

采用兆芯KX-U6780A八核ATX工业主板

用户使用手册（标准版）

GM0-6601-02

版本：Ver1.0

说 明

除列明随产品配置的配件外，本手册包含的内容并不代表本公司的承诺，本公司保留对此手册更改的权利，且不另行通知。对于任何因安装、使用不当而导致的直接、间接、有意或无意的损坏及隐患概不负责。

订购产品前，请向经销商详细了解产品性能是否符合您的需求。本手册所涉及到的其他商标，其所有权为相应的产品厂家所拥有。

本手册内容受版权保护，版权所有。未经许可，不得以机械的、电子的或其它任何方式进行复制。

温馨提示

- 1、产品使用前，务必请仔细阅读产品说明书。
- 2、对未准备安装的主板，应将其保存在防静电保护袋中。
- 3、在从包装袋中拿主板前，应将手先置于接地金属物体上一会儿，以释放身体及手中的静电
- 4、在使用前，宜将主板置于稳固的平面上。
- 5、请保持主板的干燥，散热片的开口缝槽是用于通风，避免机箱内的部件过热。请勿将此类开口掩盖或堵塞。
- 6、在将主板与电源连接前，请确认电源电压值。
- 7、请将电源线置于不会被践踏的地方，且不要在电源线上堆置任何物件。
- 8、当您需连接或拔除任何设备前，须确定所有的电源线事先已被拔掉。
- 9、为避免人体被电击或产品被损坏，在每次对整机、板卡进行拔插或重新配置时，须先关闭交流电源或将交流电源线从电源插座中拔掉。
- 10、请留意手册上提到的所有注意和警告事项。
- 11、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。
- 12、设备在使用过程中出现异常情况，请找专业人员处理。
- 13、请不要将本设备置于或保存在环境温度高于70°C上，否则会对设备造成伤害。

第1章 综述

1.1 包装清单

感谢您选用我们的产品。

请确认您所购买的主板包装是否完整，如果有包装损坏或是有任何配件短缺的情形，请尽快与您的经销商联系。

- ★ 主板 X 1
- ★ 说明书 X 1



上述附带配件规格仅供参考，实际规格以实物为准，本公司保留修改之权利。

1.Models and Attentions

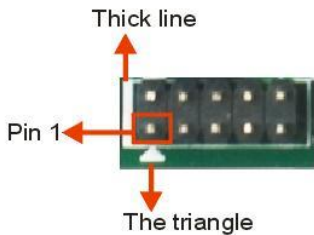
1.1 Models

This manual is applied to following models:

Model	CPU	COM	LAN	USB	VGA	eDP /HDMI	DVI	M.2 KEY-E	M.2 KEY-M	Mini-PCIe	SATA
GM0-6601-01	KX-U6580	6	2	15	1	1	1	PCIE+ USB2.0	SATA SSD	PCIE+ USB2.0	3
GM0-6601-02	KX-U6780A	6	2	15	1	1	1	PCIE+ USB2.0	SATA SSD	PCIE+ USB2.0	3

1.2 Attentions

- 1) Notes under a table or figure indicate the difference of models, or alternative definition of specific pin of the header (jumper/connector).
- 2) How to identify the first pin of a header or jumper
 - Usually, there is a thick line or a triangle near the header's or jumper's pin 1.



- Square pad, which you can find on the back of the motherboard, is usually used for pin 1.



