

TX20 H470 Mini PC

用户使用手册 User Manual



主板型号 Model No.: H470 ITX MB

PCB 版本 PCB_VERSION: V0.1

声明： Statement:

本手册包含的内容并不代表本公司承诺，本公司保留对此手册更改的权力，且不另行通知，对于任何因安装、使用不当而导致的间接、直接、有意或无意的损坏及隐患概不负责。

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警告提示 Warning

为避免电击危险： To avoid the risk of electric shock:

- 请勿在雷暴天气期间连接或断开任何电缆的连接，安装，维护或重新配置本产品。 Do not connect or disconnect any cables, install, maintain or reconfigure this product during a thunderstorm.
- 将所有电源线连接正确且采用接地的电源插座。 Connect all power cords properly and use a grounded electrical outlet.
- 将所有要连接到本产品的设备连接到正确连线的插座。 Connect all devices to be connected to this product to properly wired outlets.
- 尽量仅用单手连接或断开信号电缆的连接。 Try to connect or disconnect signal cables with one hand only.

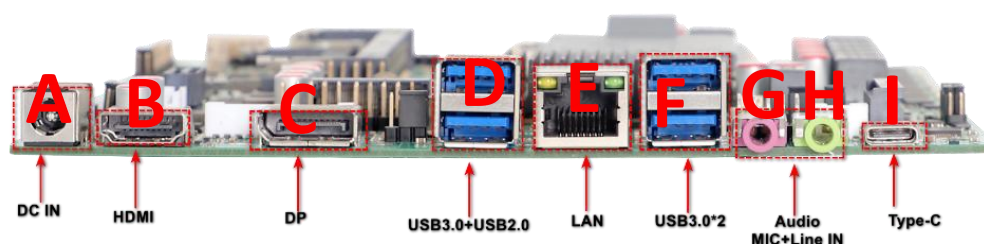
更换系统电池时，请使用同类电池进行更换。电池含锂，如果使用、操作或处理不当会发生爆炸。
When replacing the system battery, use a comparable battery for replacement. Batteries contain lithium and can explode if used, handled, or disposed of incorrectly.

I. 主板详细规格 Main Board Details Specifications:

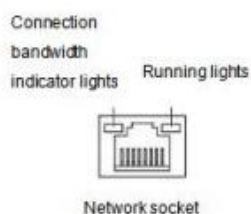
主板型号 MB Model.:	H470-ITX V0.1
处理器 Processor	- 支持 Support Intel® LGA 1200 slots 10-11th generation processor - Number of Power Supply Phase: 8+1 (DRMOS SIC 654) TDP: 95W
显示芯片 Graphics	Intel® UHD Graphics 核显 Integrated Graphics
显示输出 Display Output	IO Port: HDMI+VGA/DP+Type-C_DP Based on the display function of the integrated graphics card processor, the shared display memory technology is adopted 1*HDMI interface with up to 3840x2160@60hz resolution (HDMI version 1.4) 1*DP 1.2 interface, up to 3840x2160@60hz resolution
内存 RAM	2 *SO-DIMM 支持 Support DDR4 2133/2400/2666/3200MHz MAX: 64G
存储 Storage	1*M.2 M Key 2280 solt 支持 Support NVMe/ SATA 协议 Protocol (Jumper Switch) 1*SATA 3.0 Interfaces
扩展槽 Extension	1*M.2 E Key 2230 solt
音频 Audio	1*Realtek ACL897 High Definition Audio Driver sound card chip
网络 Internet	1*Realtek RLT8111H 千兆网卡[可选双网] Gigabit LAN card [optional dual LAN] Support network arousal Support for UEFI no-disk boot
USB	4*USB3.2 [Gen2 x1 10Gbps], 1*Type-C port 4*USB2.0 Pins on board
I/O 芯片 Chip-set	ITE8613E
BIOS	AMI BIOS
Inside board socket	1*-4PIN motherboard ATX power supply interface 1*COM RS232/ 6 COM RS232 optional 1*groups of SYS_ FAN pins, 1 group of CPU fan pins (support auto adjustment) 1*set of CLR_ CMOS button 1*Debug pin insert 1*BIOS_SPI burning pin 1*group chassis front control panel pin (F_PANEL)

Hardware monitoring	● Voltage monitoring ● temperature monitoring ● Fan monitoring ● Intelligent fan speed control (the main board has been supported, the intelligent fan speed control also needs fan support)
Operating system	● Support for UEFI Windows 10 64bit, UEFI Windows 11 64bit ● Support for Ubuntu 64bit
环境 Environment	● 工作温度 Working Temperature: 0~60℃ 存储温度 Storage Temperature: -20℃~75℃ 湿度 Humidity: 0%~95% 相对湿度, 无冷凝 0%~95% Relative humidity, non-condensing
ESD protect	Air discharge ± 8 KV Class C ± 6 KV of grade B Contact discharge is ± 6 KV Class C ± 3 KV Grade B * Test of the whole machine under good grounding

