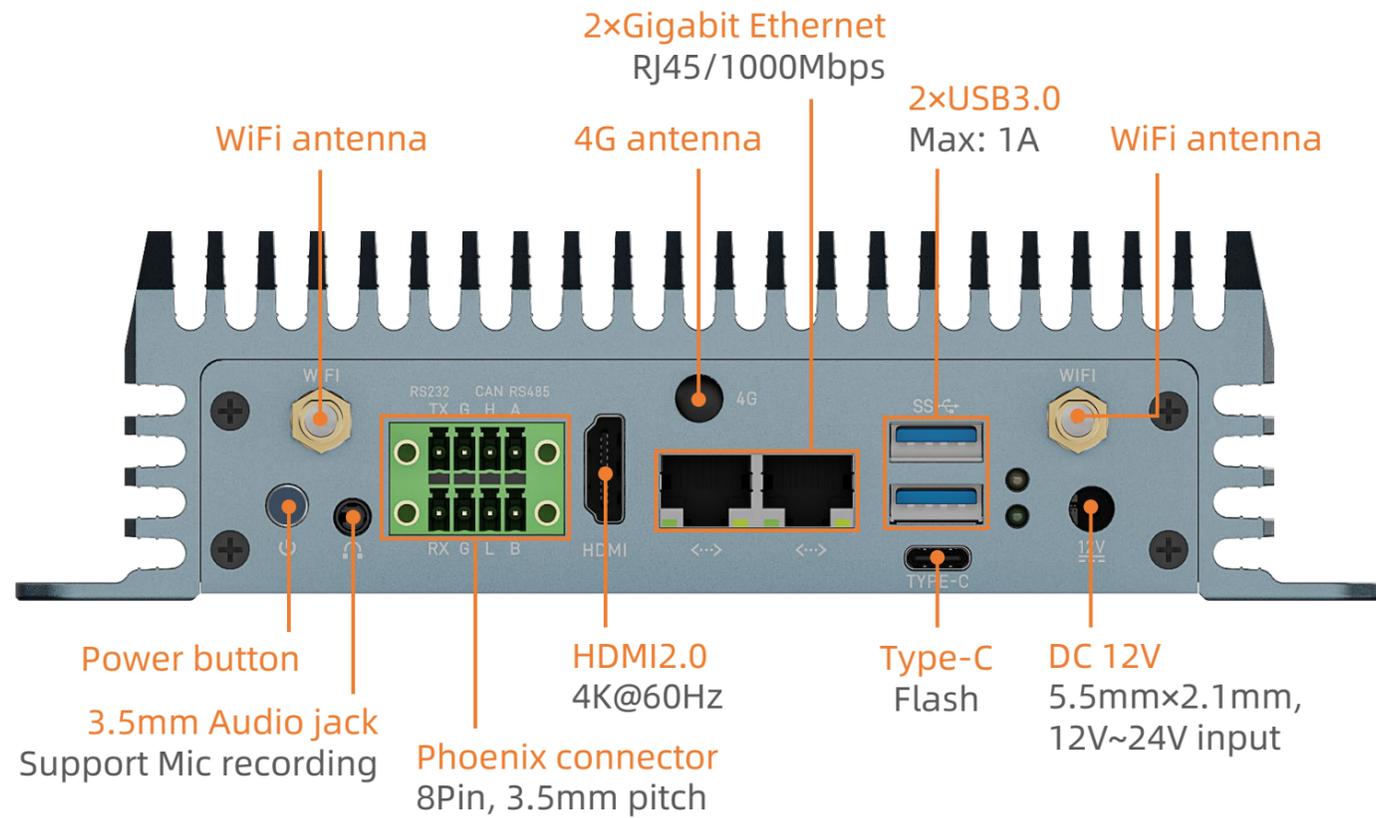
It is widely used in robotics, unmanned aerial vehicles (UAVs), cameras, edge computing AI, cloud gaming, computing power services, intelligent security, smart home and other industries and fields.