2. Specification

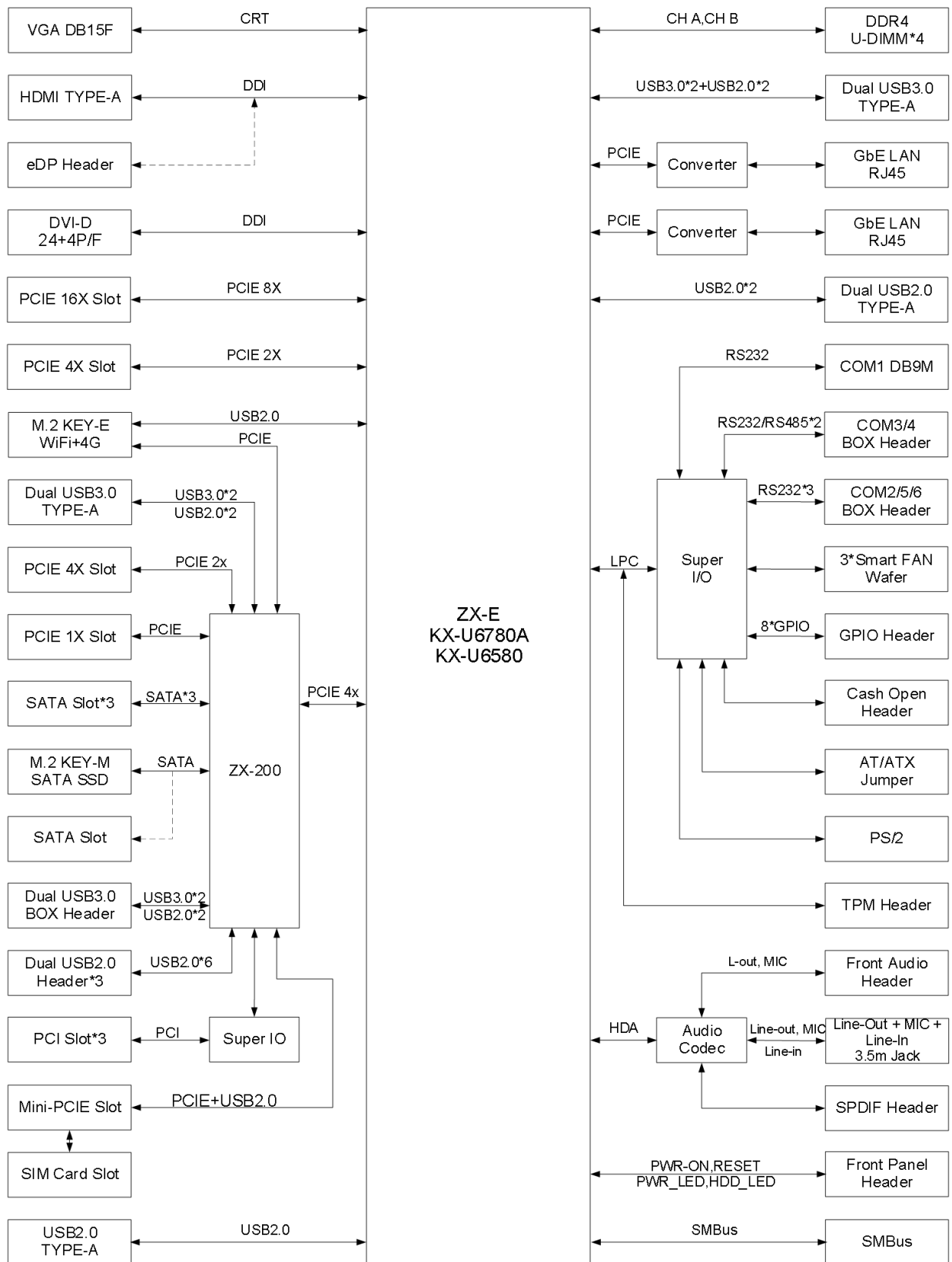
Model	GM0-6601-01	GM0-6601-02
CPU ^[1]	Supports KX-U6580, Octa-Core, clock speed 2.5G, TDP 70W	Supports KX-U6780A, Octa-Core, clock speed 2.7G, TDP 70W
Display ^[2]	1 * VGA (DB15F): Support max resolution up to 1920x1200@60Hz 1 * HDMI (TYPE-A): Support max resolution up to 4096*2160@60Hz 1 * eDP (Header): Support max resolution up to 2560x1440@60Hz 1 * DVI-D (24+4P/F): Support max resolution up to 2560x1440@60Hz	
Memory	Support DDR4-2666 MHz, 4 * U-DIMM Slot, up to 64GB	
Storage ^[3]	3 * SATA3.0 7P Connector 1 * M.2 Key-M Slot (SATA SSD, 2230/2242/2280)	
Ethernet	2 * Intel® GBE LAN Chip (10/100/1000 Mbps, RJ45)	
Audio	Realtek AUDIO HDA Codec, 1 * Front Audio Header (MIC +Line Out) 1 * Line-Out + MIC + Line-In 3.5mm Jack 1 * SPDIF Header	
Expansion Slots	1 * Mini PCI-E Slot (PCIE+USB2.0, support WIFI+4G/3G, with 1* Full-Size SIM Card Slot) 1 * M.2 Key-E Slot (PCIE+USB2.0, Support WIFI+BT, 2230) 1 * PCI-E 16x Slot 2 * PCI-E 4x Slot 1 * PCI-E 1x Slot 3 * PCI Slot	
COM	1 * RS232 (COM1, DB9/M) 3 * RS232 (COM2/5/6, BOX Header) 2 * RS232/RS485 (COM3/4, BOX Header)	
USB	2 * USB2.0(TYPE-A, Rear IO) 1 * USB2.0(TYPE-A, Internal) 6 * USB2.0(Header, Internal) 1 * USB3.0(BOX Header, Internal) 4 * USB3.0(TYPE-A, Rear IO)	
Other Ports	8 * GPIO Header 3 * Smart FAN Wafer 1 * Front Panel Header 1 * Case Open Header 1 * ATX or AT Mode Select Jumper 1 * SMBus Wafer 1 * Debug Header 1 * CMOS Clear Select Jumper 1 * PS/2 Connector (Keyboard & Mouse)	
System	Support Windows 7/8.1/10 and Domestic/General Linux OS	
TPM	1 * TPM Header	
Temperature	Storage: -20~75°C Operating: 0~60°C	
BIOS	Byosoft BIOS (Support Watchdog Timer)	

Power Supply	ATX Standard (24P + 4P) 1 * ATX 4P CPU Power Input Connector 1 * ATX 24P Power Input Connector
Factor	305*244mm