II. 后置 IO 面板: Rear Panel I/O Ports:



IO Interfaces	
A	DC power [Support 12-19V DC power input]
B	HDMI interface: 最大支持分辨率 Max resolution Support 3840x2160@60hz
C	- VGA interface: Up to 1920x1080@60Hz resolution - DP 1.2 最大支持分辨率 Max Support 3840x2160@60hz resolution
D&F	USB3.2 *3[GEN2 Max: 10Gbps]; USB2.0*1
E	RJ45/LAN [以太网接口 Ethernet interface] With10/100/1000MbpsLANRealtek 千兆网口 Gigabit Ethernet port, see the remark
G	MIC Interface (Pink), for accessing audio input devices, such as microphone and other radio devices.
H	AUDIO Interface(light green), used to access audio output devices, such as headphones, speakers and other external playback devices
I	Type-C interface(DP+USB 3.2), Top support theory 5Gbps speed transmission, downward compatibility with USB 2.0 and USB 1.1 standards, for connecting USB TYPE C devices.

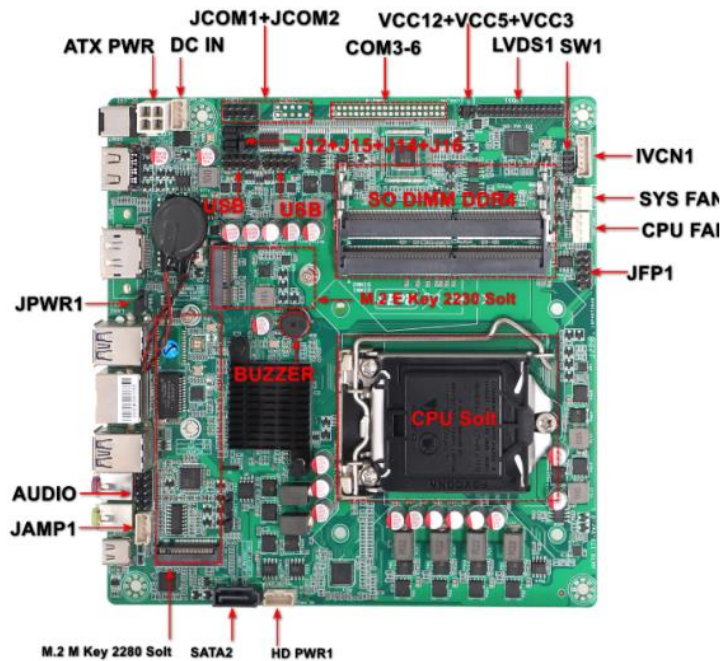


Connect the bandwidth indicator light	
tape width	The lamp state
connectionless	go out
10M bps	Green is always bright
100M bps	Green is always bright
1000M bps	Orange is always bright

Run the indicator light	
No data transmission	go out
In data transmission	twinkle

*Remark:

III. 主板内置接口: Main Board Inner Interfaces:



LVDS	1920x1080@60hz
DC IN	Plugs for external power supply
DEBUG1	Computer Troubleshooting
SATA/PCIESATA	SATA/Nvme Protocol Switching
JFP1	1x3Pin Header [Short 1-2=Trigger Power On Short 2-3=Restart Reset]
BUZZER	Buzzer
SYS_FAN	1x3Pin Wafer SYS_FAN Connector
JPWR1	Front IO panel USB powered 5V
IVCN1	Powering the screen backlight
JCOM1	2x5:9Pin Header RS232(reserve 5COM slot pin)
SPK	Built-in Speaker 5W*2
AUDIO	Front audio
HDD PWR1	Powering the 2.5" hard drive
SATA2	SATA3.0
DC_IN	DC power supply: 12V/19V

CPU_FAN	1x4Pin Wafer CPU_FAN Connector
JMP1	Jumper
M.2 M Key	M.2 M Key 2280 Solt [Default SATA mode Switch SW4 SW3JMP switch to NVMe mode]
M.2 E Key	M.2 E Key 2230 Slot Support WiFi+Bluetooth
SO-DIMM	SO-DIMM DDR4 Solt Support DDR4 2133/2400/2666/3200MHz MAX: 64G
LVDS PWR	Screen Voltage Adjustment Factory Default 5V Support 3V-5V-12V
J12/J14/J15/J16	232/485 Switching Output to COM1
2*USB	USB Pin

IV. Case Size and Front IO ports:



Case Size: 196.5*198*45MM

Front IO PORTS: 2xUSB2.0, MIC and Audio, Power Switch

V. Adapter:

