

FP510

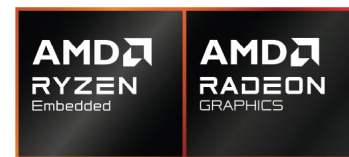
AMD Ryzen™ Embedded R2000 Series Processors with AMD Radeon™ Graphics based Mini ITX Motherboard



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_



Introduction

The Maxtang FP510 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.



H/W Monitor



Watchdog



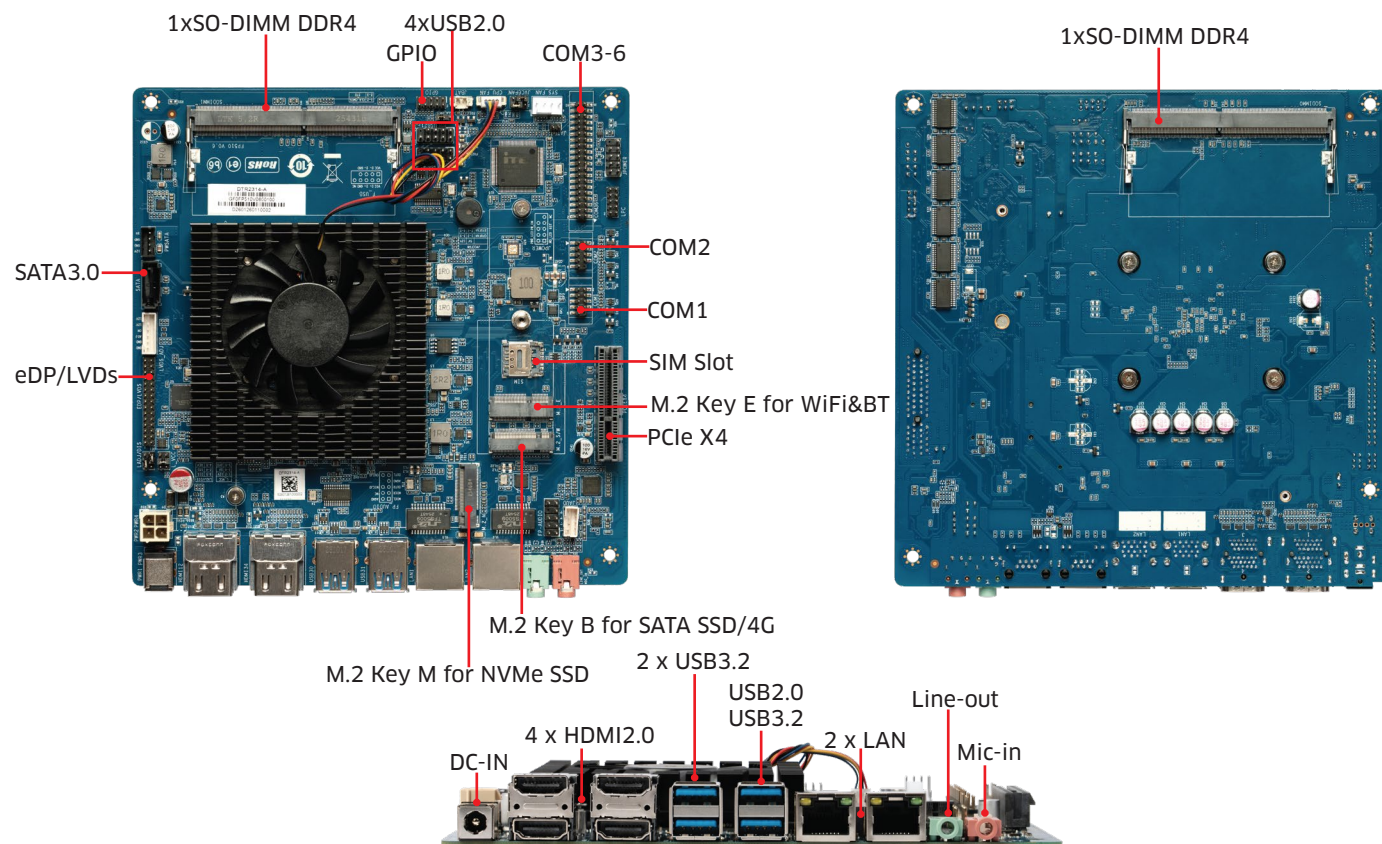
GPIO



Brightness



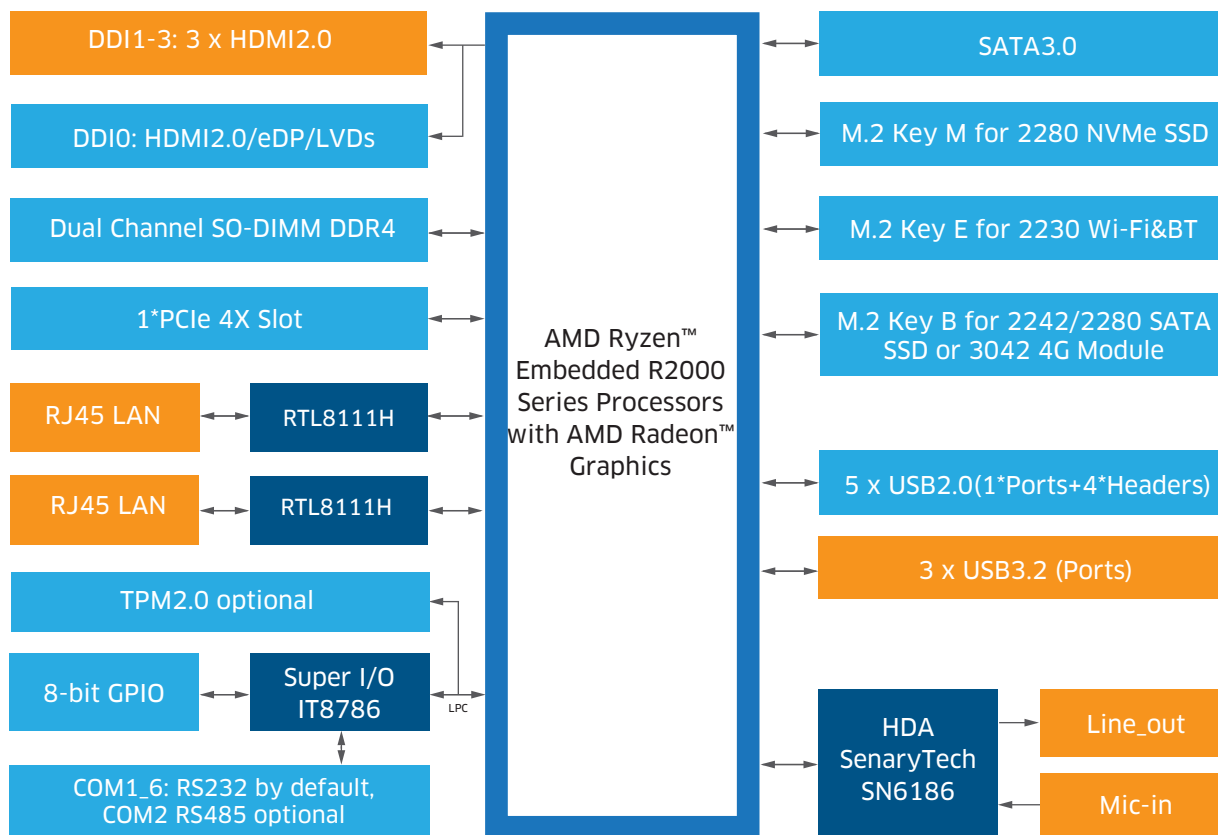
I/O Interfaces



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 | | |

Block Diagram



Copyright © 2026 Maxtang Technology Co. Ltd. All rights reserved. All data is for information purposes only and not guaranteed for legal purposes. Information has been carefully checked and is believed to be accurate however, no responsibility is assumed for inaccuracies. Maxtang and the Maxtang logo and all other trademarks or registered trademarks are the property of their respective owners and are recognized.

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.