DARVEEN

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DPC-8210

User's Manual

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Chapter 1. About this Manual

1. About this Manual

1.1 Revision History

Date	Version	Chapter	Updates
2024/07/14	First Draft		

1.2 Copyright

1.3 Disclaimer

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1.4 Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts your to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problem.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

1.5 Preface

Before using this information and the product it supports, please read the following general information.

This service guide provides you with all technical information relating to the basic configuration decided for Darveen's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office may have decided to extend the functionality of a machine (e.g. Add-on card, WLAN card, SSD card, com card or extra memory capability). These localized features will not be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

Chapter 2. Introducing the Motherboard

2. Introducing the Motherboard

2.1 Introduction

Thank you for choosing to use the DPC-8210 industrial all-in-one machine. It uses a high-performance embedded industrial motherboard with a fanless cooling design, which is noise free and can avoid dust accumulation caused by fans. It is very suitable for harsh industrial control environments, using Intel 10th generation I5/I7 processors, TDP 15W, 2 * DDR4 SODIMM memory slots, supporting 2666MHz of memory, up to 64GB, integrated with Intel; Ultra high definition graphics card, paired with P1261-L2 VER: 1.1 IO board, can achieve HDMI/LVDS/EDP interface display output and independent dual display. In terms of network, it provides 2 Intel Gigabit network card chips, wireless networks support WIFI/4G/5G communication, and can support up to 6 serial ports. It also supports MINPCIE/MSTA/M.2 slots

The M/B paired with P1261-L2 VER:1.2 IO board has stable and reliable industrial grade product performance, high cost-effectiveness, and low power consumption advantages, which can be widely used in media playback, digital signage, advertising, etc LCD screens, communication control, medical instruments, industrial control, traffic control, information systems, financial equipment, automobiles, digital control, military industry, and various terminal markets.

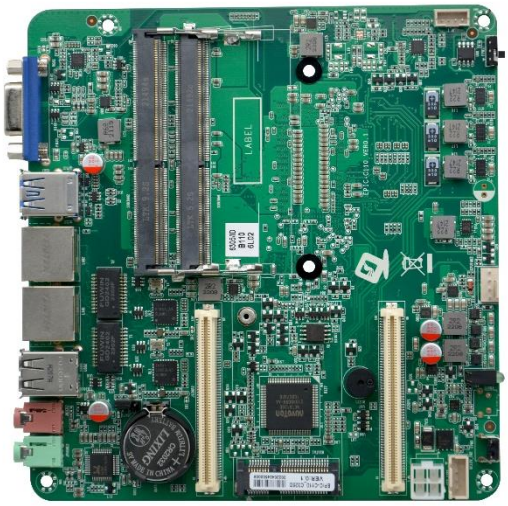
01Table 1.1-1 Motherboard specification of DPC-8210

Operating system	Microsoft Windows 10/11
processor	Intel® Comet Lake 10th I5-10210U /I7 10710U Processor, TDP 15W
Chipset	SOC
Memory	2 * DDR4 SODIMM memory slot, supporting up to 2666MHz memory and up to 64GB
Display function	Integrated Intel ® UHD Graphics supports DirectX 12, OpenGL 4.5, and 4K 1 * HDMI interface, supports the highest resolution of: 1920X1200@60Hz Note: It can also support HDMI/DVI/DP display output, which is achieved by connecting two 120pin high-speed terminals to the IO board，P1261-L2 VER:1. 2 I/O board supports HDMI display expansion
network functions	2 * Intel I210AT Gigabit Ethernet card, supporting network wake-up and PXE functions

	1 * Mini PCIE slot, supporting WIFI 4G module 1 * M.2 slot, supporting M.2 2230/2242/2252 5G modules
Audio function	On board ALC662 6 channel high fidelity audio controller, supporting Line out MICK
Expansion bus	1 * HDMI interface 4 * USB3.0 interface, 4 * RJ45 Gigabit Network Interface 1 * Line out (green) 1 * MICK (red) 1 * Incoming call self start control switch 1 * Power switch 1 * HDMI interface 3 * DB9 RS232 serial interface, COM2/3 supports RS422/485 switching, COM1 supports the 9th pin live function 1 * Power on/off switch, 1 * SIM card slot 3 * RS232 serial port, 2 * 5pin 1 * 2.5-inch hard drive slot, can directly install the hard drive 1 * Mini PCIE slot, supporting WIFI/4G modules 1 * LVDS interface 2 * 15pin, supporting dual channel 24BIT 1 * LVDS screen backlight power supply interface 1 * 6pin 1 * Screen brightness adjustment interface 1 * 4 pins 1 * Front panel function buttons and indicator light interface 2 * 5 pins 1 * Resistance touch screen interface 1 * 5pin 4 * USB 2.0 interface 2 * 5 pins 2 * Built in speaker interface 1 * 2 pins 1 * 2 pin blue power socket, supporting DC9-36V power supply
GPIO function	1 * GPIO interface, supporting four in and four out GPIO function 2 * 5 pins
heat dissipation system	1 * 4pin CPU intelligent fan interface, 1 * 4pin system fan interface
BIOS	128Mb Flash ROM

