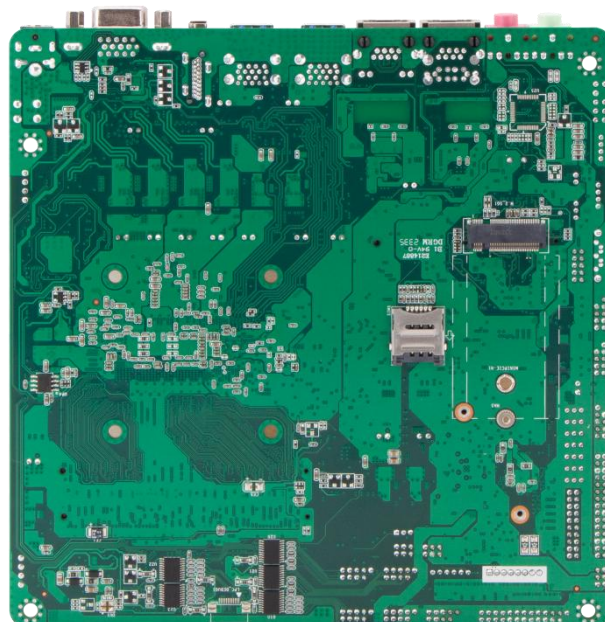
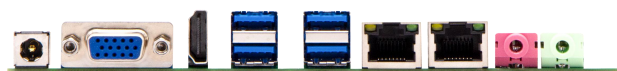
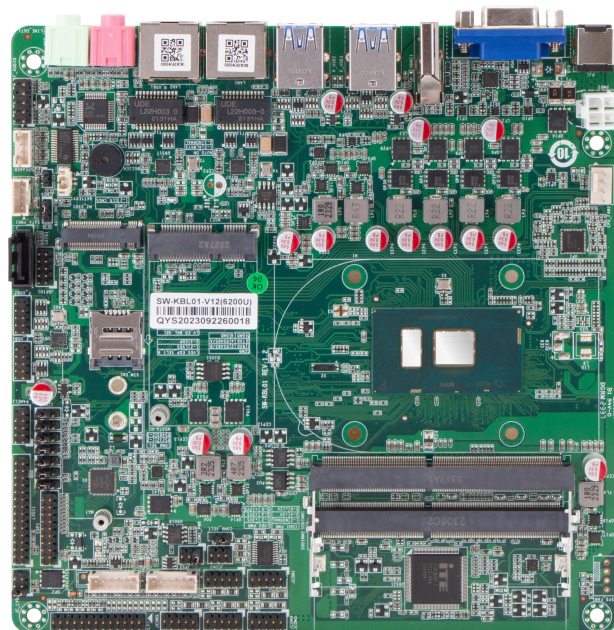