Specifications

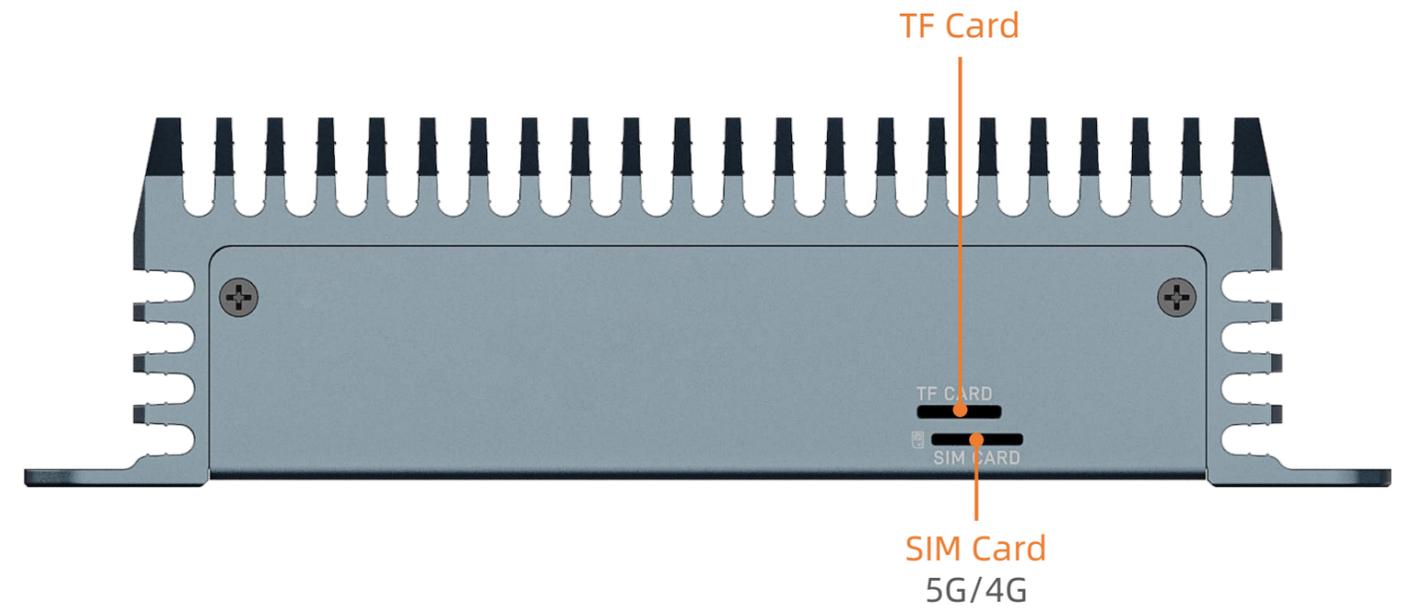


Specifications		
Basic Specifications	SOC	Qualcomm QCS8550
	CPU	Qualcomm Kryo® CPU: Octa-core 64-bit (1×GoldPlus@3.2GHz + (2+2)Gold@2.8GHz + 3×Silver@2.0GHz), 4nm advanced process, maximum frequency up to 3.36GHz
	GPU	Adreno 740 GPU: Supports ray tracing technology, OpenGL ES 3.2, Vulkan 1.2, full-profile OpenCL 3.0, and Adreno NN Direct
	NPU	Equipped with Qualcomm Spectra™ Cognitive ISP (Image Signal Processor), featuring three 18-bit 36MP ISPs
	ISP	Dual eNPU V3: Equipped with 4 HVX (Hexagon Vector Extensions), 1 HMX (Hexagon Matrix Extension); Computing power up to 48 TOPS (INT8), 12 TOPS (FP16)
	Codec	Video decoding: 8K@60fps/4K@240fps H.265/H.264/VP9/AV1 Video encoding: 8K@30fps/4K@120fps H.265/H.264 Supports concurrent 4K@60fps decoding and 4K@60fps encoding for wireless display scenarios
	RAM	16GB LPDDR5x
	Storage	256GB UFS4.0
	Storage expansion	1 × M.2 M-KEY (supports expansion of PCIe NVMe SSD, compatible with 2242/2260/2280 form factors; Located at the bottom of the computer) 1 × TF Card
	Power	DC 12V (5.5mm × 2.1mm, support 12V~24V wide voltage input)
	OS	Linux
	Software support	Supports on-premises deployment of large-scale parameter models based on the Transformer architecture, such as large language models (LLMs) including the Deepseek-R1 series, Gemma series, Llama series, Qwen series, Phi series, etc. Supports the QNN AI inference framework, as well as various deep learning frameworks including TensorFlow, TensorFlow Lite, PyTorch, ONNX, etc.
	Size	188.0mm × 88.44mm × 50.65mm
	Weight	Net weight of computer: 0.79kg, Total weight with package: 1.15kg
	Environment	Operating Temperature: -20°C ~ 60°C, Storage Temperature: -20°C ~ 70°C, Operating Humidity: 10% ~ 90%RH (No condensation)
Interface Specifications	Network	Ethernet: 2 × RJ45(1000Mbps) WiFi: Extend WiFi/Bluetooth module through M.2 E-KEY (2230), supporting 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, not mounted by default)
	Video output	1 × HDMI2.0 (4K@60Hz)
	Audio	1 × 3.5mm Audio jack (Supports MIC recording, American standard CTIA)
	USB	2 × USB3.0 (Max: 1A), 1 × Type-C (Flash)
	Others	1 × SIM Card, 1 × Phoenix connector (8Pin-3.5mm): 1 × RS485, 1 × RS232, 1 × CAN 2.0

