PRODUCT DATASHEET
HW Rev.: V1.0

FP-510

AMD Ryzen™ Embedded R2000 Series Processors with AMD Radeon™ Graphics based Mini ITX Motherboard



Features

- CPU: AMD Ryzen™ Embedded R2000 Series Processor
- Memory: Dual Channel SO-DIMM DDR4 up to 64GB
- Display: AMD Radeon™ Graphics via 3*HDMI2.0+1*HDMI2.0/eDP/LVDs
- Ethernet: 2xRTL8111H, 10/100/1000Mbps
- Storage&Expansion: SATA3.0, M.2 Key M for NVMe SSD, PCIeX4, M.2 Key B for SATA SSD/4G, SIM Slot, M.2 Key E for WiFi&BT
- Power: 12V/19V DC-IN Jack

AMD
together we advance_

AMD RYZEN Embedded | AMD RADEON GRAPHICS

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Introduction

The Maxtang FP-510 Mini-ITX motherboard is powered by AMD Ryzen™ Embedded R2000 Series processors, delivering up to 4 cores and 8 threads based on the “Zen+” x86 architecture, with integrated AMD Radeon™ graphics. Compared to the previous R1000 Series, it offers up to 2x the CPU core count and enhanced I/O connectivity, supporting up to four display outputs. Designed for industrial environments, the FP510 is ideal for applications such as industrial automation, robotics systems, machine vision, IoT, and thin clients.

This compact Mini-ITX board supports up to 64GB DDR4 memory via dual SO-DIMM slots and provides flexible storage options, including SATA 3.0, one M.2 2280 slot for NVMe SSD, one M.2 2242/2280 slot for SATA storage, and an additional M.2 2230 slot for Wi-Fi and Bluetooth modules. It features four HDMI 2.0 outputs (supporting up to three independent 4K displays), optional TPM for enhanced security, and rich I/O interfaces including 6 COM ports, 8 USB ports, GPIO, Line-out, and Mic-in—delivering reliable performance and connectivity for demanding embedded applications.

