

Shenzhen Geniatech Co.,Ltd.

High-Performance AI Computing Power PC Specification

MODEL: APC880Mini

Revision History

VERSION	DATE	PAGE	DESCRIPTION	AUTHOR
V1.0	2025-4-15	8	Initial version	

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1. General Description

The APC880Mini AI Edge Computing PC is based on the high-performance i.MX 8M Plus SoC, Is the first NXP integrated transmission nerve processing unit (NPU) product, Running rates of up to 2.3 TOPS, Focus on machine learning and vision, multimedia, and industrial automation with high reliability, Also paired with the Kinara Ara-2 40 TOPS computing chip, Rapid prototyping of edge AI application scenarios, It can be widely used in machine learning and artificial intelligence, NPU vision system, advanced multimedia and industrial automation.

-- i.MX 8M Plus SoC

- i.MX 8M Plus SoC with 14nm FET process technology
- Quad-core 64-bit ARM Cortex A53 processor + Cortex-M7
- Integrated Neural Network Processing Unit (NPU) with 2.3 TOPS performance
- Highly efficient H.265/H.264/VP9 video decoding capability, supports up to 4K resolution

-- Kinara Ara-2 SoC

- 8 second-generation neural cores
- 16GB LPDDR4X memory
- 40 TOPS of high-performance computing power
- Supports TensorFlow,PyTorch,ONNX AI models

-- I/O interface

- 2*Gigabit Ethernet RJ 45 interfaces
- 1*USB3.0 and 1*USB2.0 interfaces
- 1*TYPE C
- 1*HDMI Out
- Micro SD card slot, Micro SIM card slot
- DC IN

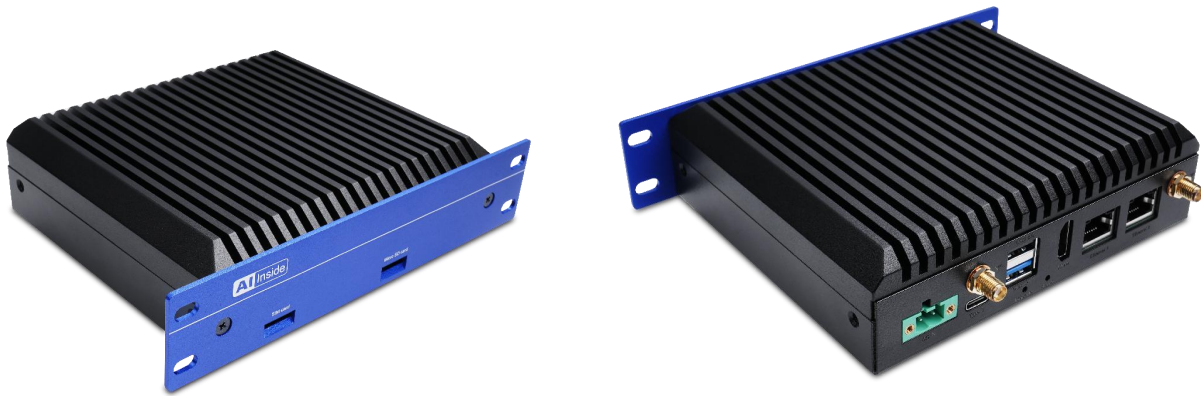
--Internal I/O interface

- 2*CAN, 1*RS232, and 1*RS485
- MIPI DSI、MIPI CSI、LVDS and other display and camera interfaces
- Mini PCIe interface can extend 4G / 5G

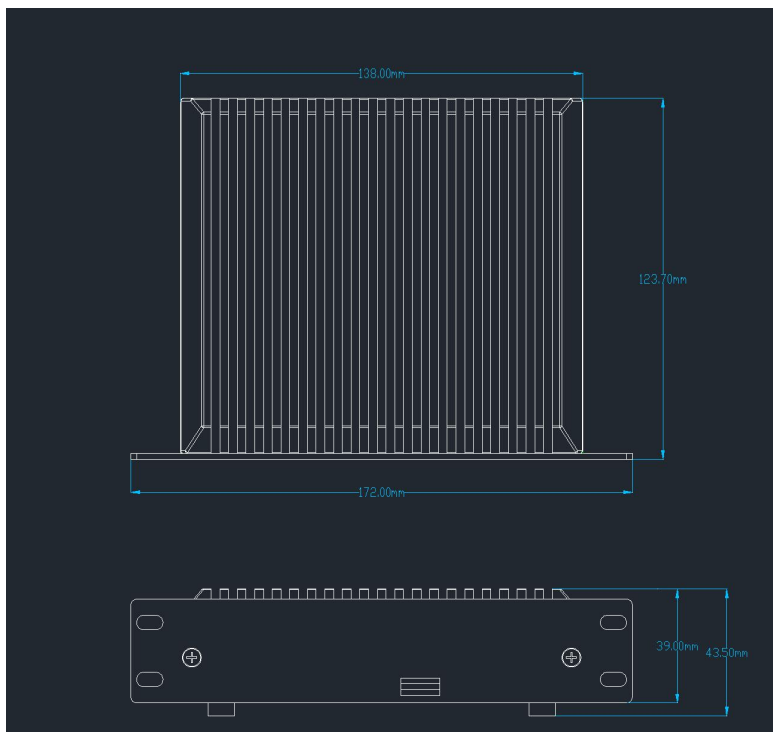
2. Product Overview

Below picture is for reference only, please prevails in kind.





Product Diagram



3. Features

CHIPSET	NXP iMX8M Plus+Kinara Ara-2		
MARKET AREA	Global		
Core parameters	OS	Yocto(Linux)	
	SoC	4 x Cortex-A53, up to 1.8GHz&1 x Cortex-M7, up to 800MHz	
	GPU	GC7000UL with OpenCL and Vulkan support Supports OpenGL ES 1.1, 2.0, 3.0, OpenCL 1.2, Vulkan	
	NPU	iMX8M Plus	2.3 TOPS Neural Network performanc
		Kinara Ara-2	40TOPS Neural Network performanc

			TensorFlow,PyTorch,ONNX AI Model
	Memory	iMX8M Plus	4GB（1G-8G optional）
		Kinara Ara-2	16GB
	Storage	32GB eMMC5.1(8-128GB optional)	
I/O interface	Network Interface	2 x Giga Ethernet	
		Wifi2.4G+5G +BT 5.0	
	Video Interface	1 x HDMI output 1 x LVDS Screen Connector 2x15P 1 x MIPI DSI connector for MIPI Panel 1 x MIPI CSI connector for MIPI Camera 4 lanes 1 x MIPI CSI connector for MIPI Camera 4 lanes	
	USB interface	1 x USB 2.0 Type A 1 x USB 3.0 Type A 1 x USB Type C 2 x USB2.0 4P Header	
	PCIe interface	1 x M.2 Key M for M.2 AI module（It cannot be used simultaneously with onboard AI chips）	
	SD Card	1 x Micro SD card slot	
	SIM Card	1 x Micro SIM card slot	
	Extended interface	1 x Mini PCIe for 4G	
	Communication interface	2 x RS232/RS485 1 x CAN 2 x DI 2 x DO	
	Other interfaces	1 x A53 Core Debug connector (UART) 1 x I2C Touch Screen connector 1 x RTC-Battery 1 x Expended Connector 2x26P Header 1 x FAN 4P Header with FAN PWM 1 x LCD Backlight 6P Header 1 x LVDS Panel Power Switch 1 x System boot mode switch 1 x System upgrade key 1 x Reset Key 1 x DC Jack	
	Power supply input	DC 12V /3A	
	Size	172*123.7*43.5mm	
Weight	1050g		

4. Interface Function Description



No.	Function	Note
1	DC 12V Power supply input interface	
2	USB Type C OTG	
3	Antenna interface	
4	USB3.0+USB2.0	
5	Recovery button	
6	Reset button	
7	HDMI Output	
8	Giga Ethernet	
9	Giga Ethernet	
10	Antenna interface	
11	Micro SIM card slot	
12	Micro SD card slot	

5. Video Parameter

Video Decode

- 1080p60 HEVC/H.265 Main, Main 10 (up to level 5.1)
- 1080p60 VP9 Profile 0, 2
- 1080p60 VP8
- 1080p60 AVC/H.264 Baseline, Main, High decoder

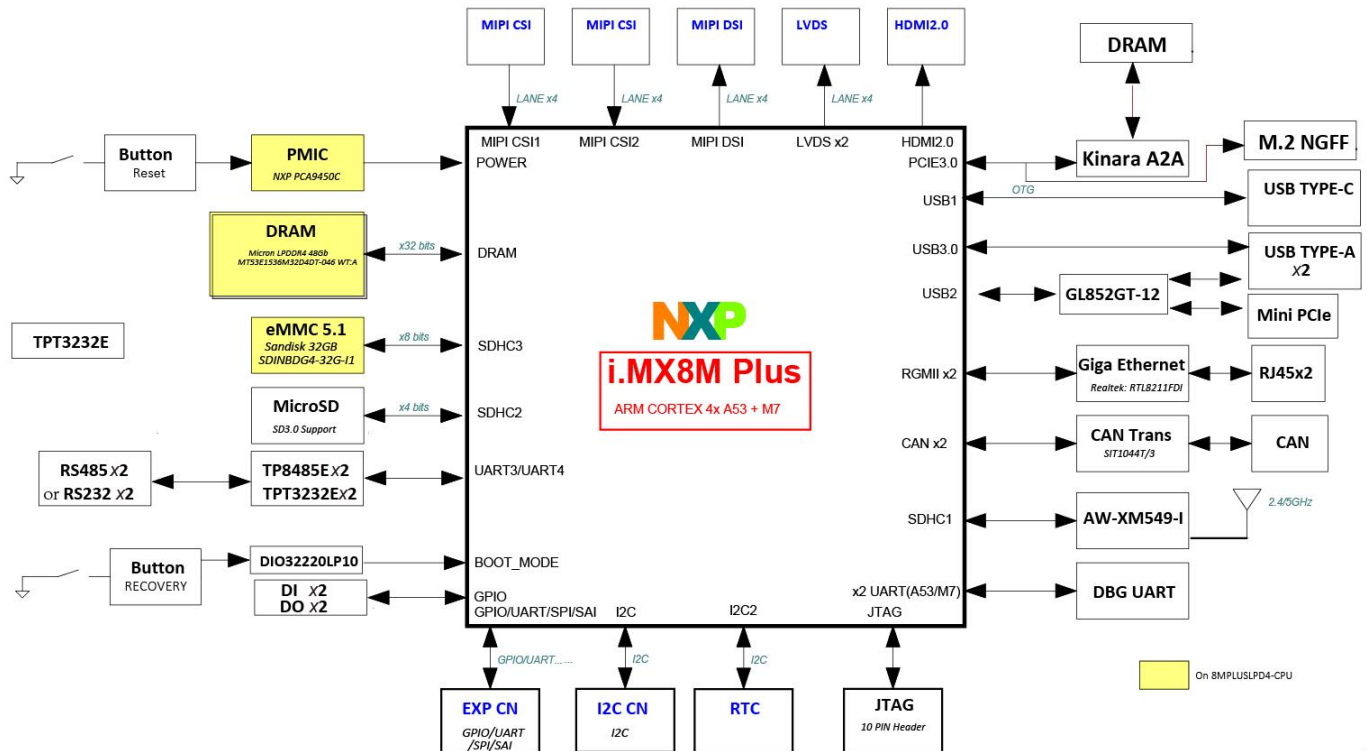
Video Encode

- 1080p60 AVC/H.264 encoder
- 1080p60 HEVC/H.265 encoder

Image Sensor Processor (ISP)

- 375 Mpixel/s HDR ISP supporting configurations, such as 12MP@30fps, 4kp45, or 2x 1080p80

6. System Block Diagram



7. Precautions For Use

- Relative humidity: $\leq 80\%$.
- Operation temperature: Commercial field: $0\sim 85^{\circ}\text{C}$; Industrial field: $-40\sim 85^{\circ}\text{C}$.
- Do not squeeze, bend or disassemble the product.
- Keep products away from static electricity.
- Do not allow water or other liquids to come into contact with the product.
- Clean the product with a soft dry towel or brush.

More Help

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