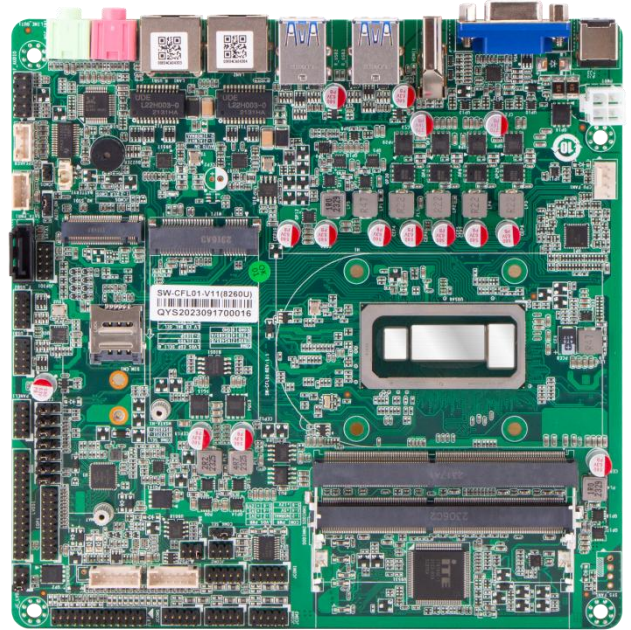


QY-MB-8130U-MITX

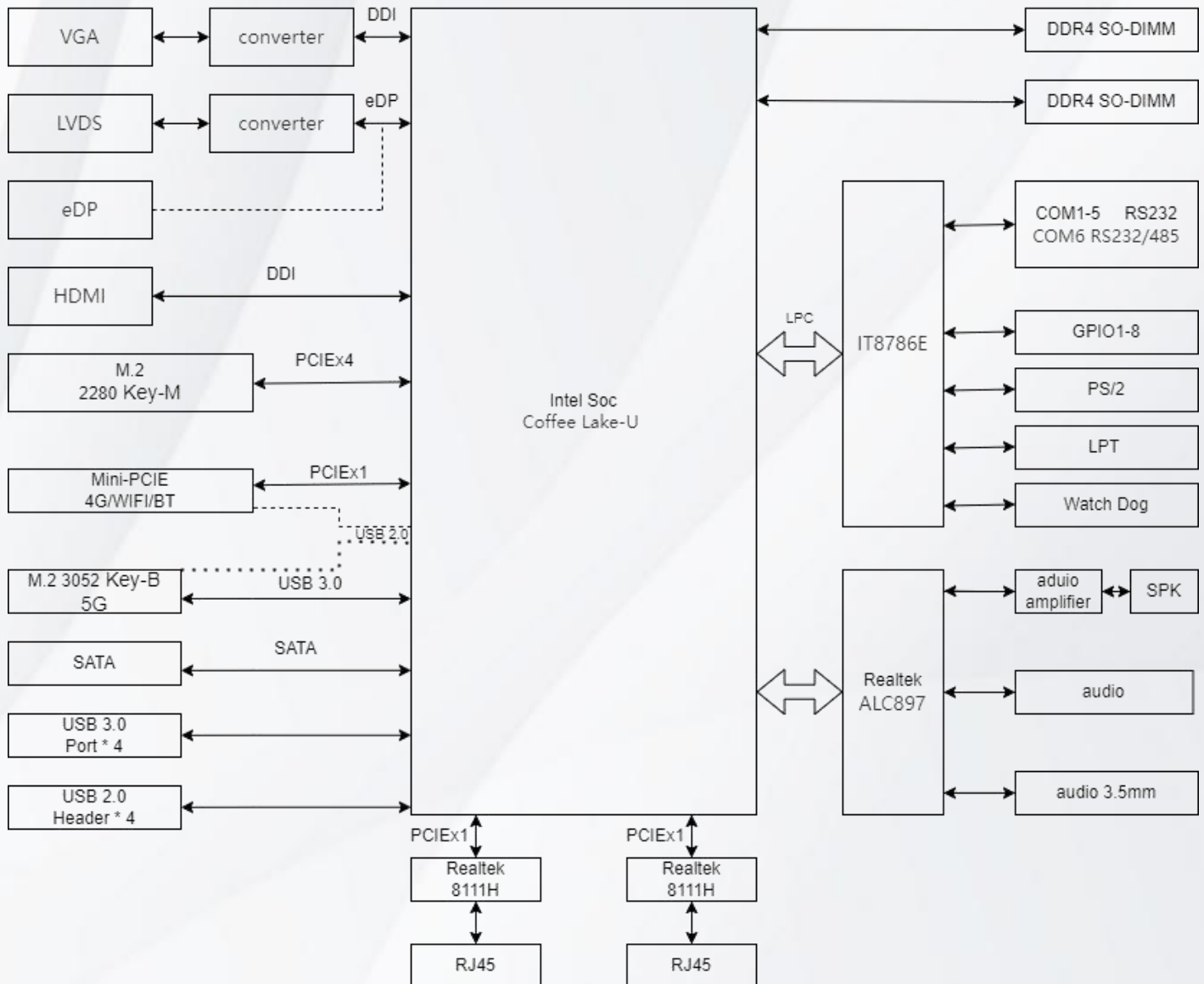
- 8th Generation Intel® Core™ i3 Processors
- 2*Gigabit LAN,4*USB 3.0,4*USB 2.0,6*COM
- 1*HDMI,1*VGA,1*LVDS/1*eDP(Support two-out-of-three display mode.)
- 2*DDR IIII RAM slot
- 1*M.2 slot,1*SATA SSD slot
- 1*Mini PCIE slot (GSM / WIFI/BT)
- DC 12V power input
- Mini-ITX type board, 17*17 cm
- 1*Mic-in,1*Line-out connector