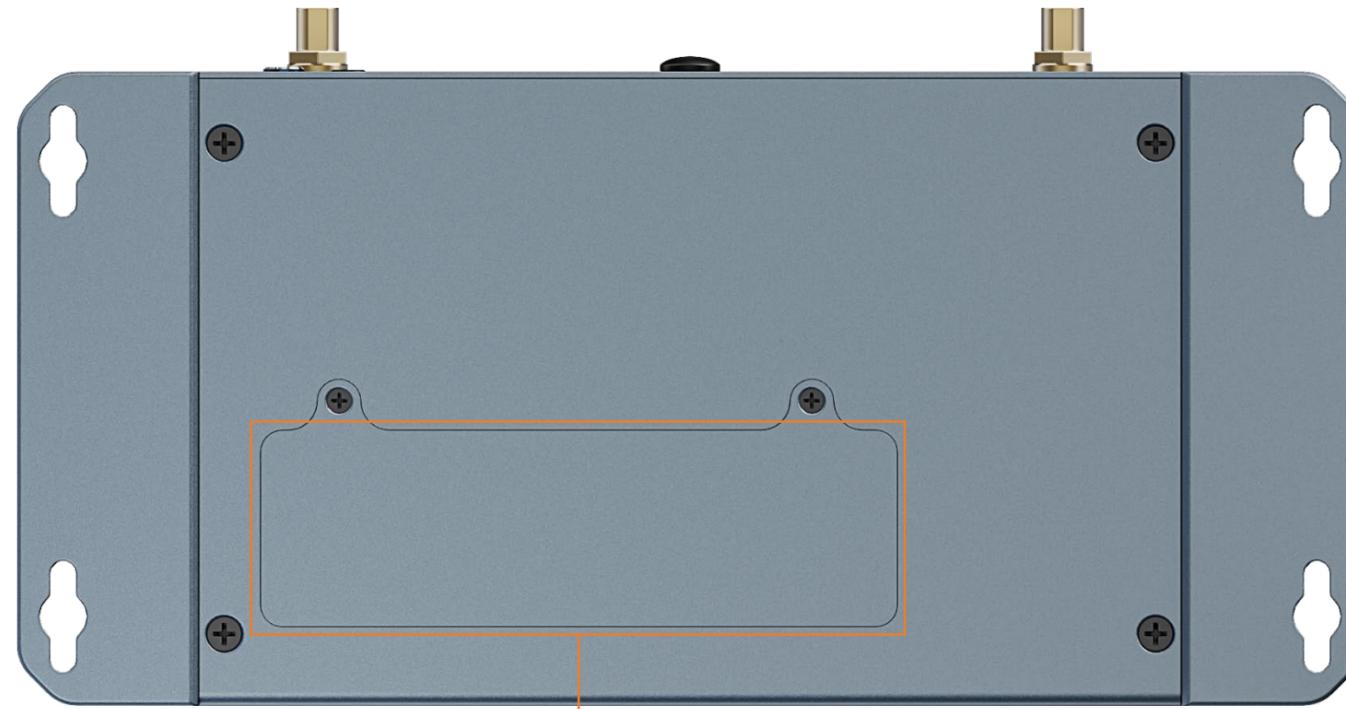
Interface description



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



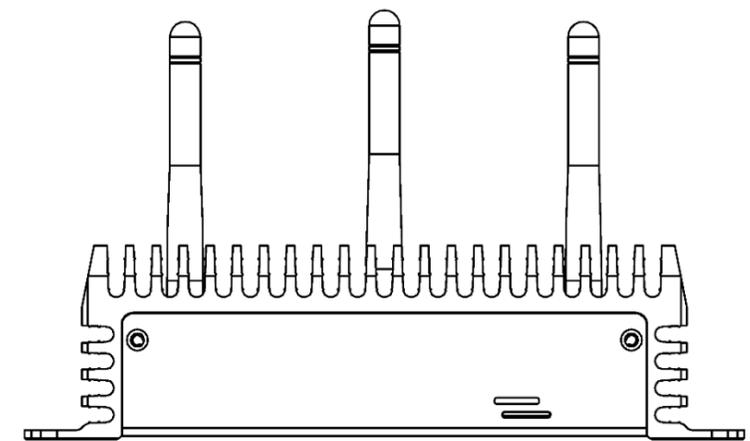
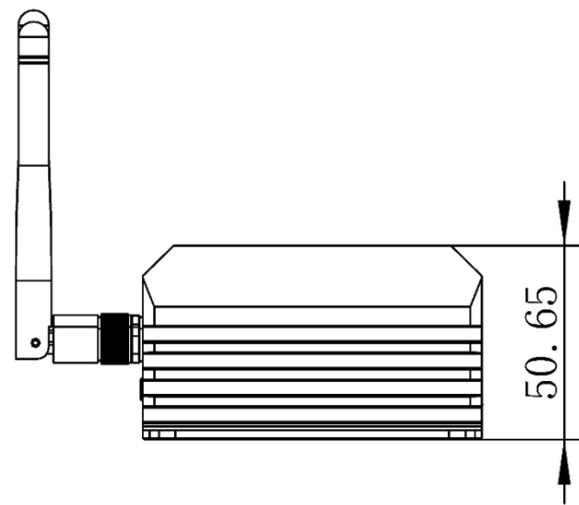
