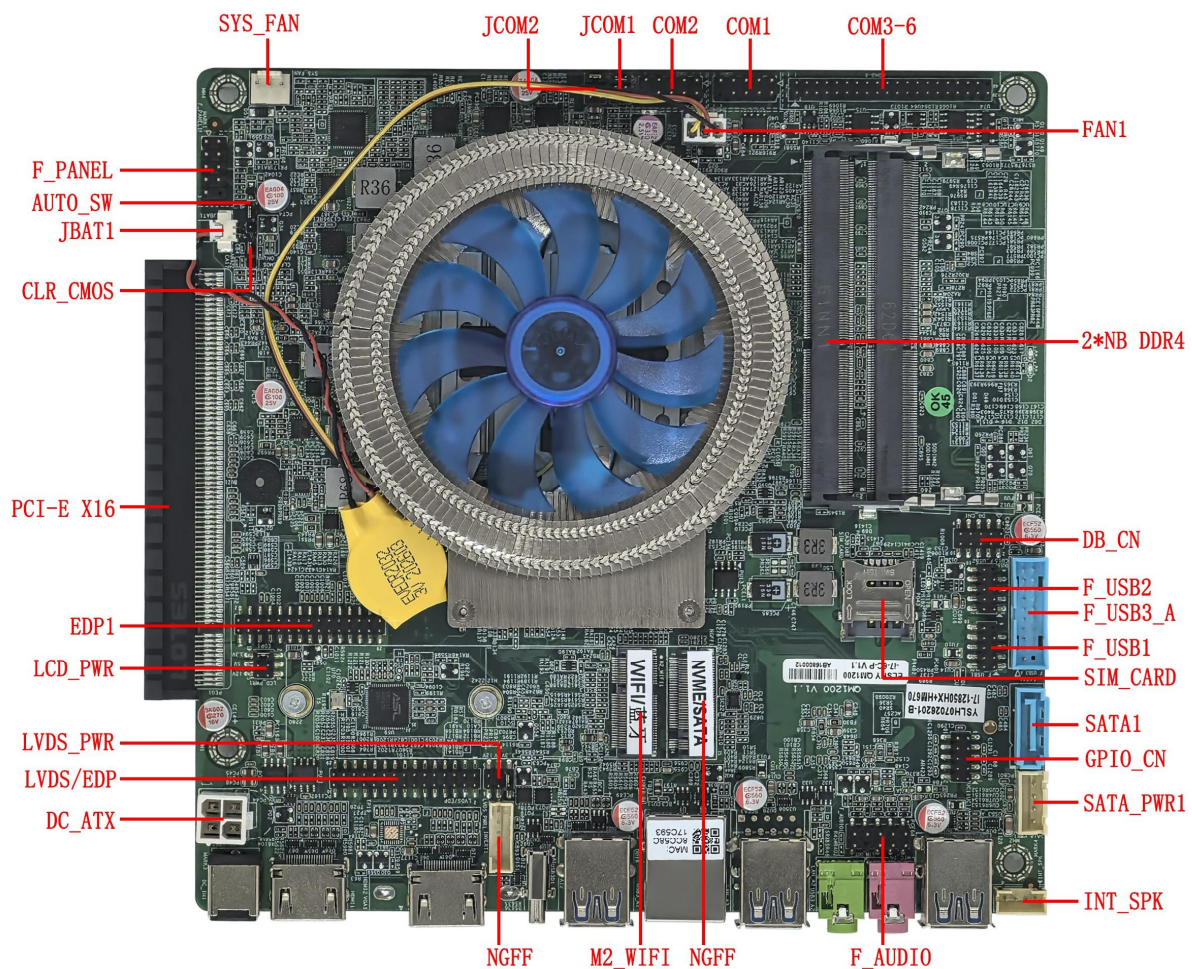
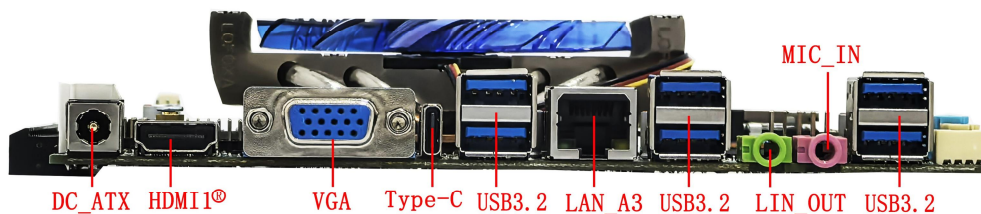