## SW-KBL01-V12(6200U)双网口

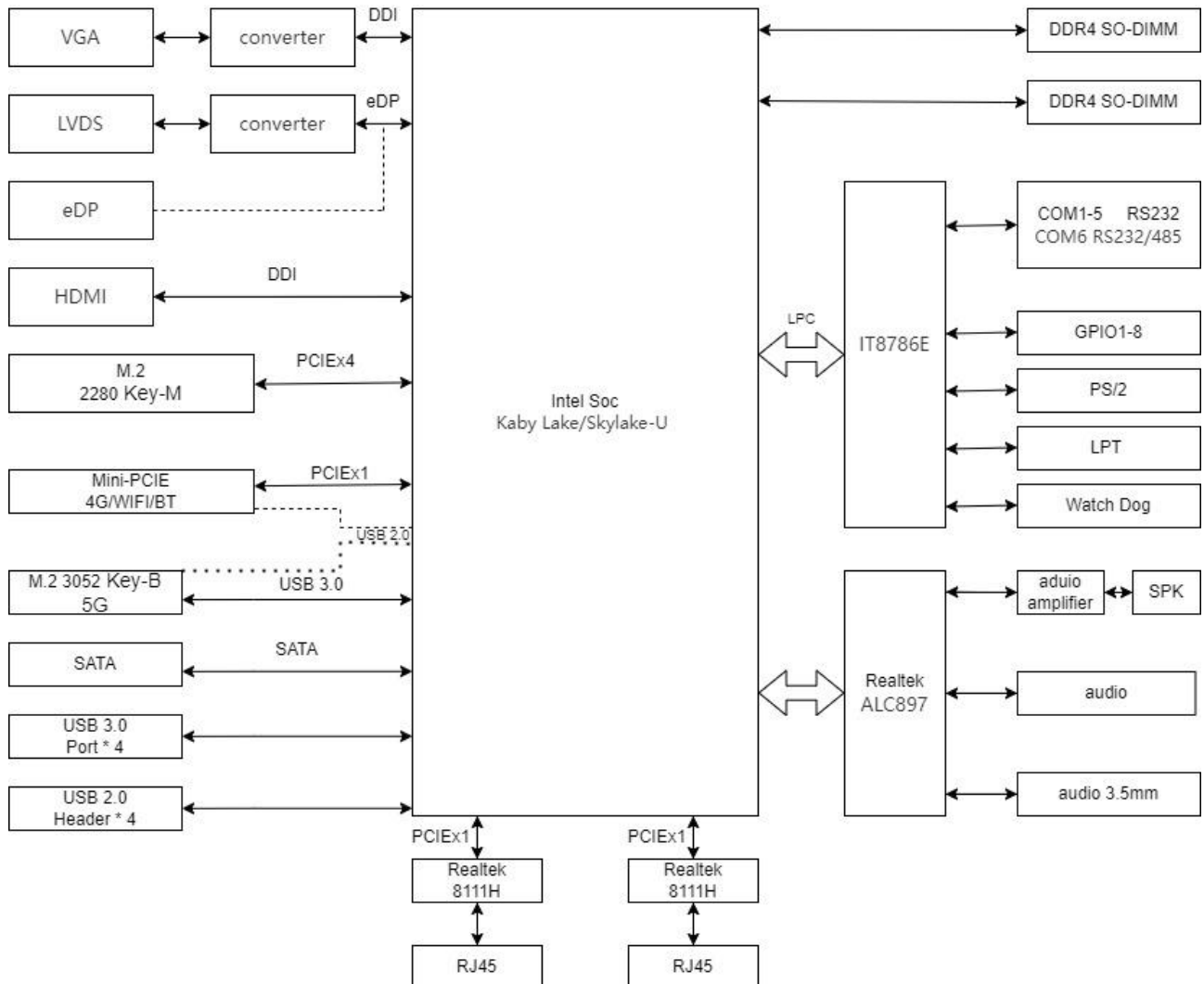
- Intel Skylake 6<sup>th</sup>Core™ i5 CPU
- 6\*COM, 4\*USB3.0, 4\*USB2.0, 2\*Gigabit LAN
- 1\*LVDS/eDP, 1\*HDMI, 1\*VGA  
(Support triplet display simultaneously)
- 1\*Mini-PCle (4G/Wifi/BT)
- 1\*M.2 2280 Key-M,Support PCIe 3.0 x4
- M.2 3052 Key-B
- Mini-ITX, DC 12V Power Input



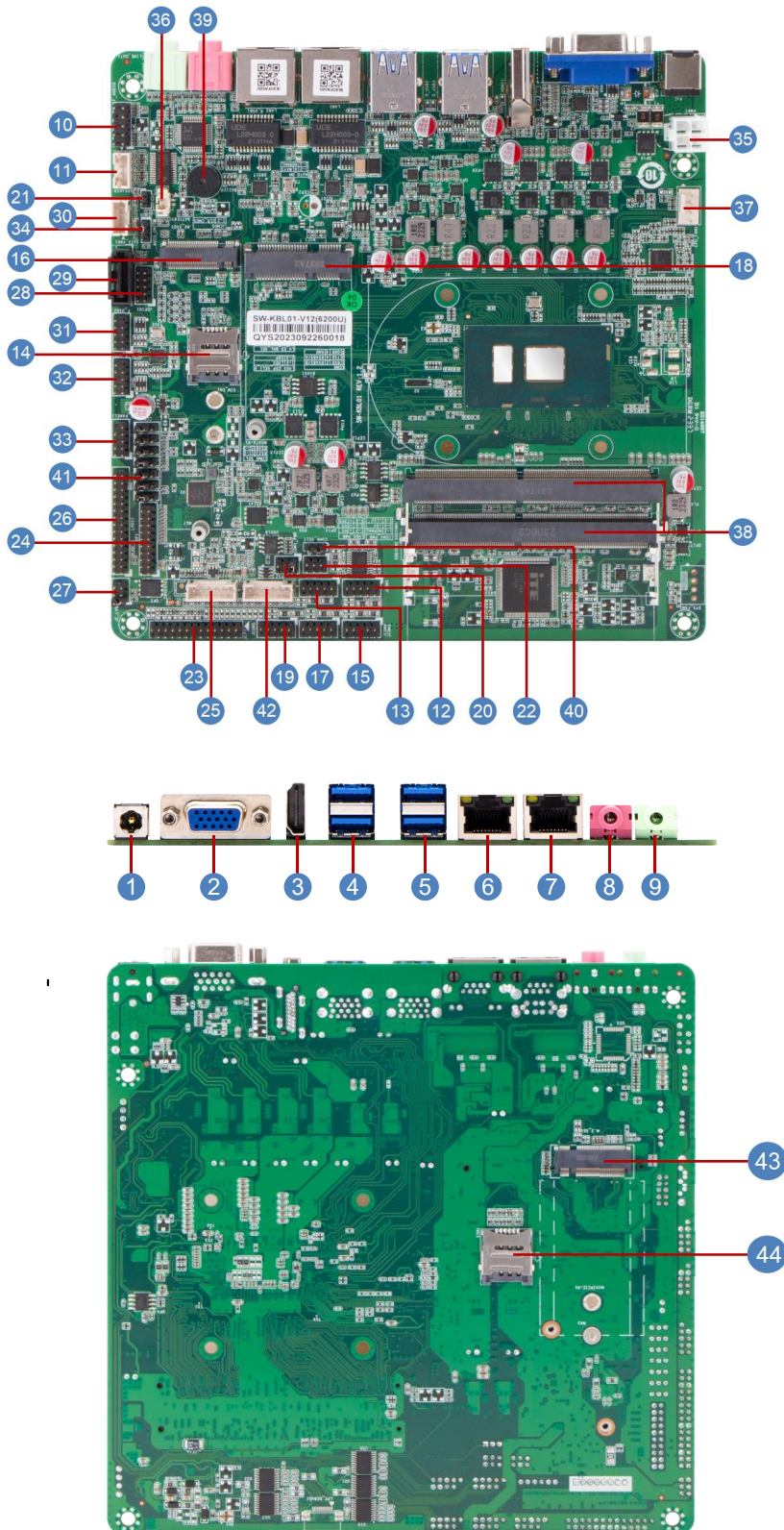
## 1. Specification

<b>Model</b>	<b>SW-KBL01 V12</b>
<b>CPU</b>	Intel® Core™ i5-6200U, up to 2.80G, Dual-core
<b>Display</b>	Support quad 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
<b>Memory</b>	DDR4-2133 , 2 * SO-DIMM, up to 32GB  *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.
<b>Storage</b>	1 * SATA3.0 7P Connector 1 * M.2 2280 Key-M PCIE3.0 x4
<b>Expansion Interface</b>	1 * Mini-PCle ( Wifi supported with 4G/BT selectable) 1 * M.2 3052 Key-B ( 5G supported)
<b>Ethernet</b>	2 * Realtek® 1Gbps PCIe Ethernet Controller, RJ45
<b>Audio</b>	Realtek® HDA Codec, with MIC/Line-out and Amplifier 1 * Front Audio Header (Line-Out + MIC) 1 * Line-Out/MIC Jack 1 * SPK
<b>COM</b>	5 * RS232 Header 1 * RS232/RS485 Header
<b>USB</b>	4 * USB3.0 (Rear I/O, TYPE-A) 4 * USB2.0 (Internal, Header)
<b>Other Ports</b>	1 * LPT Header 1 * PS/2 Header 1 * Micro SIM Card Slot 1 * CPU FAN Header 1 * Front Panel Header 1 * GPIO Header 1 * CMOS Clear Jumper
<b>System</b>	Windows 7/10/11, Linux
<b>Temperature</b>	Storage: -30~75°C Operating: -20° ~60°C
<b>BIOS</b>	AMI UEFI BIOS (Support Watchdog Timer)
<b>Power Input</b>	DC 12V
<b>Factor</b>	MINI-ITX Standard (170mm * 170mm)

## 2. Data 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
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] DC12V 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 supports VGA(D-Sub) specification and can support the resolution up to 1920x1080@60 Hz (the actual supported resolution will be Depending on the monitor you use), you can connect a monitor that supports VGA(D-Sub) interface to this socket.

[3] HDMI Connector

This socket supports HDMI specifications and can support resolutions up to 1920x1080@60 Hz (the actual supported resolutions will be Depending on the monitor you use), you can connect a monitor that supports HDMI interface to this socket.

[4] USB3.0 Connectors

Two USB3.0 Type-A™ interfaces are on the rear panel, supporting 5Gbps. And can be compatible with USB 2.0 specification. You can connect USB devices to this interface.

[5] USB3.0 Connectors

Two USB3.0 Type-A™ interfaces are on the rear panel, supporting 5Gbps. And can be compatible with USB 2.0 specification. You can connect USB devices to this interface.

[6] LAN Connectors

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 1 GB (1 Gbps)

[7] LAN Connectors

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 1 GB (1 Gbps).

[8] Mic-in Connector (pink)

This jack is a microphone connection hole.

[9] Line-out Connector(green)

This jack is an audio output 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_AUDIO1	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_BKL1	1	SPKR-	2	SPKR+
		3	SPKL+	4	SPKL-

[12] COM1 Pin Header (2\*5 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
12	COM1	1	DCD	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI-PWR		

Note:

[1] Pin9 of COM1 also can be 0/5/12V(COM1 PWR Select Select Jumper).