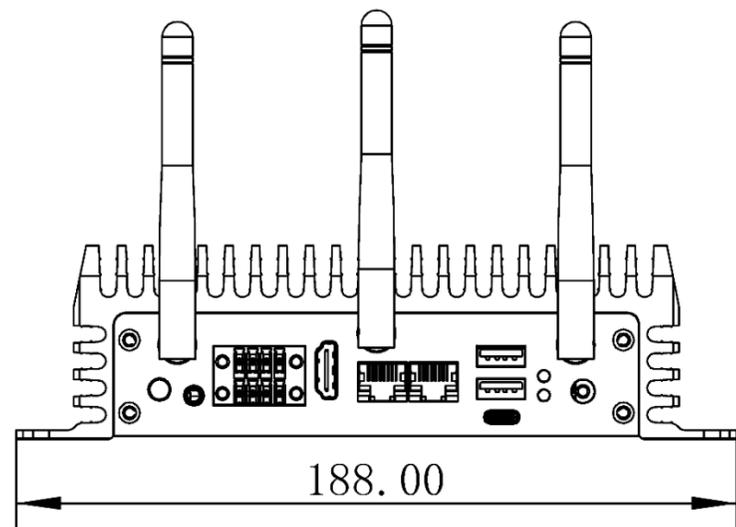
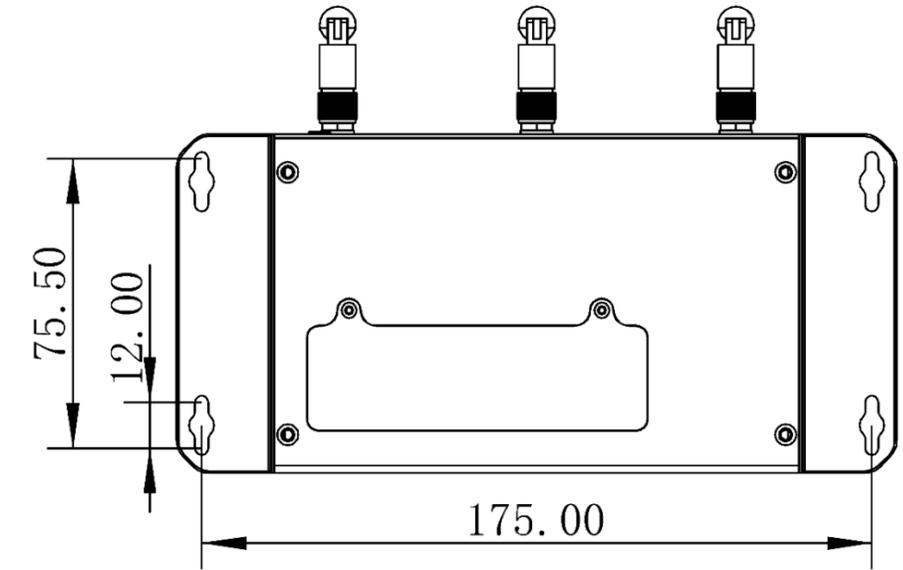
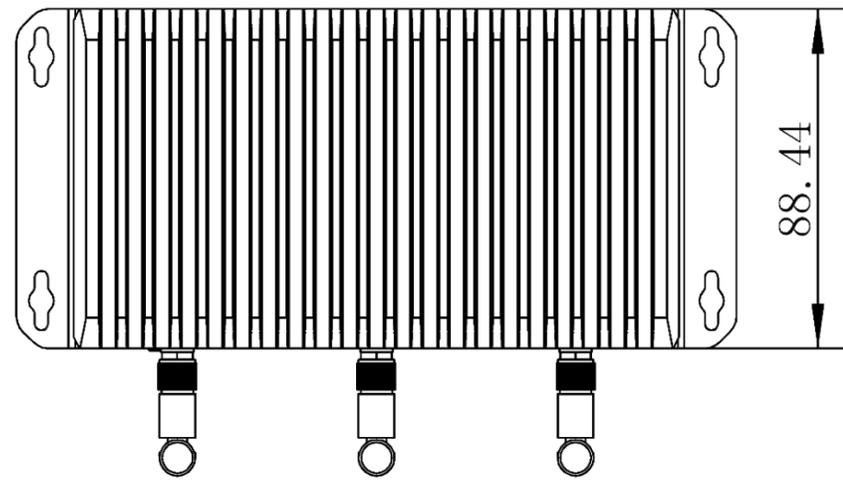
Interface description



M.2

Supports PCIe NVMe 2242/2260/2280 SSDs

Dimension





FIREFLY TECHNOLOGY

 Contact Us
(+86)18688117175

 E-mail
global@t-firefly.com

 Website
<https://en.t-firefly.com/>

 Address
Room 2101, Hongyu Building, #57 Zhongshan 4Rd, East District,
Zhongshan, Guangdong, China.