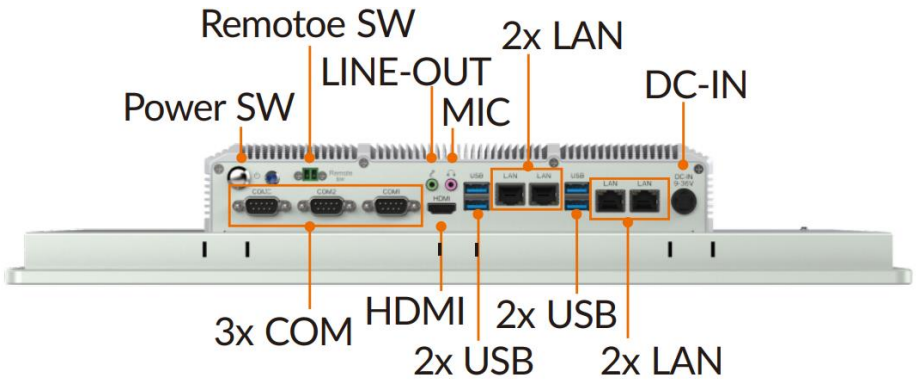
Watchdog function	Support hardware reset function (256 levels, 0-255 seconds)
operating system	Windows 10/11/LinuxNote: When installing the EFI WIN10 system on the motherboard, it can only be used on this board and cannot be copied to other motherboards for size or environment
Main board size	Core board 148mm x 141mm I/O board 240mm *142mm
Working temperature	-10 ℃~60 ℃
Working humidity	5-95% relative humidity
non condensing storage temperature	-20 ℃~70 ℃

2.2 Main-board+I/O board Physical Image



2.3 Front and Rear View

2.4 System I/O：



2.5 System Information

01Table 1.1-1 Product specification of DPC-8210

Display		
Size	21.5 inch	
Touch Type	Projected capacitive multi touch 5-wire resistive touch	
Transmittance	87% (capacitive) / 80% (resistive)	
Control Interface	USB	
Surface Hardness	≥7H /≥3H	
Resolution	1920 x 1080	
Luminance	250 nits	
Contrast Ratio	1000: 1	
View Angles	89 (left), 89 (right), 89 (up), 89 (down)	
LED Lifetime	30,000 hrs	
Color	16.7M	
System		
CPU	IntelCore™ i5-10210U(1.6 GHz) quad-core eight-thread processor	Intel Core™ i7-10710U (1.1 GHz) Six Core Twelve Thread Processor
Memory	2x DDR4 2666 SO-DIMM (up to 64GB)	2x DDR4 2666 SO-DIMM (up to 64GB)
Storage	1x 2.5" SATA HDD/SSD (optional) 1x full length Mini PCIe for mSATA SSD	
I/O Ports		
USB	4x USB 3.0	

Serial	3x COM (COM1 supports RS-232, COM2 and COM3 supports RS-232/422/485)	
Ethernet	4x GbE LAN	
Display	1x HDMI,	
SIM Card Slot		
Antenna	2x SMA antenna holes	
Expansion Slot		
Mini PCIe	1x full length Mini PCIe for Wi-Fi 1x full length Mini PCIe for mSATA	
M.2		
RF Communication		
Wi-Fi	Mini PCIe expansion (optional)	
Cellular	Mini PCIe expansion (optional)	
Bluetooth	Mini PCIe expansion (optional)	
Audio		
Audio	Mic in, line out	
Speaker	2Ω5W speaker	
Power		
Bution	YES	
Remote Power On/Off	1x Remote switch connector	
DC Input	9-36VDC	
Power Connector	M12	
Power Consumption	29W	32W