Linux™

ubuntu Linux

Windows

H/W Monitor

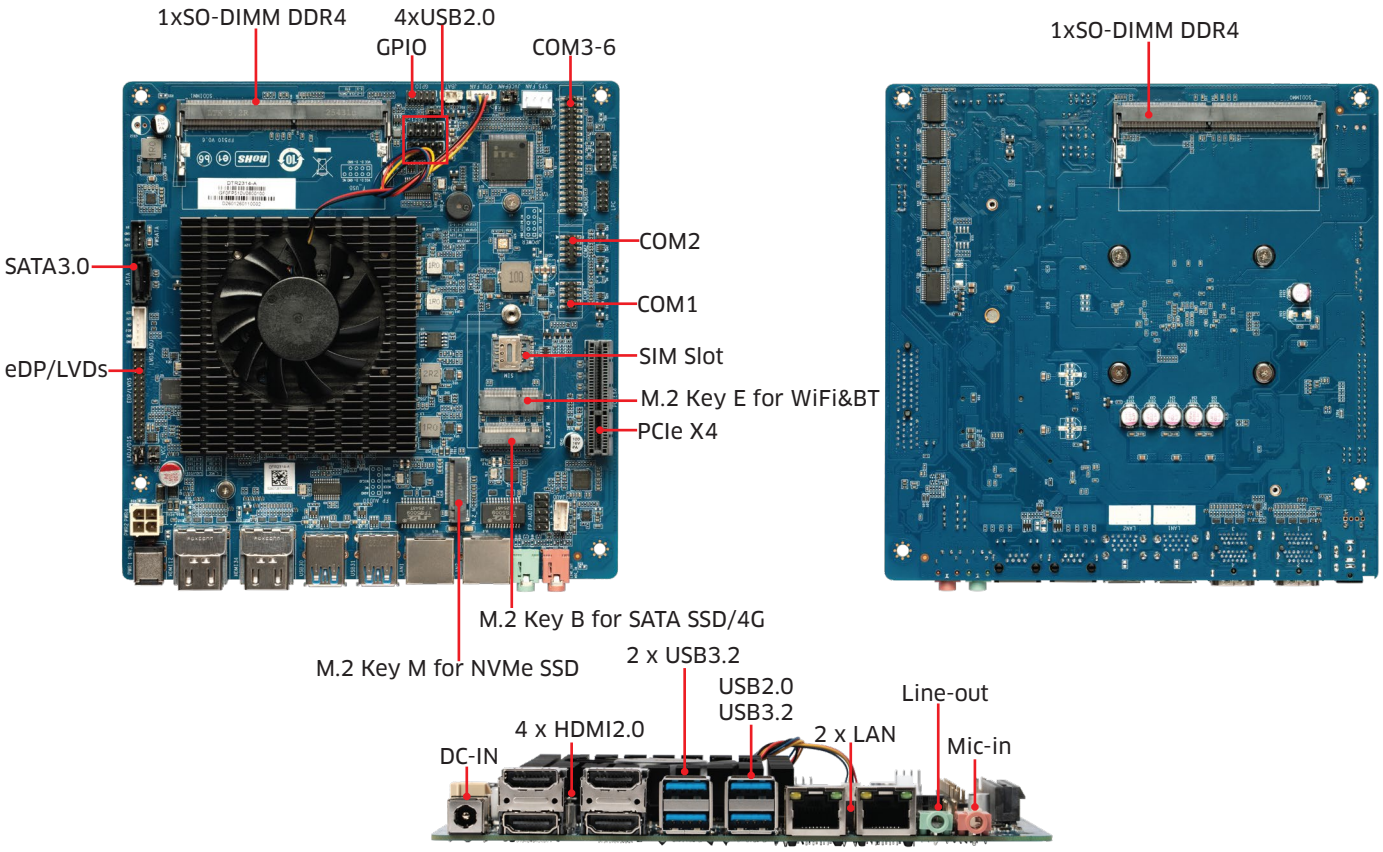
Watchdog

GPIO

Brightness

HDMI™ HIGH-DEFINITION MULTIMEDIA INTERFACE

I/O Interfaces

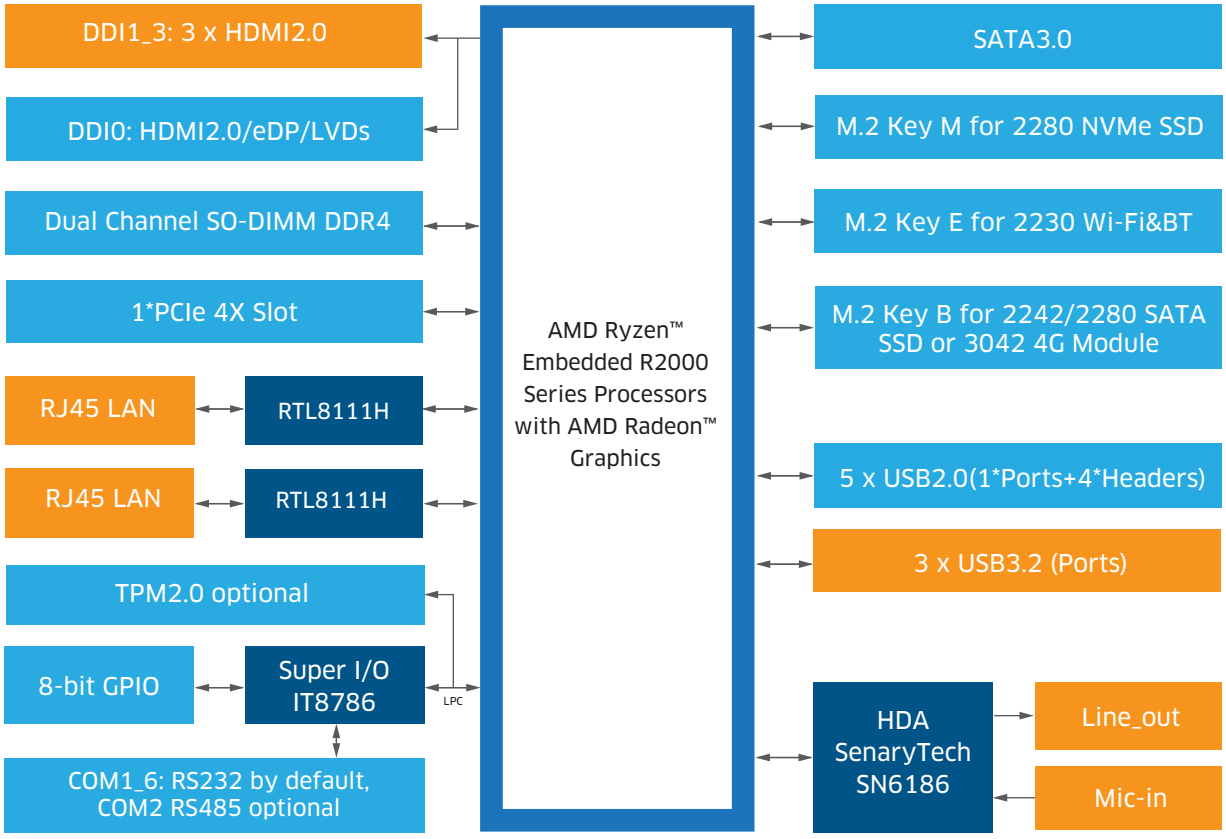


Technical Specifications

Processor	AMD Ryzen™ Embedded	R2314	R2514
	Total Cores/Threads	4C/4T	4C/8T
	Base Frequency	2.10GHz	2.10GHz
	Max Frequency	3.50GHz	3.70GHz
	Total L3 Cache	4MB	4MB
	TDP	15W-35W	
	GPU	AMD Radeon™ Graphics	
	BIOS	AMI SPI BIOS	
Memory	Type	Dual Channel SO-DIMM DDR4	
	Max Capacity	64GB	
Display	Graphics	Integrated Graphics depends on the CPU model, see GPUs	
	Interface	4 x HDMI, 1x eDP/LVDs	
	Max Display	Max four of display interfaces; three of external 4K displays.	
Ethernet	Controller	2 x Realtek® RTL8111H	
	Max Speed	10/100/1000Mbps	
	Interface	2 x RJ45	
	Wake on LAN	Yes	
Audio	Audio Codec	SenaryTech SN6186 High-definition Audio Codec	
	Interface	1 x Line-out, 1 x Mic-in, support audio header and amplifier header	
Hardware Monitoring		CPU system temperature, on-board DC-in voltage, watchdog, auto power on	
Storage&Expansion	SATA	1 x SATA3.0	
	M.2_N	1 x M.2 Key M Slot for 2280 NVMe SSD	