[13] COM2 Pin Header (2\*5 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
13	COM2	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] COM3 Pin Header (2\*5 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
15	COM3	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] COM4 Pin Header (2\*5 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
17	COM4	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] COM5 Pin Header (2\*5 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
19	COM5	1	DCD	2	RXD
		3	TXD	4	DTR
		5	GND	6	DSR
		7	RTS	8	CTS
		9	RI		

[20] COM1 PWR Select Jumper (2\*3 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
20	COM1 PWR	1	COM1-RI-PW(Default)-	2	RI
		3	COM1-RI-PW-	4	+ 5VS
		5	COM1-RI-PW-	6	+ 12VS

Note:

[1] Pin9 of COM1 also can be 0/5/12V(COM1 PWR Select Select Jumper)

[21] CMOS Clear Jumper

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

[22] COM6 Pin Headers (2\*3 Pin 2.0mm)

No.	Location	Pin	Definition	Pin	Definition
22	COM6	1	COM6_RXD	2	RS485_B
		3	COM6_TXD	4	RS485_A
		5	GND	6	GND

[23] Parallel Port Pin Header (2\*13 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
23	LPT1	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)

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	LANE1_N	14	LANE1_P
		15	LANE0_N	16	LANE0_P
		17	GND	18	GND
		19	N/C	20	HPD

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.

[25] eDP/LVDS Backlight Control Pin wafer Header (1\*6 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
25	BLT_PWR1	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)

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	TA1P+

		11	TA2N-	12	TA2P+
		13	N/C	14	GND
		15	CLK_TAN-	16	CLK_TAP+
		17	TA3N-	18	TA3P+
		19	TB0N-	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.

[27] eDP/LVDS VDD Select Jumper (2\*3 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
25	JC_LVDS1	1	LCD_VDD(Default)	2	+V3.3S
		3	LCD_VDD	4	+V5S
		5	LCD_VDD	6	+V12S

[28] GPIO Pin Header (2\*5 Pin 2.00mm)

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)

No.	Location	Pin	Definition	Pin	Definition
30	SATA_PWR1	1	+ 12V	2	GND
		3	GND	4	+ 5V

[31] USB Pin Headers (2\*5 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
31	F_USB2	1	+5VS	2	+5VS
		3	Data0-	4	Data1+
		5	Data0+	6	Data1+
		7	GND	8	GND
				10	N/C

[32] USB Pin Headers (2\*5 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
32	F_USB1	1	+5VS	2	+5VS
		3	Data0-	4	Data1+
		5	Data0+	6	Data1+
		7	GND	8	GND
				10	N/C

[33] Front Panel Pin Header (2\*5 Pin 2.00mm)

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 Headers (1\*3 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
34	AUTO_ON1	1	AUTO(Default)	2	PWR_SW
		3	+V3.3S		

[35] DC12V Power Input Header (ATX\_4PIN)

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)

No.	Location	Pin	Definition	Pin	Definition
37	CPU_FAN1	1	GND	2	+ 12V
		3	FAN Speed Detection	4	FAN Speed Control

[38] DDR4 SO-DIMM Slot

[39] buzzer

[40] COM6 RS232/RS485 Signal Select Jumpers (1\*3 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
40	COM6_SEL	1	COM6_RS232(Default)	2	COM6_RXD
		3	COM6_RS485		

[41] eDP/LVDS Signal Select Jumpers (1\*3 Pin 2.00mm\*7 pairs)

Jump 1-2pin for LVDS signal output, and jump 2-3pin for eDP signal output. Default 1-2pin 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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安全提示

1. 产品使用前，务必请仔细阅读安全手册，并妥善保管以便日后参考。
2. 当您给设备供电前，请确认电源电压是否符合设备要求。
3. 为避免人体被电击或产品被损坏，用洗板水或电路板专用电路板清洁剂前，请从插座上拔下电源线。
4. 请不要使用液体或去污喷雾剂去清洗设备。
5. 请不要让任何液体流入或溅入到设备内部，以免引起短路或者火灾。
6. 对于使用电源线的设备，设备周围必须有容易接触到的电源插座。
7. 请不要在潮湿环境中使用设备。
8. 请在安装前确保设备放置在可靠的平面上，意外跌落或翻倒可能会导致设备故障或损坏。
9. 当需连接或拔除任何信号线前，须确定所有的电源线事先已被拔掉。
10. 为避免频繁开关机对产品造成不必要的损伤，关机后，应至少等待30秒后再开机。
11. 如果长时间不使用设备，请断开电源线，避免设备被瞬间电压损坏。
12. 如果要进行升级或拆装等动作，须在静电放电工作台上完成所有操作，因为有些精密器件对静电放电（ESD）很敏感。
13. 保证系统良好的散热与通风。
14. 请不要自行拆卸设备，为了安全起见，此设备只能交由专业维修人员。