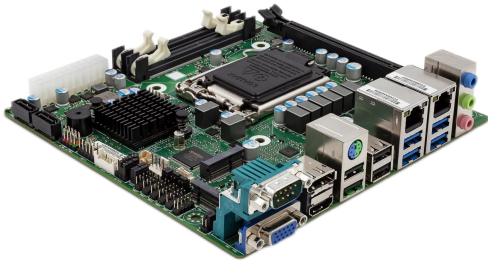# AIoT7-H510   Intel® H510 Standard MINI-ITX Industrial Motherboards

AIoT7-H510 has rich external interfaces and supports high-performance Intel 10 and 11 generation CPUs, which can be widely used in machine vision (such as automated inspection, automatic image analysis and processing), automated production and inspection (such as Apple equipment production), bank security monitoring system, intelligent building management system (IBMS), various industries command and dispatch center, workstation, insurance, securities and other industries recording and monitoring system, etc.

- Support Intel LGA1200 package 10th & 11th generation Xeon
- Standard 2 DDR4 SO-DIMM slots support up to 64GB
- One PCIe x16 expansion slot supports PCIe 4.0
- Standard 4x USB3.2 Gen1 interface, can be connected to HD video devices
- Three display interfaces, support dual display mode
- High Tg wide temperature PCB material to ensure wide temperature stability
- Industrial-grade port protection to block static electricity and surges, effectively protecting the system core stability and reliability
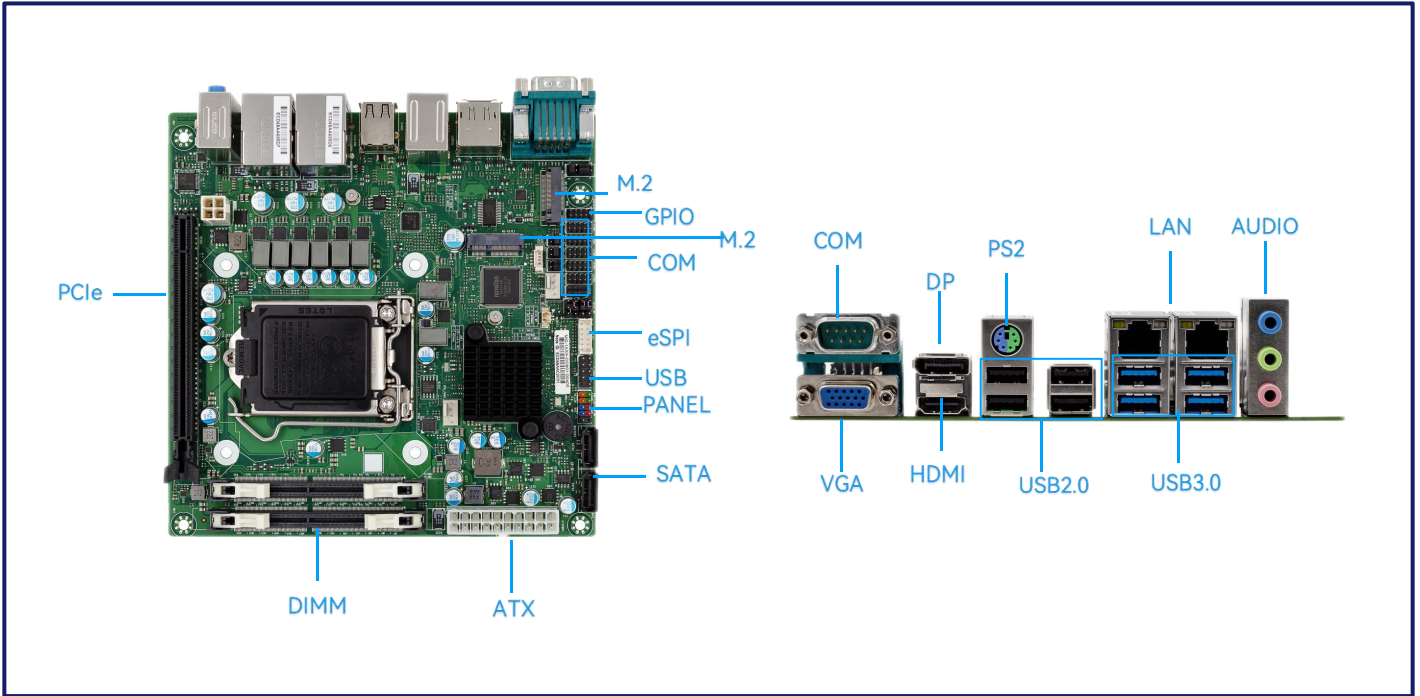- Standard dual Intel network chip

01 Specifications

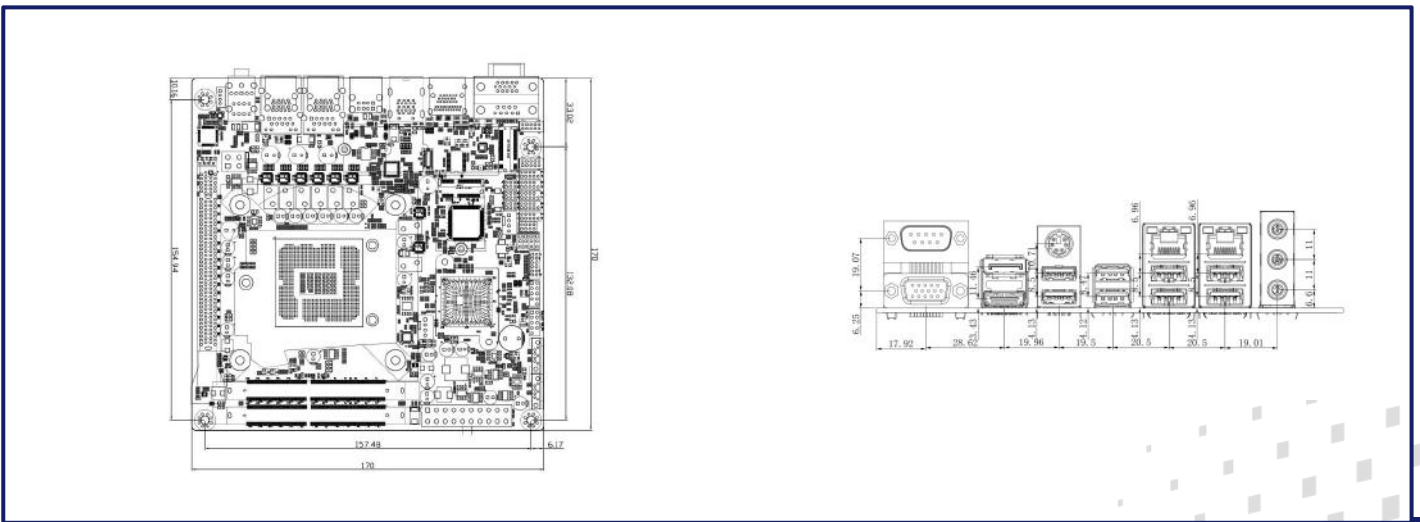|	
CPU	Support Intel LGA1200 package 10th & 11th generation Xeon i9/i7/i5/i3/G CPU TDP, up to 65W
Chipsets	Intel® H510
Memory	2x260Pin DDR4 SO-DIMM memory slots, single 32GB support up to 64GB according to the CPU supported memory specifications DDR4-2133/2400/2666/2933/3200
Display controller	Intel CPU integrated display controller (depending on the CPU used)
Display interface	Three display output interface VGA, DP, HDMI, support dual display mode
Storage	Standard 2x SATA 3.0 &1x M.2 2280 Key-M, Support SATA Protocol SSD
Audio	Rear IO support Mic-in + Line-out + Line-in, support digital audio output with amplifier (4Pin wafer)
Ethernet	2x Intel high-speed Ethernet port: LAN1 i219V,i226-V
USB	4x USB3.0 Type A(rear I/O), 4个USB2.0 (rear I/O) 2x USB2.0 (Internal pins, one of the port and the USB signal of the on-board M.2 2230 are optional)
Parallel port	One LPT print port
Serial port	6 serial ports, COM1 support RS232/485, COM2~COM6 support RS232COM2&COM3 support Pin9 +5/12V power supply, COM3 TTL level is optional
Keyboard & Mouse Interface	1 PS/2 2-in-1 interface with two USB using 3-in-1 connector
Digital I/O	8-bit digital I/O, power and ground provided, +5V level
I²C	1x 4Pin I²C Bus Interface
eSPI	One eSPI bus interface (2x6Pin wafer can be extended with four more RS232 or RS422/485 serial ports)
TPM Interface	On-board encryption chip SLB9670 (SLB9672) supports TPM2.0 (default) / BOM optional TCM chip
Power input	ATX power supply, support ATX/AT switch mode
Expansion Bus	1x X16 slot (10 generation CPU support PCIe3.0, 11 generation CPU support PCIe4.0) 1x M.2 2230 Key-E support Wifi/BT
Operating temperature and Humidity	Temperature range 0℃ ~ 60℃, relative humidity 10% ~ 85%, atmospheric pressure 85~105kPa
Non-operating temperature and Humidity	Temperature -40℃ ~ 85℃; Relative humidity 5% ~ 95%(40℃), Atmospheric pressure 85~105kPa
Watch Dog	255 levels of programmable seconds/minutes, supports timeout interrupt or system reset
BIOS	AMI UEFI BIOS
Operating System	Win10 x64，Win11 x64，Linux Ubuntu 21.04
PCB Size（LxW）	170*170mm

02

Product view

Labels (left board): M.2, GPIO, M.2, COM, eSPI, USB, PANEL, SATA, PCIe, DIMM, ATX

Labels (right I/O): COM, DP, PS2, LAN, AUDIO, VGA, HDMI, USB2.0, USB3.0

03

Dimensions

04

Product Selection

Moel	Description
AIoT7-H510	Industrial Motherboards: AIoT7-H510,H510,AIoT7-H510 V0.1,2SODIMM,2LAN,10USB,6COM,PCIe,M2-2280,M2-2230