1. Specification:

Model	QY-MB-8130U-MITX
CPU	Intel® Core™ i3-8130U 2 core, 4 total threads, 2.2 to 3.4 GHz, 4 MB Intel® Smart Cache
Display	Support dual display simultaneously: 1*HDMI: resolution up to 4096 * 2304@24Hz 1*VGA: resolution up to 1920*1080@60Hz 1 * LVDS/eDP: LVDS, resolution up to 1920 * 1080@60Hz eDP, resolution up to 4096 * 2304@60Hz
Memory	DDR4-2400, 2 * SO-DIMM, up to 64GB *Note: Due to the limitation of Windows 32-bit operating system, if more than 4 GB of memory is installed, it is actually. The memory capacity displayed on will be less than 4 GB.
Storage	1*SATA 3.0 7P connector 1 * M.2 2280 Key-M PCIE3.0 x4
Expansion	1 * Mini-PCle (Wifi supported with 4G/BT selectable) 1 * M.2 3052 Key-B (5G supported)
Ethernet	2*Realtek 1Gbps PCIE Ethernet controller, RJ-45 type
USB	4 * USB3.0 (Rear I/O, TYPE-A) 4 * USB2.0 (Internal, Header)
COM	5*RS-232, header type 1*RS-485 / 232, header type
Audio	Realtek HDA codec with MIC / Line-out and Amplifier 1*front Audio header (Line-out+MIC) 1*Line-out / MIC Jack 1*SPK
Other Ports	1 * LPT Header 1 * PS/2 Header 1 * Micro SIM Card Slot 1 * CPU FAN Header 1 * Front Panel Header 1 * GPIO Header
System	Windows 10/11, Linux
Temperature	Storage: -30°C ~ 75°C Operating: -20°C ~ 60°C
Power Input	DC 12V