ELSKY QM1200 QM1300 QM1400 V1.1 Motherboard Specification

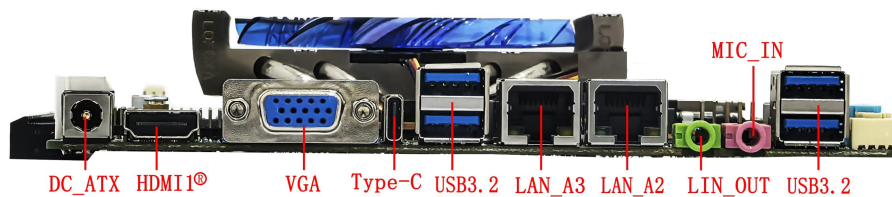
QM1200 motherboard ↓



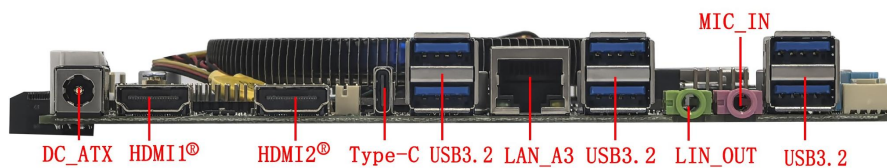
VGA+HDMI single network interface ↓ (QM1200 QM1300 QM1400 interface is the same)



VGA+HDMI dual network interface ↓ (QM1200 QM1300 QM1400 interface is the same)



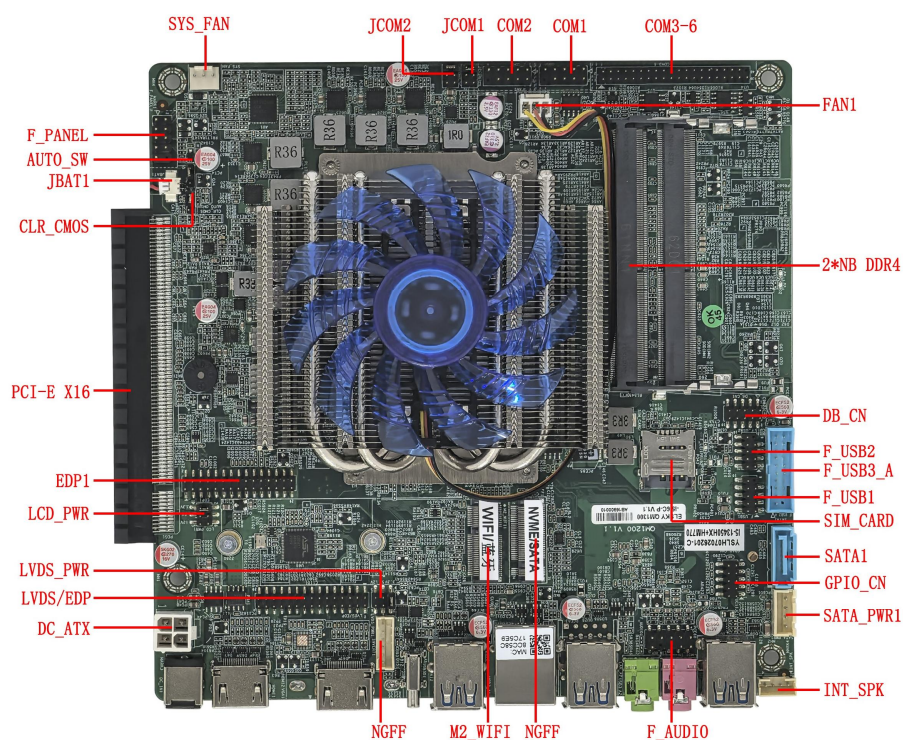
Dual HDMI+single network interface ↓ (QM1200 QM1300 QM1400 interface is the same)



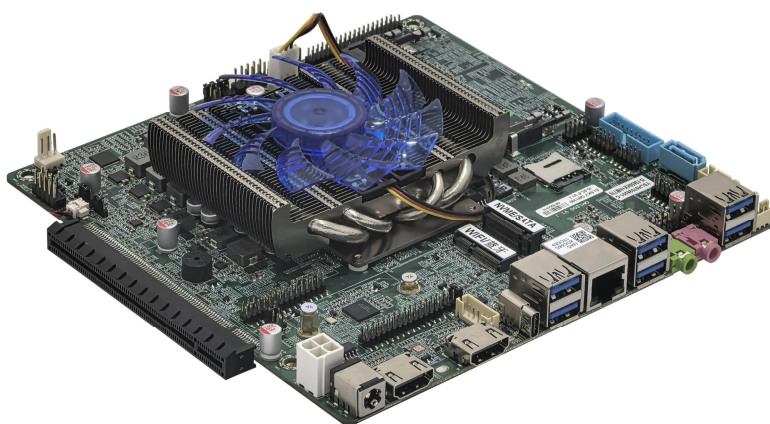
Dual HDMI+dual network interface ↓ (QM1200 QM1300 QM1400 interface is the same)



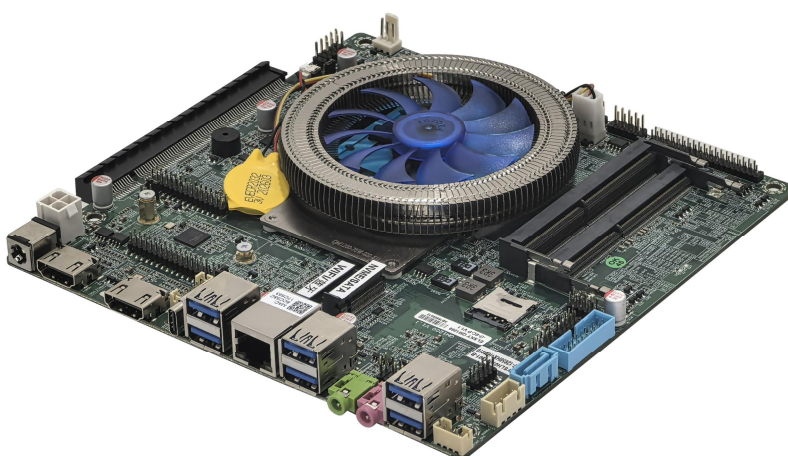
QM1300 QM1400 motherboard ↓



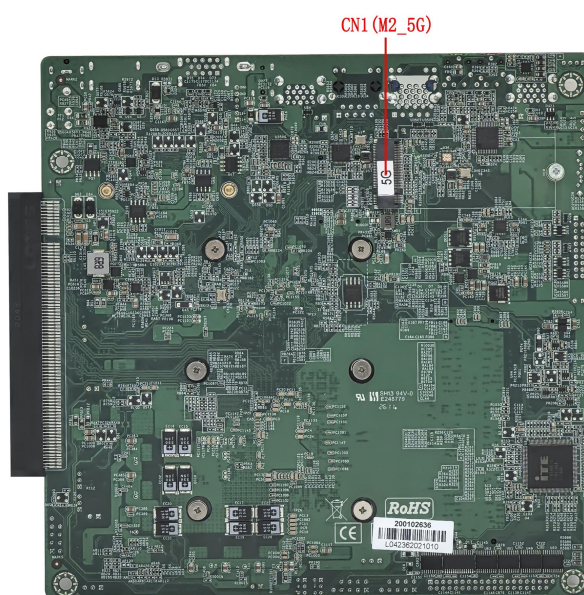
QM1300 QM1400 motherboard ↓



QM1200 motherboard ↓



Back of motherboard ↓



The motherboard image is for reference only,
please refer to the actual product!



Product model ordering optional:

Model	CPU	4K	LAN	COM	Type-C	USB2.0	USB3.2	SSD	Memory	Power	
QM1200 QM1300 QM1400	Supports Intel® Alder Lake 12 th gen HX series	√	1	2/6	Support display and data transmission functions	3	8	1*M.2 1*SATA	2*NB-DDR4 MAX 64G	12V/19V	
			2	2/6		3	6				
	Supports Intel® Raptor Lake 13 th ,14 th gen HX series i5,i7,i9		1	2/6		3	8				
			2	2/6		3	6				

⚠ Important Notice:

Power supply interface:

The motherboard supports 12V or 19V power supply; the DC interface specification of the motherboard is 5.5*2.5, with a 4pin ATX power supply interface;

The default maximum power consumption for shipment is about 100W. It is recommended to use a power supply of 12V10A or 19V6.3A or higher;

Display interface:

1. The HDMI1®2.0, HDMI2®2.0/VGA, LVDS/EDP, EDP1, Type-C support single display, dual display/triple display/quad display replication, dual display/triple display/quad display expansion, and dual display under SHELL;
2. When using LVDS (2K)+EDP (2K)+HDMI1/HDMI2/Type-C (4K) triple screen combination on the motherboard, the display is abnormal and cannot be used. Only this combination has abnormalities; All three screens can be used normally with a 2K resolution combination, or other resolution combinations, or other interface combinations; Dual display and quad display are used normally;
3. Choose between HDMI2®2.0 interface and VGA interface, default supports HDMI2®2.0 interface, Can be modified to support VGA interface;
4. The HDMI1®2.0, HDMI2®2.0 interface support 4K resolution 4096/3840*2160@60Hz;
5. The LVDS/EDP pin support LVDS by default, but can be changed to support EDP and share pins; EDP does not support 4K resolution;
6. The motherboard EDP1 cannot be displayed independently, and independent display may cause abnormalities. It needs to be used in conjunction with EDP or LVDS;
7. The motherboard EDP1 uses EDP-C screen cable (30pin backlight integrated screen cable), and EDP uses EDP-B screen cable (20pin backlight separated screen cable);
8. The motherboard EDP1 supports 4K resolution 4096/3840*2160@60Hz;
9. The Type_C interface supports display function and 8K resolution 7680*2160@60Hz;
10. The PCI-E X16 slot supports PCIE4.0 x16 signals and independent graphics cards and PCI-E X16 devices; After connecting the independent graphics card, the motherboard display interface (HDMI1®/HDMI2®/VGA/EDP1/LVDS/EDP/Type-C) has no signal output;



M.2:

1. The M2_WIFI supports Key-E interface M.2 2230 PCIE3.0 x1&USB signals, supports WiFi Bluetooth modules; Cannot be modified to M.2 hard drives;
2. The NGFF(M.2-SATA/PCIE) supports Key-M interface M.2 2280 NVME PCIE4.0 x4 / SATA dual protocol adaptive standard SSD;
3. The CN1(M2-5G) interface supports Key-B interface M.2 5G(3052) module, does not support M.2 4G(3042) module;

USB interface:

1. Single network motherboard supports 11*USB (8*USB3.2 Gen1, 3*USB2.0);
2. Dual network motherboard supports 9*USB (6*USB3.2 Gen1, 3*USB2.0);
3. The motherboard supports one Type-C interface and USB 3.0 device data transfer;
4. Choose between USB 2.0 signal of CN1(M2_5G) interface and USB2.0 signal of pins 3/5/7/9 of F_USB2, CN1 (5G) interface has a USB 2.0 signal by default;
5. The external USB interface and internal USB pin of the motherboard default to S power (not charged after shutdown), the internal USB pin can be changed to A power (charged after shutdown), and the external USB interface cannot be changed to A power;

COM interface:

1. The motherboard can optionally support 2/6*COM; The COM1 port can optionally support RS232/RS422/RS485, which can be set through BIOS;
2. The motherboard COM1/2 can be set to output 0V/5V/12V through the JCOM1/2 jump cap on the ninth pin, with a default of 0V;

Network card:

Single network: Supports Intel® i219V Gigabit Ethernet card by default;

Dual network: Supports Intel® i219V Gigabit Ethernet Card+ Realtek 8111H Gigabit Ethernet Card;

Optional supports Intel® i219V Gigabit Ethernet Card+Motorcomm YT6801 Gigabit Ethernet Card.

Cannot be changed to POE power supply;

Sound card:

The motherboard supports Realtek ALC897 sound card by default and cannot be changed to USB sound card;

GPIO:

Supports 8 GPIO signals, can support combinations such as four in four out/eight in zero out/zero in eight out, etc., and can be further developed and debugged according to requirements;

The following CPU information is for reference only. Please consult sales for specific requirements!



CPU brand	CPU	CPU model	Kernel/thread	Performance core (P core) turbo	Energy efficient core (E-core) turbo	CPU basic power consumption	Maximum turbo power consumption of CPU	Default maximum power consumption for shipment
Intel	12 th gen i5	12450HX	8 cores and 12 threads	4.4G	3.1G	55W	157W	100W
		12600HX	12 cores and 16 threads	4.6G	3.3G	55W	157W	100W
Intel	12 th gen i7	12650HX	14 cores and 20 threads	4.7G	3.3G	55W	157W	100W
		12800HX	16 cores and 24 threads	4.8G	3.4G	55W	157W	100W
		12850HX	16 cores and 24 threads	4.8G	3.4G	55W	157W	100W
Intel	12 th gen i9	12900HX	16 cores and 24 threads	5.0G	3.6G	55W	157W	100W
		12950HX	16 cores and 24 threads	5.0G	3.6G	55W	157W	100W
Intel	13 th gen i5	13450HX	10 cores and 16 threads	4.6G	3.4G	55W	157W	100W
		13500HX	14 cores and 20 threads	4.7G	3.5G	55W	157W	100W
		13600HX	14 cores and 20 threads	4.8G	3.6G	55W	157W	100W
Intel	13 th gen i7	13650HX	14 cores and 20 threads	4.9G	3.6G	55W	157W	100W
		13700HX	16 cores and 24 threads	5.0G	3.7G	55W	157W	100W
		13850HX	20 cores and 28 threads	5.3G	3.8G	55W	157W	100W
Intel	13 th gen i9	13900HX	24 cores and 32 threads	5.4G	3.9G	55W	157W	100W
		13950HX	24 cores and 32 threads	5.5G	4.0G	55W	157W	100W
		13980HX	24 cores and 32 threads	5.6G	4.0G	55W	157W	100W



CPU brand	CPU	CPU model	Kernel/thread	Performance Core (P Core)		Energy efficient core (E-core)		Basic power consumption of CPU	Maximum turbo power consumption of CPU	Default maximum power consumption for shipment
				Basic frequency	Turbo	Basic frequency	Turbo			
Intel	14 th gen i5	14450 HX	10 cores and 16 threads	2.4G	4.8G	1.8G	3.5G	55W	157W	100W
		14500 HX	14 cores and 20 threads	2.6G	4.9G	1.9G	3.5G	55W	157W	100W
Intel	14 th gen i7	14650 HX	16 cores and 24 threads	2.2G	5.2G	1.6G	3.7G	55W	157W	100W
		14700 HX	20 cores and 28 threads	2.1G	5.5G	1.5G	3.9G	55W	157W	100W
Intel	14 th gen i9	14900 HX	24 cores and 32 threads	2.2G	5.2G	1.6G	3.7G	55W	157W	100W

BIOS function buttons

BIOS function keys	Functional description
Press Delete when starting up	Enter the BIOS function interface
Press F11 to power on	Select the startup option, or choose to enter the BIOS function interface
← →	Move the left and right arrows to select an item
↑ ↓	Move the up and down arrows to select an item
Enter	Select the project and enter the submenu
+/-	Change the selection or add or subtract numerical values
F1	Display relevant help content
F9	Restore factory settings
F10	Save changes and exit
Esc	Exit



Chapter 1: Product Specifications

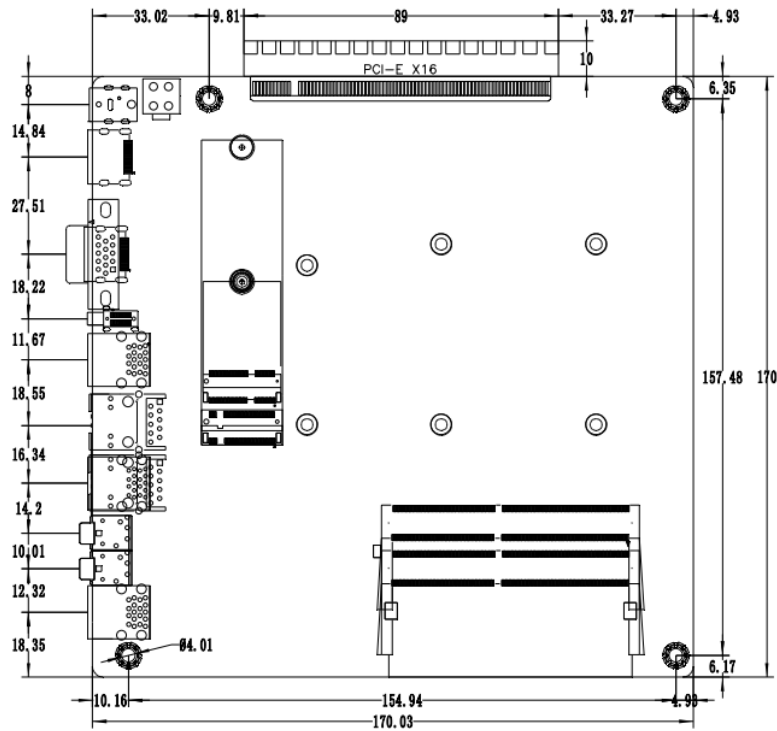
Size	170mm(L)*170mm(W)*21mm(H) Height of thin fan: 21mm (H), height of thick fan: 33mm(H)	
CPU	QM1200	Supports Intel® Alder Lake 12 th gen HX series CPU
		Supports Intel® Raptor Lake 13 th ,14 th gen HX series CPU
Chipset	12 th gen	HM670 chipset
	13 th ,14 th gen	HM770 chipset
Power supply	1*DC_IN	The inner diameter of the DC head is 2.5mm, supporting 12V/19V
	1*DC_ATX (4Pin)	The default maximum power consumption for shipment is about 100W. It is recommended to use a 12V 10A or 19V 6.3A or higher power supply;
Memory	2*SODIMM slots	NB-DDR4 memory,support 2133/2400/2666/2933/3200 memory, maximum support 64G
Network function	1/2*RJ45_LAN port	Single network: supports Intel® I219V Gigabit Ethernet card by default; Dual network: support Intel® I219V Gigabit Ethernet card+Realtek 81111H Gigabit Ethernet card; Optional support Intel® I219V Gigabit Ethernet card+Motorcomm YT6801 Gigabit Ethernet card; Support network wake-up and PXE function;
	1*M2_WIFI port	Supports Key-E interface M.2 2230 PCIE3.0 x1 & USB signals, supports WiFi Bluetooth modules
	1*CN ((5G port)	Supports Key-B interface M.2 5G (3052) module
Display function	Intel® UHD Graphics	Support single display, dual display/triple display/quad display replication, dual display/triple display/quad display expansion, dual display under SHELL;
	1*HDMI1® port	Supports 4K resolution 4096/3840*2160@60Hz
	1*HDMI2® port	Supports 4K resolution 4096/3840*2160@60Hz
	1*VGA DB15 port	Supports resolution 1920*1080@60Hz
	Choose between HDMI2® interface and VGA interface,supports HDMI2® interface by default,can be modified to support VGA interface	
	1*Type_C port	Supports display function and 8K resolution 7680*2160@60Hz
	1*LVDS/EDP pin	Supports resolution 1920*1080@60Hz (30Pin, 2*15Pin, 2.0mm)
	Default support for LVDS, optional support for EDP, shared pins; EDP uses EDP-B screen cable, does not support 4K resolution	
	1*EDP1 pin	EPD-C screen cable,supports 4K resolution 4096/3840*2160@60Hz (30Pin, 2*15Pin, 2.0mm)
	1*LVDS_PWR1 pin	LVDS/EDP working voltage control pin (6Pin, 2*3Pin, 2.0mm)
	1*LCD_PWR1 pin	EDP1 working voltage control pin (6Pin, 2*3Pin, 2.0mm)
	1*INVERT pin	LVDS backlight control pin (6Pin, 1*6Pin, 2.0mm)
	1*PCI-E X16 slot	Optional 1*PCI-E X16 slot, supports PCIE4.0 x16 signals, can be connected to independent graphics cards and PCI-E devices
USB function	6*USB3.2 port	Rear standard USB3.2 Gen1 interface, with a maximum transmission bandwidth of 5Gbps (after switching to dual network, only 4*USB3.2 interface is available)
	1*Type-C port	Supports data transmission
	1*F_USB3_A pin	Front USB3.2 Gen1 pin, one set with 2*USB3.2 Gen1 (19Pin, 2*10Pin, 2.0mm)
	1*F_USB1 pin	Front USB2.0 pin, one set with 2*USB2.0 (9Pin, 2*5Pin, 2.0mm)



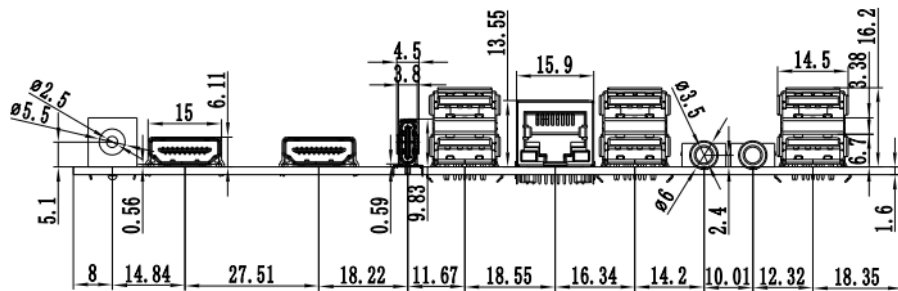
	1*F_USB2 pin	Front USB2.0 pin, one set with 1*USB2.0 (9Pin, 2*5Pin, 2.0mm)
	Choose between the USB2.0 signal of the CN1 (M2_5G) interface on the motherboard and the USB2.0 signal of the 3rd/5th/7th/9th pins of the F_USB2. By default, CN1 (M2_5G) has a USB2.0 signal	
Sound function	Integrated Realtek ALC897 HD digital audio decoder, 6-channel high fidelity audio controller;	
	1*LINE_OUT port	Supports audio output (green)
	1*MIC_IN port	Supports microphone input (red)
	1*INT_SPK pin	Supports 8-ohm and 5-watt speaker output (amplifier) (4Pin, 1*4Pin, 2.0mm)
	1*F_AUDIO pin	Standard audio pin (9Pin, 2*5Pin, 2.54mm)
Hard disk function	1*NGFF1(M.2-SATA/PCIE port)	Supports Key-M interface M.2 2280 NVME PCIE4.0 x4 / SATA adaptive standard SSD; Optional M.2 2242 hard drives;
	1*SATA1 port	Standard SATA hard drive interface, supporting SATA 3.0
	1*SATA_PWR1 pin	Hard drive power supply pin, capable of supplying 5V and 12V power (4Pin, 1*4Pin, 2.54mm)
Switch function	1*F_PANEL pin	Switch, power light, hard disk light, restart pin (9Pin, 2*5Pin, 2.54mm)
	1*AUTO_ON pin	Hardware control power on plug (3Pin, 1*3Pin, 2.0mm)
Other I/O	1*COM1 pin	Supports standard RS232/RS422/RS485 optional (BIOS settings) (9Pin, 2*5Pin, 2.54mm)
	1*COM2 pin	Only supports standard RS232 (9Pin, 2*5Pin, 2.54mm)
	1*COM3-6 pin	Only supports standard RS232 (39Pin, 2*20Pin, 2.0mm)
	1*JCOM1/2 pin	COM1/2 pin 9 is set to 0V/5V/12V (6Pin, 2*3Pin, 2.0mm)
	1*SIM_CARD slot	Supports SIM card, SIM card is required when using 5G
	1*CLR_CMOS pin	Motherboard reset and discharge pins (3Pin, 1*3Pin, 2.0mm)
	1*FAN1 pin	CPU fan pin, supports temperature control (3Pin, 1*3Pin, 2.54mm)
	1*SYS_FAN pin	System fan pin (3Pin, 1*3Pin, 2.54mm)
	1*GPIO_CN pin	GPIO control pins, supporting 8 GPIO channels (10Pin, 2*5Pin, 2.0mm)
Operating environment	Working temperature: -10°C~60°C; Working humidity: 5%~95% relative humidity, no condensation	
BIOS	AMI BIOS,support power on, timed power on, and intelligent recognition of remote power on/off devices	
Watch Dog	Watchdog programming, supports hardware reset function (256 levels, 0-255 seconds)	
Operating system	Supports Windows 11, Windows 10, LINUX, etc	



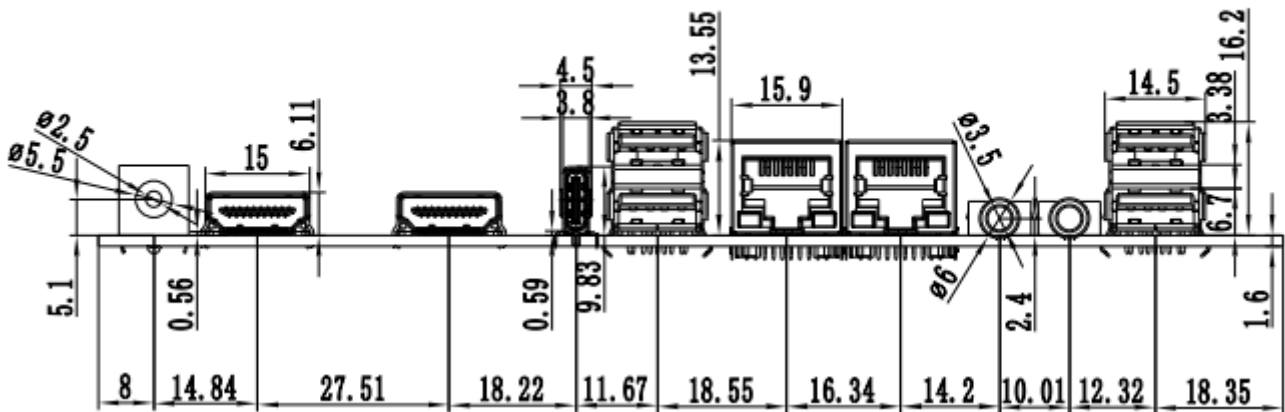
1.1 motherboard size



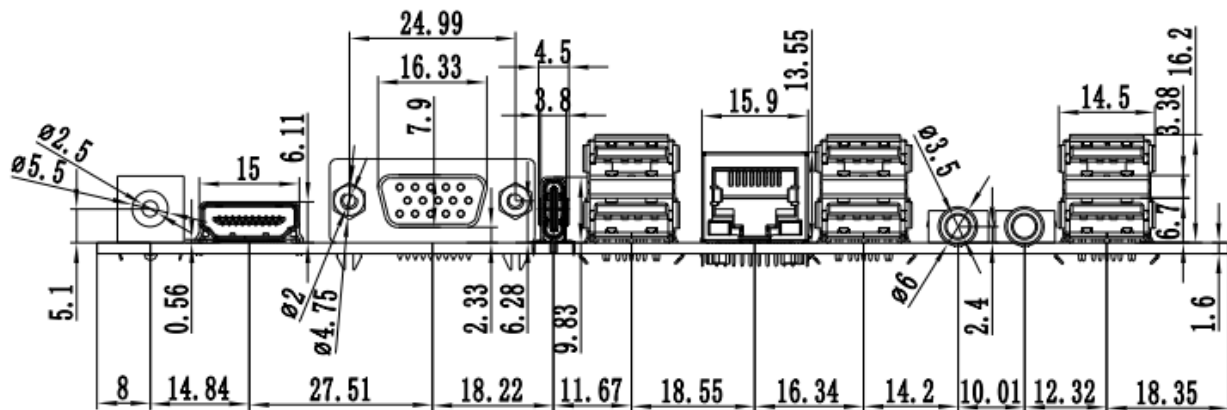
Dual HDMI+ single network interface ↓



Dual HDMI+ dual network interface ↓



HDMI+VGA+ single network interface ↓



HDMI+VGA+ dual network interface ↓