	M.2_S/W	1 x M.2 Key B Slot for 2242/2280 SATA SSD/3042 4G Module	
	M.2_E	1 x M.2 Key E Slot for 2230 Wi-Fi&Bluetooth Module	
	PCIe X4	1*PCIe X4 Slot	
	SIM	1 x SIM Slot	
Other I/O	COM	6 x RS232 (COM2 can be set as RS485 through hardware changes)	
	USB3.2	3 x USB3.2 (Rear ports)	
	USB2.0	5 x USB2.0 (1* Rear port + 4*header)	
	GPIO	8-bit	
	Buzz_M	Optional	
	TPM2.0	Onboard, Optional	
Dimension	Form Factor	Mini ITX	
	Size	170 mm x 170 mm	
Power	Standard Port	12V/19V DC-IN	
Temperature	Operating Temp.	-20°C ~60°C	
	Storage Temp.	-40°C ~80°C	
Operating System		Windows 10/11 64bit, Linux 64bit	

*Image is for reference only. *All specifications and photos are subject to change without notice.

Block Diagram



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Order Information

SKUs	Description
DTR2314-A	DT AMD R2314 FP510 2DDR4 2LAN(2RTL8111H) 6RS232 4HDMI+LVDS M.2(NVME+SATA/4G) SN6186
DTR2514-A	DT AMD R2514 FP510 2DDR4 2LAN(2RTL8111H) 6RS232 4HDMI+LVDS M.2(NVME+SATA/4G) SN6186

*For customization, please contact your regional sales representative. Confirm model details before purchase, as they may vary.

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