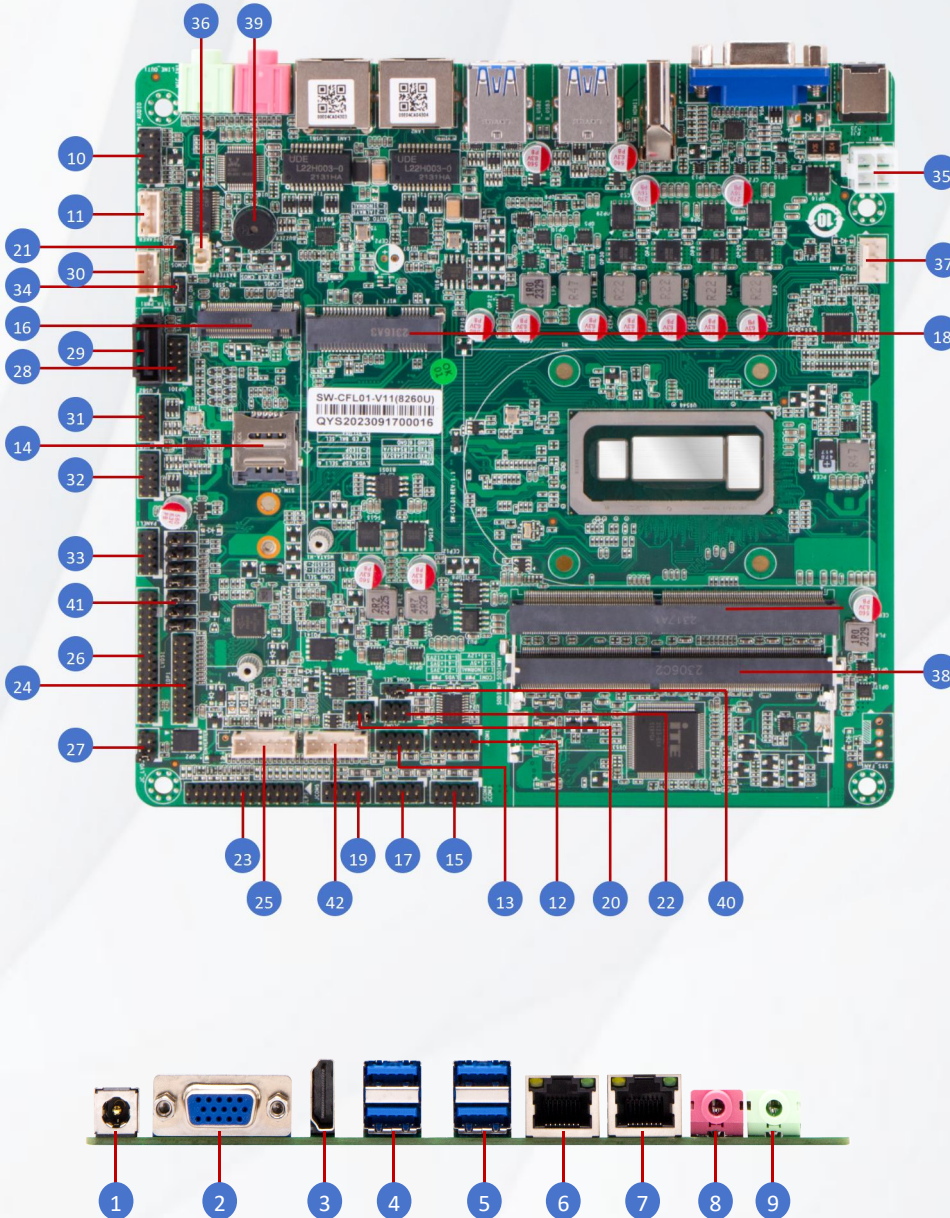
2. Date Flow

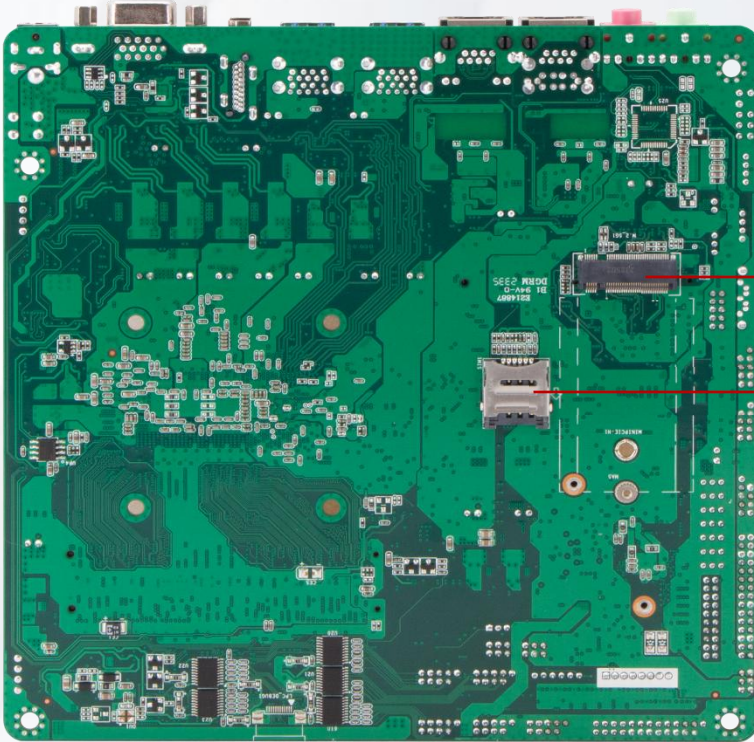


3. Marking Instruction

Connector&Header

1	DC12V Power Input Connector
2	VGA Connector
3	HDMI Connector
4	USB3.0 Connectors
5	USB3.0 Connectors
6	LAN Connectors
7	LAN Connectors
8	Mic-in Connector
9	Line-out Connector
10	Front Audio Pin Header
11	Amplifier Pin Header
12	COM1 Pin Headers
13	COM2 Pin Headers
14	SIM Card Slot(SIM CN1)
15	COM3 Pin Headers
16	M.2 2280 Key-M
17	COM4 Pin Headers
18	Mini PCI-4G_CAN Slot (WIFI/4G/BT)
19	COM5 Pin Headers
20	COM1 PWR Select Jumper
21	CMOS Clear Jumper
22	COM6 Pin Headers
23	Parallel Port Pin Header
24	eDP Signal Pin Header
25	eDP/LVDS Backlight Control Pin Header
26	LVDS Signal Pin Header
27	eDP/LVDS VDD Select Jumper
28	GPIO Pin Header
29	SATA 3.0 Connector
30	SATA Power Pin Header
31	USB Pin Headers
32	USB Pin Headers
33	Front Panel Pin Header
34	AUTO_ON Pin Headers
35	DC12V Power Input Header
36	CMOS battery Holder
37	CPU Fan Header





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38	DDR4 SO-DIMM Slot
39	buzzer
40	COM6 RS232/RS485 Signal Select Jumpers
41	eDP/LVDS Signal Select Jumpers
42	PS/2 Pin Header
43	M.2 3052 Key-B
44	SIM Card Slot(SIM)

4. Definition

1. DC-12V power input header (5.5*2.5mm)

Positive inside and negative outside, 5.5mm outer diameter and 2.5mm inner diameter DC power head.

2. VGA connector

This socket support VGA (D-Sub) specification and can support the resolution up to 1920*1080@60Hz (the actual supported resolution will be depending on the monitor you use), you can connect a monitor that supports VGA interface to this socket.

3. HDMI connector

This socket supports HDMI specification and can support resolution up to 4096 * 2304@24Hz (the actual supported resolution will be depending on the monitor you use), you can connect a monitor that supports HDMI interface to this socket.

4/5. USB 3.0 connector

Two USB 3.0 type-A interfaces are on the rear panel, support 5Gbps. And can be compatible with USB 2.0 specification. You can connect USB devices to this interface.

6/7. LAN connector

This network cable interface is an ultra high speed Ethernet, which provides connection to the internet with the highest transmission rate per second. Up to 1Gbps.

8. Mic-in connector(Pink)

This jack is microphone connection hole.

9. Line-out connector(Green)

This jack is an Audio hole and supports Audio amplification function. It is recommended to connect headphones and speakers to this jack for better performance. Output audio (the actual effect may vary depending on the device you use).

10. Front Audio pin header (2*5 pin 2.54mm)

No.	Location	Pin	Definition	Pin	Definition
10	F_Audio-1	1	MIC-L	2	GND
		3	MIC-R	4	+ 3.3VS
		5	LINE-R	6	MIC-Sense
		7	GND		
		9	LINE-L	10	LINE-Sense

11. Amplifier pin header (1*4 pin 2.00mm wafer header)

No.	Location	Pin	Definition	Pin	Definition
11	J_BKL-1	1	SPKR-	2	SPKR+
		3	SPKL+	4	SPKL-

12. COM-1 pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
12	COM-1	1	DCD	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI-PWR		

Note: Pin9 of COM-1 also can be 0/5/12V (COM-1 PWR select jumptr)

13. COM-2 pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
13	COM-2	1	DCD	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI		

14. SIM card slot (Micro SIM specification Location:SIM_CN1)

15. COM-3 pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
15	COM-3	1	DCD	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI		

16. M.2 2280 Key-M

The M.2 socket can support M.2 PCIe SSD and PCIe 3.0x4.

17. COM-4 pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
17	COM-4	1	DCD	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI		

18. Mini PCI-4G_CAN Slot (WIFI/4G/BT)

Note: the 4G module of this interface is connected with the SIM card on the SIM CN1.

19. COM-5 pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
19	COM-5	1	DCD	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI		

20. COM-1 PWR select jumptrt (2*3 pin 2.00 header)

No.	Location	Pin	Definition	Pin	Definition
20	COM-1 PWR	1	COM-1-RI-PW(Default)-	2	RI
		3	COM-1-RI-PW-	4	+ 5VS
		5	COM-1-RI-PW-	6	+12VS

Note: Pin9 of COM-1 also can be 0/5/12V (COM-1 PWR select jumper)

21. CMOS Clear Jumper

No.	Location	Pin	Definition	Pin	Definition
21	JCMOS1	1	Clear CMOS	2	GND

22. COM-6 pin header (2*3 pin header 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
22	COM-6	1	COM-6 RXD	2	RS-485-B
		3	COM-6 TXD	4	RS-485-A
		5	GND	6	GND

23. Paraller port pin header (2*13 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
23	LPT-1	1	STB	2	AFD
		3	D0	4	ERR
		5	D1	6	INIT
		7	D2	8	SLINT
		9	D3	10	GND
		11	D4	12	GND
		13	D5	14	GND
		15	D6	16	GND
		17	D7	18	GND
		19	ACK	20	GND
		21	BUSY	22	GND
		23	PE	24	GND
		25	SLCT		

24. eDP signal pin header (2*10 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
24	eDP	1	LCD-VDD	2	LCD-VDD
		3	GND	4	GND
		5	AUX-CH-N	6	AUX-CH-P
		7	GND	8	GND
		9	N/C	10	N/C
		11	N/C	12	N/C
		13	LANE-1-N	14	LANE-1-P
		15	LANE-0-N	16	LANE-0-P
		17	GND	18	GND
		19	N/C	20	HPD

Note: LV-eDP-SEL is the function switching jumper of eDP or LVDS. And only one of them can be used simultaneously.

25. eDP / LVDS backlight control pin wafer header (1*6 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
25	BLT-PWR-1	1	INVT-PWR	2	INVT-PWR
		3	BLK-EN	4	BLK-PWM
		5	GND	6	GND

26. LVDS signal pin header (2*15 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
26	LVDS	1	LCD-VDD	2	LCD-VDD
		3	LCD-VDD	4	N/C
		5	GND	6	GND
		7	TA0N-	8	TA0P+
		9	TA1N-	10	TA10+
		11	TA2N-	12	TA2P+
		13	LVDS-DETECT	14	GND
		15	CLK-TAN-	16	CLK-TAP+
		17	TA3N-	18	TA3P+
		19	TA0N-	20	TB0P+
		21	TB1N-	22	TB1P+
		23	TB2N-	24	TB2P+
		25	GND	26	GND
		27	CLK-TBN-	28	CLK-TBP+
		29	TB3N-	30	TB3P+

Note: [1] LV_EDP_SEL is the function switching jumper of EDP or LVDS. And only one of them can be used simultaneously. See [41]eDP/LVDS Signal Jumper.

27. eDP / LVDS VDD select jumper (2*3 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
27	JC-LVDS-1	1	LCD-VDD	2	+ V3.3S
		3	LCD-VDD	4	+ V5S
		5	LCD-VDD	6	+ V12S

28. GPIO pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
28	GPIO1	1	+ 5VS	2	GND
		3	IN-GP37 (A02.bit7)	4	OUT-GP47 (A03.bit7)
		5	IN-GP36 (A02.bit6)	6	OUT-GP40 (A03.bit0)
		7	IN-GP23 (A01.bit3)	8	OUT-GP33 (A02.bit3)
		9	IN-GP10 (A00.bit0)	10	OUT-GP67 (A05.bit7)

29. SATA 3.0 connector

The SATA socket supports SATA 3.0 specifications and is compatible with SATA 2.0 and SATA 1.0 specifications. A SATA socket can only be connected to one SATA device.

30. SATA power pin wafer header (1*4 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
30	SATA-PWR-1	1	+ 12V	2	GND
		3	GND	4	+ 5V

31. USB pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
31	F_USB-2	1	+ 5S	2	+ 5VS
		3	Data0-	4	Date 1+
		5	Data0+	6	Date 1+
		7	GND	8	GND
				10	N/C

32. USB pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
32	F_USB-1	1	+ 5S	2	+ 5VS
		3	Data0-	4	Date 1+
		5	Data0+	6	Date 1+
		7	GND	8	GND
				10	N/C

33. Front panel pin header (2*5 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
33	F-PANEL	1	HDD-LED+	2	PWR-LED+
		3	HDD-LED-	4	GND
		5	GND	6	PWE-SW
		7	RESET	8	GND
		9	N/C		

34. AuTO-on pin header (1*3 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
34	AUTO-on	1	AUTO(Default)	2	PWR-SW
		3	+ V3.3S		

35. DC-12V power input header (ATX-4 pin)

No.	Location	Pin	Definition	Pin	Definition
35	PWR-in	1	GND	2	GND
		3	DC-IN-12V	4	DC-IN-12V

36. CMOS battery Holder (1*2 1.25mm wafer)

37. CPU fan header (4*1 pin 2.54mm header)

No.	Location	Pin	Definition	Pin	Definition
37	CPU-FAN-1	1	GND	2	+ 12V
		3	FAN speed detection	4	FAN speed control

38. DDR 4 SO-DIMM slot

39. buzzer

40. COM-6 RS-485 / 232 signal select jumper (1*3 pin 2.00mm header)

No.	Location	Pin	Definition	Pin	Definition
40	COM-6-SEL	1	COM-6 RS-232	2	COM-6-RXD
		3	COM-6 RS-485	4	

41. eDP / LVDS signal select jumper (1*3 pin 2.00mm*7 pairs)

Jump 1-2 pin for LVDS signal output and jump 2-3 pin for eDP signal output.
Default 1-2 pin LVDS signal output.

42. PS/2 Pin Header (1*6 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
42	JPS2	1	KB_CLK	2	KB_DATA
		3	MS_CLK	4	GND
		5	+V5S	6	MS_DATA

43. M.2 3052 Key-B

The socket supports the 5G module of M.2 3052 key-B and the USB3.0 protocol.
Please install the SIM on SIM1 for use.

44. SIM Card Slot(Micro SIM specification Location: SIM1)

The socket supports the 5G module of M.2 3052 key-B and the USB3.0 protocol.
Please install the SIM on SIM1 for use.

(END)

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Safety tips

1. Please be sure to read the safety manual before using this product.
2. When you power the device, make sure the voltage meets the device requirements.
3. To avoid electric shock to the human body or damage to the product, be sure to turn off the power when cleaning the motherboard.
4. Please use special motherboard cleaner to clean the motherboard.
5. Please ensure that any liquid flows or splashes into the motherboard to avoid short circuit or fire.
6. For equipment that uses a power cord, there must be an easily accessible power outlet near the equipment.
7. Please do not use the device in a humid environment.
8. Accidental dropping or tipping may cause equipment malfunction or damage.
9. Please turn off the power before connecting, plugging or unplugging any signal cables.
10. After shutting down, please wait at least 30 seconds before turning it on again.
11. If you do not use the device for a long time, please turn off the power.

12. If you need to upgrade or disassemble the motherboard, you must ensure that the operating station is an electrostatic discharge working point, because precision devices are very sensitive to electrostatic discharge.

13. Please ensure that the device has good ventilation and heat dissipation environment.

14. Please do not disassemble the motherboard by yourself. For safety reasons, this motherboard can only be operated by professional technicians.