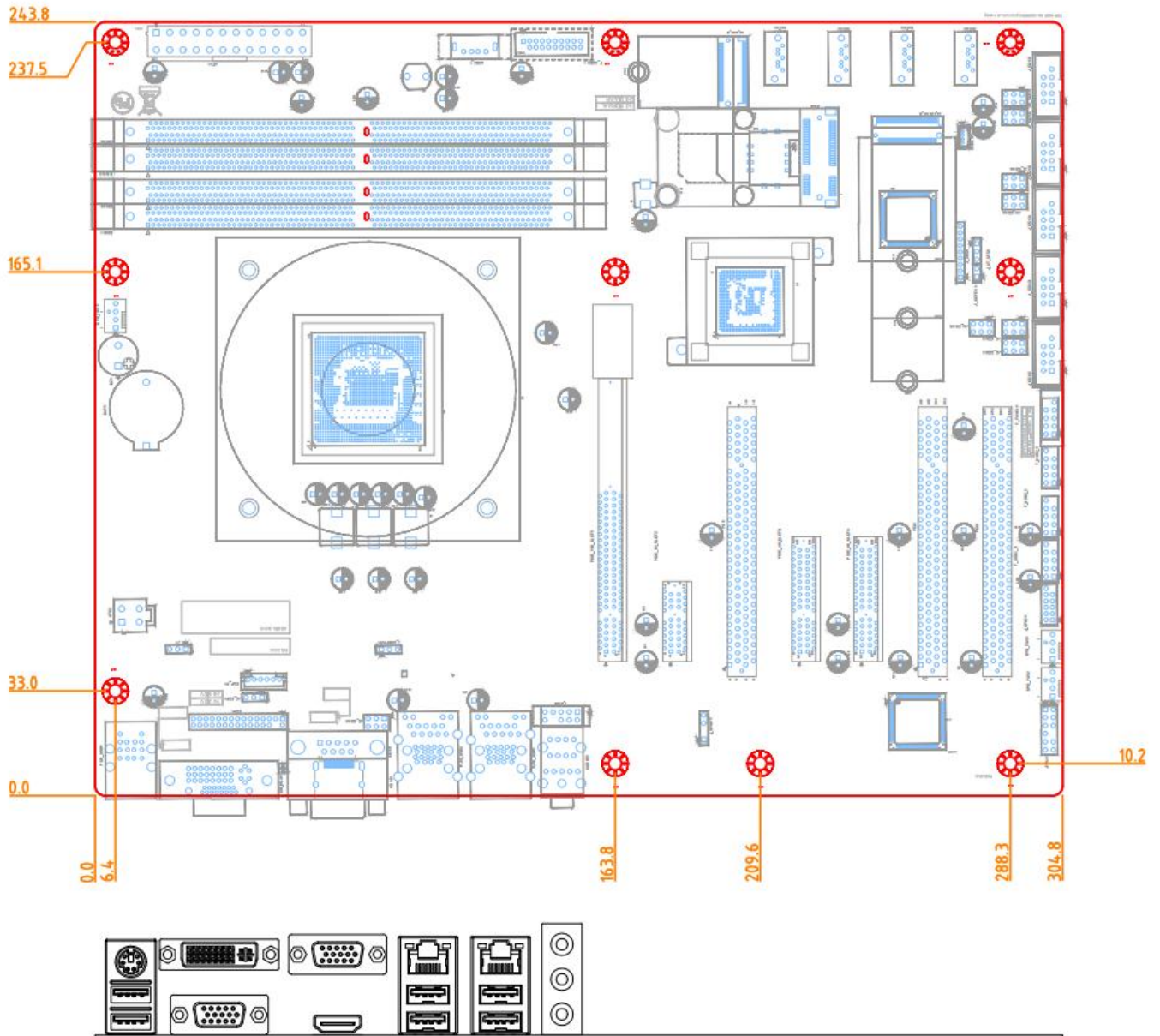
Notes:

- [1]: Also supports other KaiXian KX-6000 series CPU, include: KX-U6780, KX-U6580, KX-6740A, KX-6640A, KX-6640MA.
- [2]: HDMI and eDP use the same signal, they cannot be used at the same time
- [3]: SATA signal for M.2 Key-M Slot colay with SATA1 Port, default support M.2 Key-M Slot.

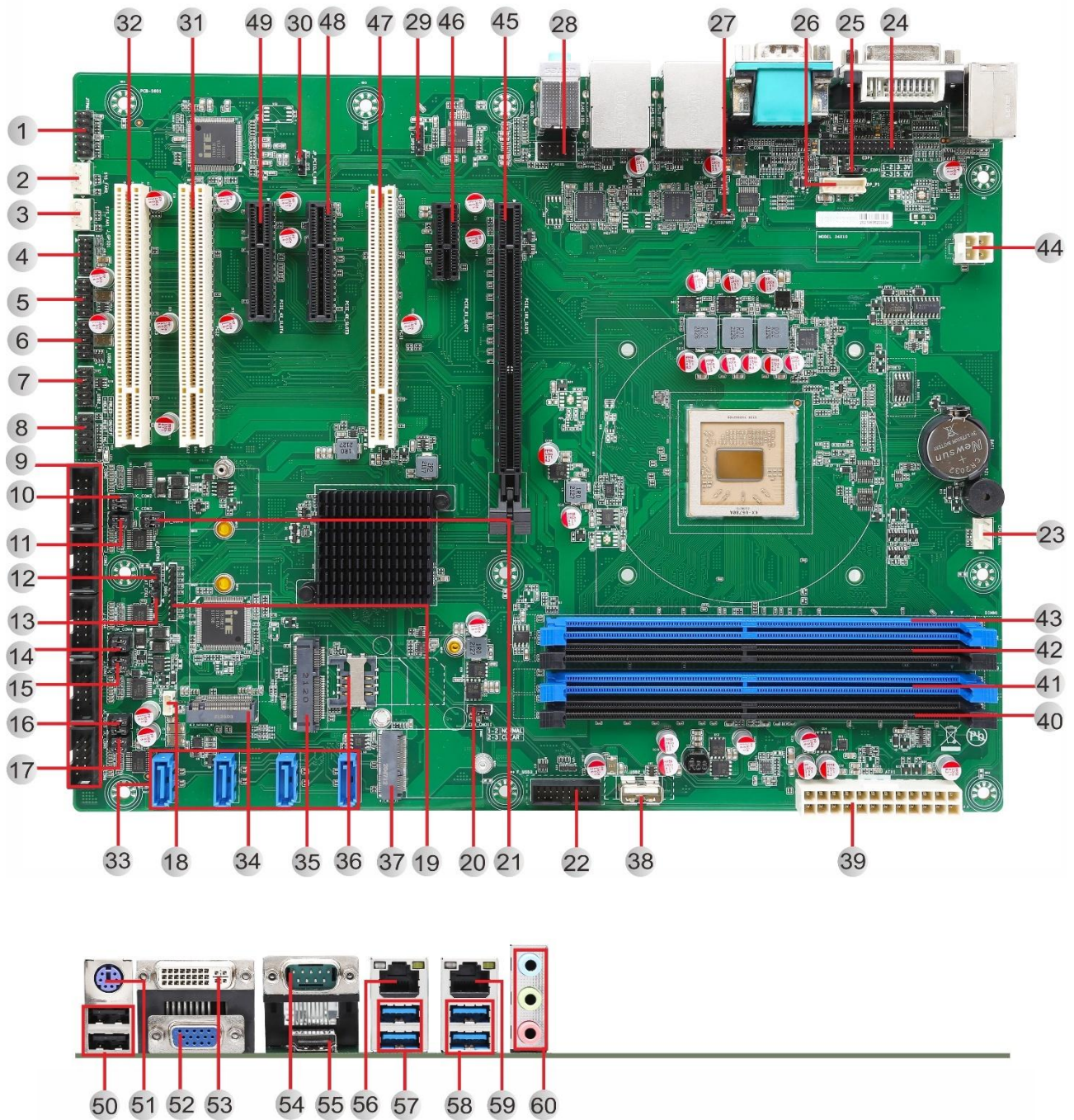
3.Functional Block Diagram

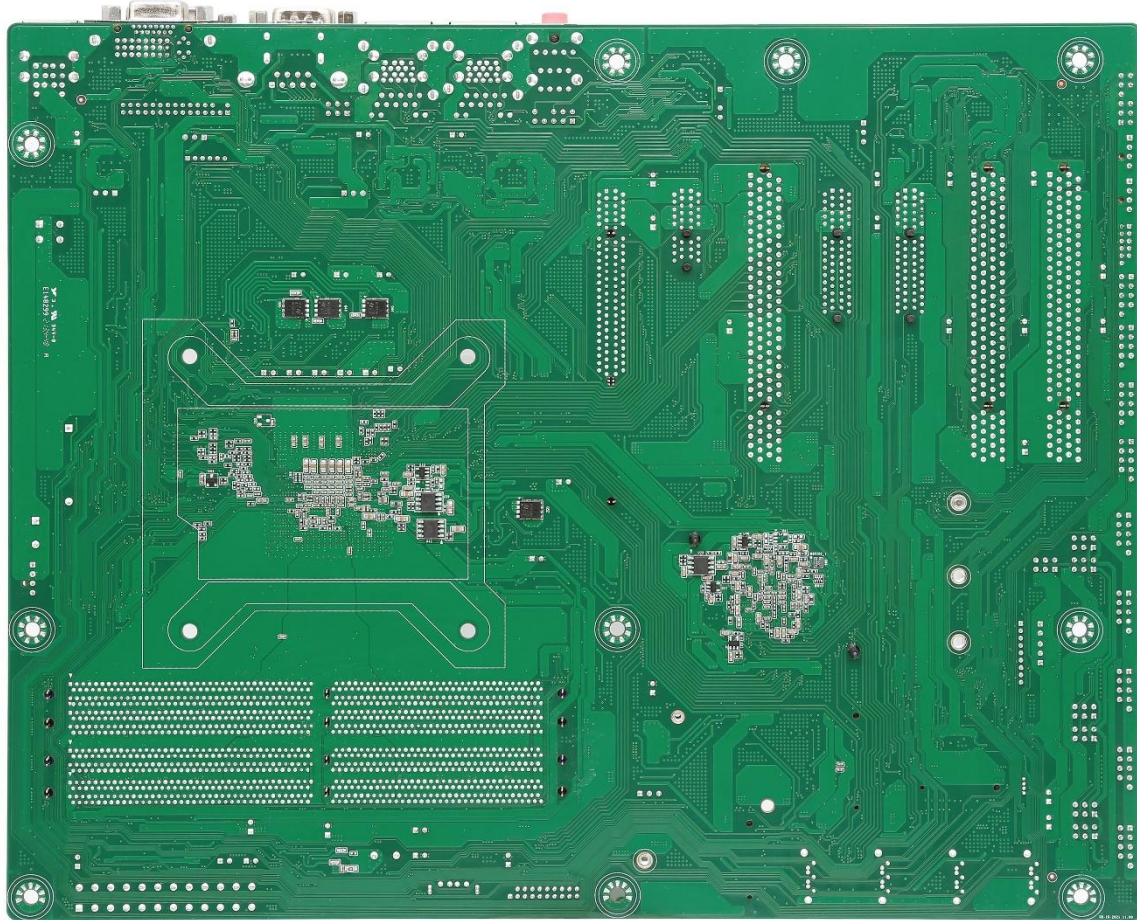


4. Mechanical Drawing



5. Jumpers / Headers and Connectors





Jumpers / Headers and Connectors

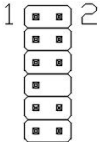
1	JTPM1	TPM Header
2	SYS_FAN2	System FAN Wafer2
3	SYS_FAN1	System FAN Wafer1
4	J_GPIO1	GPIO Header
5	F_USB2_3	Front Dual-USB2.0 Header3
6	F_USB2_2	Front Dual-USB2.0 Header2
7	F_USB2_1	Front Dual USB2.0 Header1
8	F_PANEL1	Front Panel Header
9	J_COM2-6	COM2-6 Box Header
10	JC_COM2	COM2 VCC5/DCD + VCC12/PI Select Jumper
11	JC_COM3	COM3 VCC5/DCD + VCC12/PI Select Jumper
12	J_COPEN1	Case Open Header
13	J_AT_CFG1	ATX or AT Mode Select Jumper
14	JM_COM4	COM4 RS232/RS485 Select Jumper
15	JC_COM4	COM4 VCC5/DCD + VCC12/PI Select Jumper
16	JC_COM5	COM5 VCC5/DCD + VCC12/PI Select Jumper

17	JC_COM6	COM6 VCC5/DCD + VCC12/PI Select Jumper
18	SMBUS1	SMBus Wafer
19	J_DBG1	Debug Header
20	CLR_CMOS1	CMOS Clear Select Jumper
21	JM_COM3	COM3 RS232/RS485 Select Jumper
22	F_USB3_1	Front Dual-USB3.0 Box Header
23	CPU_FAN1	CPU FAN Wafer
24	EDP1	eDP Signal Header
25	JC_EDP1	eDP VDD Select Jumper
26	EDP_P1	eDP Backlight Control Wafer
27	J_USBPWR1	USB Power Standby/ System Power Select Jumper
28	F_AUDIO1	Front Audio Header (MIC +Line OUT)
29	J_SPDIF1	SPDIF Header
30	JP_PCICLK_66M	PCI CLK 33M/66M Select Jumper
31	PCI2	PCI Slot2
32	PCI3	PCI Slot3
33	SATA1-4	SATA3.0 7P Connector1-4
34	M.2_SATASSD_M1	M.2 Key-M Slot (SATA SSD, 2230/2242/2280)
35	MPCIE1	Mini PCI-E Slot (PCIe+USB2.0, support WIFI+4G/3G)
36	SIM1	Full-Size SIM Card Slot
37	M.2_WLAN_E1	M.2 Key-E Slot (PCIe+USB2.0, Support WIFI+BT, 2230)
38	USB2_1	USB2.0 TYPE-A Connector
39	ATX1	ATX 24P Power Input Connector
40	DIMM4	DDR4 CHB DIMM Slot4
41	DIMM3	DDR4 CHB DIMM Slot3
42	DIMM2	DDR4 CHA DIMM Slot2
43	DIMM1	DDR4 CHA DIMM Slot1
44	ATX2	ATX 4P CPU Power Input Connector
45	PCIE_16X_SLOT1	PCI-E 16x Slot
46	PCIE_X1_SLOT2	PCI-E 1x Slot
47	PCI1	PCI Slot1
48	PCIE_4X_SLOT3	PCI-E 4x Slot
49	PCIE_4X_SLOT4	PCI-E 4x Slot
50	PS/2_USB1(USB)	Dual USB2.0 TYPE-A Connector
51	PS/2_USB1(PS/2)	PS/2 Connector (Keyboard & Mouse)
52	DVI_VGA1(VGA)	VGA DB15/F Connector
53	DVI_VGA1(DVI)	DVI-I 24+4P/F Connector (Support DVI-D)
54	COM1	COM1 DB9/M Connector
55	HDMI1	HDMI TYPE-A Connector
56	RJ45_USB2(LAN)	GBE LAN RJ45 Connector2
57	RJ45_USB2(USB)	Dual USB3.0 TYPE-A Connector2
58	RJ45_USB1(USB)	GBE LAN RJ45 Connector1

59	RJ45_USB1(LAN)	Dual USB3.0 TYPE-A Connector1
60	AUDIO1	Line-Out + MIC + Line-In 3.5mm Jack

6. Definition of Jumpers /Headers and Connectors

1) JTPM1 (TPM Header 6*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	LPC_SERIRQ	2	TPM_LFRAME_N
	3	TPM_AD0	4	TPM_LCLK0_R
	5	TPM_AD1	6	TPM_VDD_3A
	7	TPM_AD2		
	9	TPM_AD3	10	TPM_VDD_3S
	11	LPCRST	12	GND

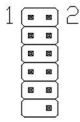
2) SYS_FAN2 (System FAN Wafer2 4*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	FAN Speed Detection
	2	VCC12	4	FAN Speed Control

3) SYS_FAN1 (System FAN Wafer1 4*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	FAN Speed Detection
	2	VCC12	4	FAN Speed Control

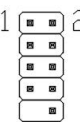
4) J_GPIO1 (GPIO Header 6*2 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	SIO_GP70 (0X0A06 BIT0, H) ^[1]	2	SIO_GP71 (0X0A06 BIT1, H) ^[1]
	3	SIO_GP72 (0X0A06 BIT2, H) ^[1]	4	SIO_GP73 (0X0A06 BIT3, H) ^[1]
	5	GND	6	SIO_GP74 (0X0A06 BIT4, H) ^[1]
	7	SIO_GP75 (0X0A06 BIT5, H) ^[1]	8	SIO_GP76 (0X0A06 BIT6, H) ^[1]
	9	SIO_GP77 (0X0A06 BIT7, H) ^[1]	10	VCC5
			12	N/C

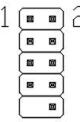
Notes:

[1]: "H" or "L" means the default voltage is High or Low level (5V GPIO).

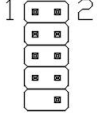
5) F_USB2_3 (Front Dual-USB2.0 Header3 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	VCC5	2	VCC5
	3	HUB_USB2.0_1-	4	HUB_USB2.0_2-
	5	HUB_USB2.0_1+	6	HUB_USB2.0_2+
	7	GND	8	GND
			10	N/C

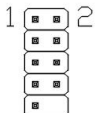
6) F_USB2_2 (Front Dual-USB2.0 Header2 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	VCC5	2	VCC5
	3	HUB_USB2.0_1-	4	HUB_USB2.0_2-
	5	HUB_USB2.0_1+	6	HUB_USB2.0_2+
	7	GND	8	GND
			10	N/C

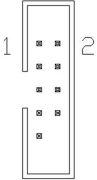
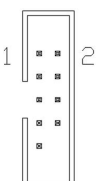
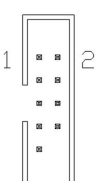
7) F_USB2_1 (Front Dual-USB2.0 Header1 5*2 Pin 2.54mm)

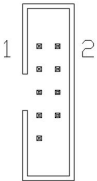
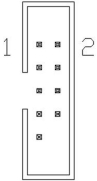
Graphic	Pin	Definition	Pin	Definition
	1	VCC5	2	VCC5
	3	HUB_USB2.0_1-	4	HUB_USB2.0_2-
	5	HUB_USB2.0_1+	6	HUB_USB2.0_2+
	7	GND	8	GND
			10	N/C

8) F_PANEL1 (Front Panel Header 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	HDD 3.3V LED+	2	POWER 3.3V LED+
	3	HDD 3.3V LED-	4	POWER 3.3V LED-
	5	RESET-	6	POWER+
	7	RESET+	8	POWER-
	9	N/C		

9) J_COM2-6 (COM2-6 Box Header 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
 COM2	1	PIN1 ^[1]	2	DSR
	3	RXD	4	RTS
	5	TXD	6	CTS
	7	DTR	8	PIN9 ^[2]
	9	GND		
 COM3	1	PIN1 ^{[2][3]}	2	DSR
	3	RXD/RS485_TX+ ^[2]	4	RTS
	5	TXD	6	CTS
	7	DTR	8	PIN9 ^[3]
	9	GND		
	1	PIN1 ^{[4][5]}	2	DSR
	3	RXD/RS485_TX+ ^[4]	4	RTS
	5	TXD	6	CTS
	7	DTR	8	PIN9 ^[5]

COM4	9	GND		
	1	PIN1 ^[6]	2	DSR
	3	RXD	4	RTS
	5	TXD	6	CTS
	7	DTR	8	PIN9 ^[6]
COM5	9	GND		
	1	PIN1 ^[7]	2	DSR
	3	RXD	4	RTS
	5	TXD	6	CTS
	7	DTR	8	PIN9 ^[7]
COM6	9	GND		

Notes:

[1]: PIN1 and PIN9 of COM2 can be DCD# (default) /5V+ RI# (default) /12V selecting by “COM2 VCC5/DCD + VCC12/PI Select Jumper”. (JC_COM2, Location 10).

[2]: COM3 can be RS232 (default) / RS485 selecting by “COM3 RS232/RS485 Select Jumper”. (JM_COM3 Location 21).

[3]: PIN1 and PIN9 of COM3 can be DCD# (default) /5V+ RI# (default) /12V selecting by “COM3 VCC5/DCD + VCC12/PI Select Jumper”. (JC_COM3, Location 11).

[4]: COM4 can be RS232 (default) / RS485 selecting by “COM4 RS232/RS485 Select Jumper”. (JM_COM4 Location 14).

[5]: PIN1 and PIN9 of COM4 can be DCD# (default) /5V+ RI# (default) /12V selecting by “COM4 VCC5/DCD + VCC12/PI Select Jumper”. (JC_COM4, Location 15).

[6]: PIN1 and PIN9 of COM5 can be DCD# (default) /5V+ RI# (default) /12V selecting by “COM5 VCC5/DCD + VCC12/PI Select Jumper”. (JC_COM5, Location 16).

[7]: PIN1 and PIN9 of COM6 can be DCD# (default) /5V+ RI# (default) /12V selecting by “COM6 VCC5/DCD + VCC12/PI Select Jumper”. (JC_COM6, Location 17).

10) JC_COM2 (COM2 VCC5/DCD + VCC12/PI Select Jumper 3*2 Pin 2.54 mm)

Graphic	Setting	Function
	1-3、2-4	COM2_PIN1: VCC5 COM2_PIN9: VCC12
	3-5、4-6(Default)	COM2_PIN1: DCD COM2_PIN9: RI

11) JC_COM3 (COM3 VCC5/DCD + VCC12/PI Select Jumper 3*2 Pin 2.54 mm)

Graphic	Setting	Function
	1-3、 2-4	COM3_PIN1: VCC5 COM3_PIN9: VCC12
	3-5、 4-6(Default)	COM3_PIN1: DCD/RS485_TX- COM3_PIN9: RI

12) J_COPEN1 (Case Open Header 2*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	SIO_COPEN_N	2	GND

13) J_AT_CFG1 (ATX or AT Mode Select Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2(Default)	ATX Mode
	2-3	AT Mode

14) JM_COM4 (COM4 RS232/RS485 Select Jumper 3*2 Pin 2.54mm)

Graphic	Setting	Function
	1-3、 2-4	COM4: RS485
	3-5、 4-6(Default)	COM4: RS232

15) JC_COM4 (COM4 VCC5/DCD + VCC12/PI Select Jumper 3*2 Pin 2.54mm)

Graphic	Setting	Function
	1-3、 2-4	COM4_PIN1: VCC5 COM4_PIN9: VCC12
	3-5、 4-6(Default)	COM4_PIN1: DCD/RS485_TX- COM4_PIN9: RI

16) JC_COM5 (COM5 VCC5/DCD + VCC12/PI Select Jumper 3*2 Pin 2.54mm)

Graphic	Setting	Function
	1-3、2-4	COM5_PIN1: VCC5 COM5_PIN9: VCC12
	3-5、4-6(Default)	COM5_PIN1: DCD COM5_PIN9: RI

17) JC_COM6 (COM6 VCC5/DCD + VCC12/PI Select Jumper 3*2 Pin 2.54mm)

Graphic	Setting	Function
	1-3、2-4	COM6_PIN1: VCC5 COM6_PIN9: VCC12
	3-5、4-6(Default)	COM6_PIN1: DCD COM6_PIN9: RI

18) SMBUS1 (SMBus Wafer 4*1 Pin 1.25mm)

Graphic	Pin	Definition	Pin	Definition
	1	VCC5 [1]	3	SMB_DATA
	2	SMB_CLK	4	GND

Notes:

[1]: Power on this Pin is VCC5 by default, VCC3.3 is available if specified. (resistor selectable)

19) J_DBG1 (Debug Header 9*1 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	LFRAME_N	6	GND
	2	LPC_AD3	7	SIO_PCIRST_N
	3	LPC_AD2	8	LPC_SIO_CLK
	4	LPC_AD1	9	VCC3.3
	5	LPC_AD0		

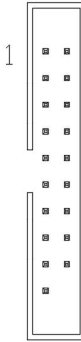
20) CLR_CMOS1 (CMOS Clear Select Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2(Default)	Normal
	2-3	Clear CMOS

21) JM_COM3 (COM3 RS232/RS485 Select Jumper 3*2 Pin 2.54 mm)

Graphic	Setting	Function
	1-3、 2-4	COM3: RS485
	3-5、 4-6(Default)	COM3: RS232

22) F_USB3_1 (Front Dual-USB3.0 Box Header 10*2 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	N/C	2	HUB_USB2.0_2+
	3	HUB_USB2.0_1+	4	HUB_USB2.0_2-
	5	HUB_USB2.0_1-	6	GND
	7	GND	8	USB3.0_TX2+
	9	USB3.0_TX1+	10	USB3.0_TX2-
	11	USB3.0_TX1-	12	GND
	13	GND	14	USB3.0_RX2+
	15	USB3.0_RX1+	16	USB3.0_RX2-
	17	USB3.0_RX1-	18	VCC5
	19	VCC5		

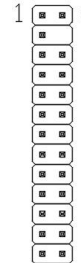
Notes:

[1]: Only one USB3.0_1 can be used. (Version 0.0 only)

23) CPU_FAN1 (CPU FAN Wafer 4*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	FAN Speed Detection
	2	VCC12	4	FAN Speed Control

24) EDP1 (eDP Signal Header 15*2 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	VDD_PANEL [1]	2	VDD_PANEL [1]
	3	VDD_PANEL [1]		
	5	HPD_N	6	HPD_N
	7	N/C	8	N/C
	9	N/C	10	N/C

	11	N/C	12	N/C
	13	GND	14	GND
	15	N/C	16	N/C
	17	N/C	18	N/C
	19	EDP_TX0-	20	EDP_TX0+
	21	EDP_TX1-	22	EDP_TX1+
	23	N/C	24	N/C
	25	GND	26	GND
	27	N/C	28	N/C
	29	EDP_AUX-	30	EDP_AUX+

Notes:

[1]: Power on this PIN can be VCC3.3 (default) /VCC5 selecting by “eDP VDD Select Jumper”. (JC_EDP1, Location 25).

25) JC_EDP1 (eDP VDD Select Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2(Default)	VCC3.3
	2-3	VCC5

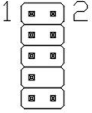
26) EDP_P1 (eDP Backlight Control Wafer 6*1 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	4	EDP_BKL_EN
	2	GND	5	VCC12
	3	EDP_BKL_CTL	6	VCC12

27) J_USBWR1 (USB Power Standby/ System Power Select Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2(Default)	Standby
	2-3	System Power

28) F_AUDIO1 (Front Audio Header 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	MIC_L	2	GND
	3	MIC_R	4	VCC3.3
	5	LINE OUT_R	6	MIC_RET
	7	GND		
	9	LINE OUT_L	10	LINE OUT_RET

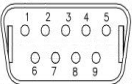
29) J_SPDIF1 (SPDIF Header 4*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	VCC5	3	SPDIF_OUT
			4	GND

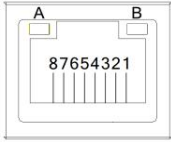
30) JP_PCICLK_66M (PCI CLK 33M/66M Select Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2(Default)	66MHz
	2-3	33MHz

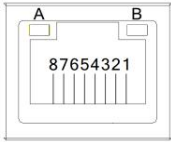
54) COM1 (COM1 DB9/M Connector)

Graphic	Pin	Definition	Pin	Definition
	1	PIN1	6	DSR
	2	RXD	7	RTS
	3	TXD	8	CTS
	4	DTR	9	PIN9
	5	GND		

56) RJ45_USB2(LAN) (GBE LAN RJ45 Connector2 22*2 Pin 2.00/2.54mm)

Graphic	Pin	Definition		Pin	Definition	
	1	MDI0_2+		5	MDI2_2+	
	2	MDI0_2-		6	MDI2_2-	
	3	MDI1_2+		7	MDI3_2+	
	4	MDI1_2-		8	MDI3_2-	
	A	Speed LED	1000M: Turn Orange	B	Active LED	ACT: Twinkling Yellow
			100M: Turn Green			Only LINK: Lights Off
			10M: Lights Off			Stop: Lights Off

58) RJ45_USB1(LAN) (GBE LAN RJ45 Connector1 25*2 Pin 2.00/2.54mm)

Graphic	Pin	Definition		Pin	Definition	
	1	MDI0_1+		5	MDI2_1+	
	2	MDI0_1-		6	MDI2_1-	
	3	MDI1_1+		7	MDI3_1+	
	4	MDI1_1-		8	MDI3_1-	
	A	Speed LED	1000M: Turn Orange	B	Active LED	ACT: Twinkling Yellow
			100M: Turn Green			Only LINK: Lights Off
			10M: Lights Off			Stop: Lights Off

3.0 术语表

ACPI

高级配置和电源管理:ACPI 规范允许操作系统控制计算机及其附加设备的大部分电能。

BIOS

基本输入/输出系统:是在 PC 中包含所有的输入/输出控制代码界面的软件。它在系统启动时进行硬件检测,开始操作系统的运作,在操作系统和硬件之间提供一个界面。

BIOS 是存储在一个只读存储器芯片内。

Chipset

芯片组:为执行一个或多个相关功能而设计的集成芯片。我们指的是由南桥和北桥组成的系统级芯片组,他决定了主板的架构和主要功能。

COM

串口:一种通用的串行通信接口,一般采用标准 DB9 公头接口连接方式。

DIMM

双列直插式内存模块:是一个带有内存芯片组的小电路板。提供 64bit 的内存总线宽度。

LAN

局域网络接口:一个小区域内相互关联的计算机组成的一个计算机网络,一般是在一个企事业单位或一栋建筑物。局域网一般由服务器、工作站、一些通信链接组成,一个终端可以通过电线访问数据和设备的任何地方,许多用户可以共享昂贵的设备和资源。

USB

通用串行总线:一种适合低速外围设备的硬件接口,一般用来连接键盘、鼠标等。一台 PC 最多可以连接 127 个 USB 设备,提供一个 12Mbit/s 的传输带宽;USB 支持热插拔和多数据流功能,即在系统工作时可以插入 USB 设备,系统可以自动识别并让插入的设备正常。

4.0 常见故障分析与解决

常见故障	检查点
通电之后不开机	1. 请确认电源连接线是否连接正常 2. 请确认所用电源是否满足主板的供电要求 3. 尝试重新插拔内存条 4. 尝试更换内存条 5. 尝试根据主板说明书清除主板CMOS 6. 请确认是否有外接卡，去除外接卡后是否正常
开机后VGA不显示	1 查看显示器是否有打开 2 检查电源线是否正确地连接到显示器和系统单元 3 检查显示器电缆是否正确地连接到系统单元和显示器 4 查看显示屏亮度控件是否设置为黑暗状态，可通过亮度控件提高亮度。有关详细信息，可参考显示器操作说明 5 显示器处于“节电”模式，按键盘上的任意键即可
提示无法找到可引导设备	1. 请确认硬盘电源线、数据线是否连接正常 2. 请确认硬盘是否有物理损坏 3. 请确认硬盘中是否正常安装操作系统
进入系统过程中蓝屏或死机	1. 请确认内存条及外接卡是否松动 2. 尝试去掉新安装的硬件，卸载驱动或软件 3. 尝试更换内存
进入操作系统缓慢	1. 尝试使用第三方软件检查硬盘是否有坏道 2. 请确认系统所在分区剩余空间是否过少 3. 请确认 CPU 散热风扇是否正常转动
系统自动重启	1. 请确认 CPU 散热风扇是否正常转动 2. 请确认是否误触发工控机复位按钮 3. 请使用杀毒软件确认系统是否感染病毒 4. 请确认内存条及外接卡是否松动 5. 请确认所用电源带载能力是否足够，可尝试更换电源
无法检测到USB设备	1. 请确认 USB 设备是否需要单独供电 2. 请确认 USB 接口是否存在接触不良