Power Adaptor	AC-DC, 12V@7A, 84W
Operating System	
Windows	Windows 10, Windows 11
Mechanical	
Dimensions (W x D x H)	528 x 326 x 66 mm (20.7 x 12.8 x 2.6 inches)
Weight (N.W.)	7.9 kg (17.4 lbs)
Mounting	Panel mount, wall mount bracket VESA 100
Material	Aluminum alloy panel, all-metal chassis
Environment	
Operating Temperature	-10 to 50°C (14 to 122°F)
Storage Temperature	-20 to 60°C (-4 to 140°F)
Relative Humidity	10% to 95% @ 40°C (104°F), non-condensing
Vibration	5-500Hz, 0.026 G^2/Hz, 2.16 Grms, X, Y, Z, 1 hour per axis
IP Rating	IP65 compliant (for front panel)
Certification	
EMC	CE, FCC
Packing List	
Packing	1x DPC-8210 1x AC-DC power adapter 10x panel mounting buckles 1x warranty card

Chapter 3. Jumper and Installation Instructions

3.Jumper and Installation instructions

3.1 Safety Precautions

1. Follow these safety precautions when installing the motherboard
2. Wear a grounding strap attached to a grounded device to avoid damage from static electricity
3. Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
4. Leave components in the static-proof bags they came in
5. Hold all circuit boards by the edges. Do not bend circuit boards

3.2 Main Board Size Diagram

The following diagram shows the position and size of the front interface of EPIC-C100 and P1261-L2. Care must be taken during the installation of equipment. For some components, if installed incorrectly, they will not function properly.

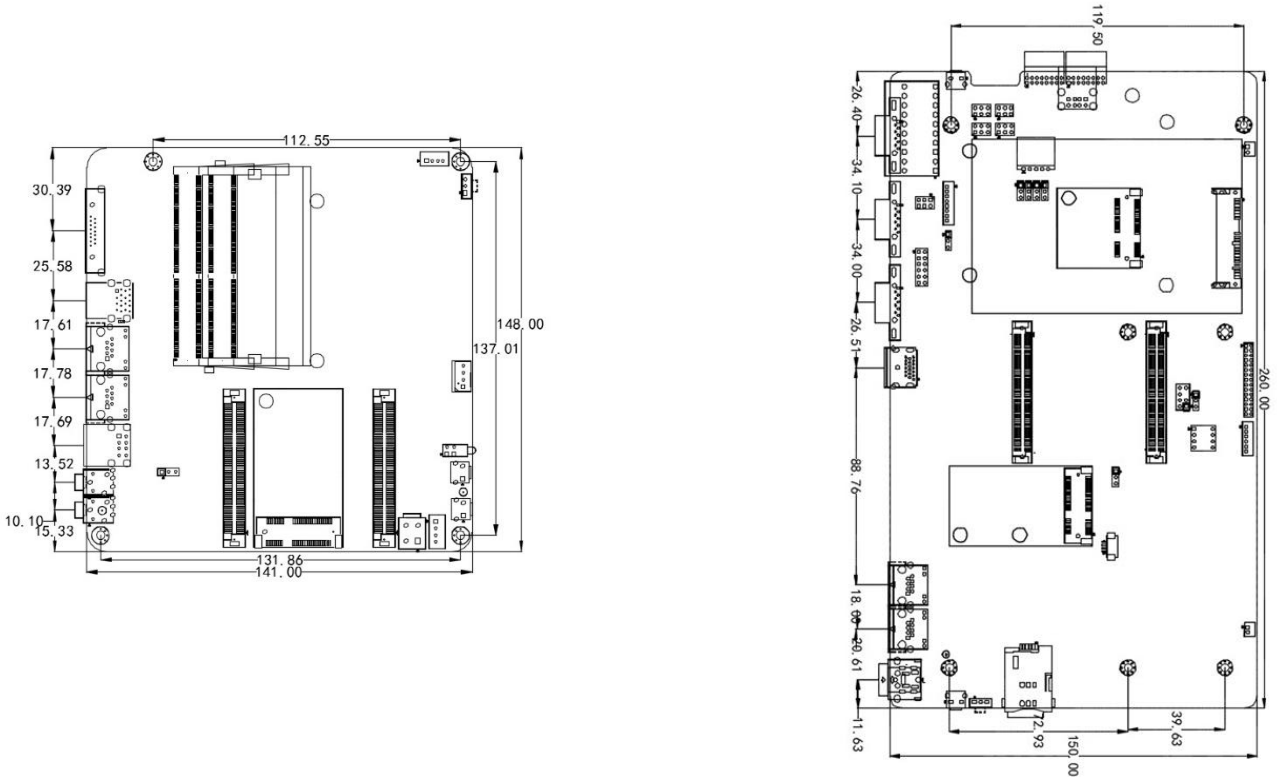
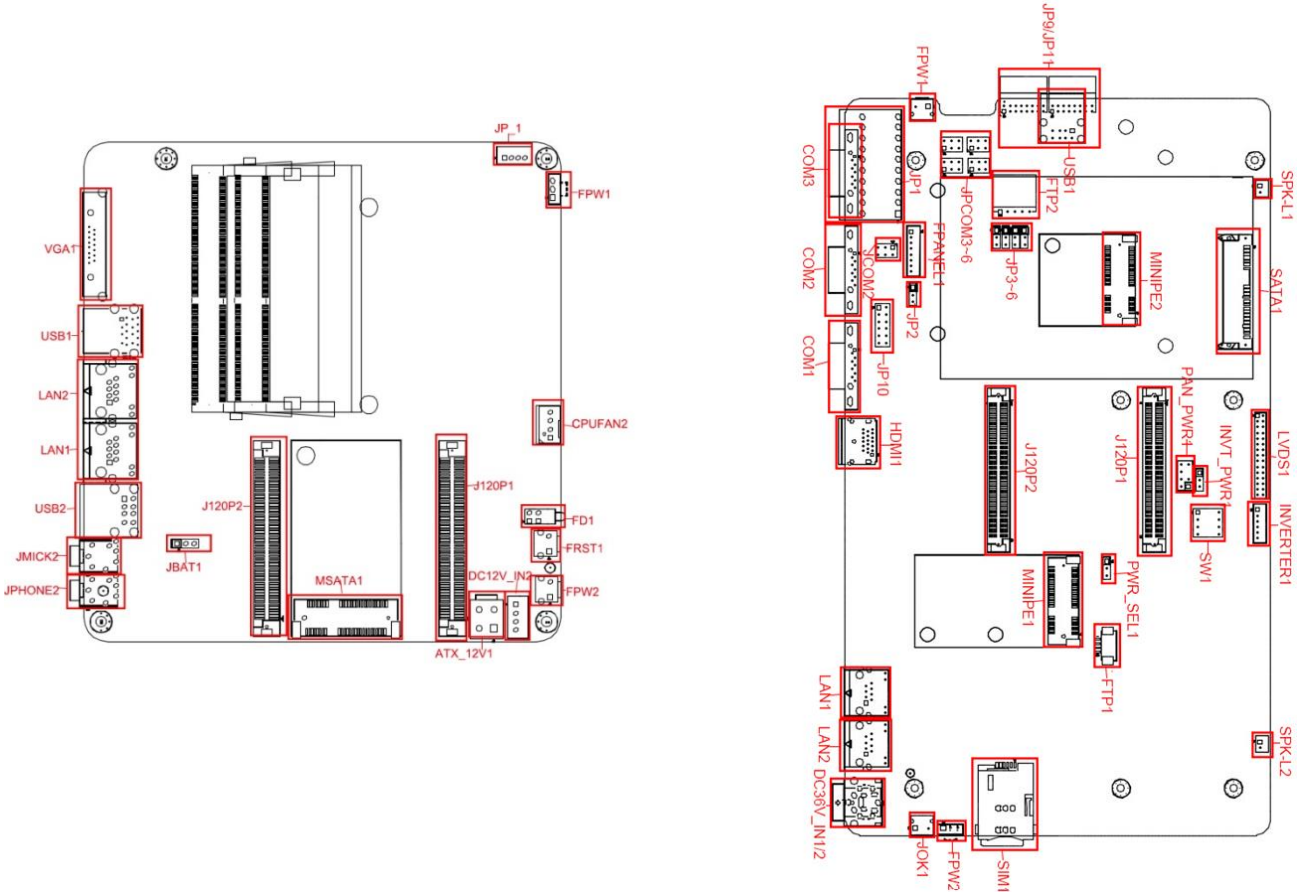


Figure 1 3.2 Main board size diagram

Attention:

1. Please make sure to choose appropriate screws and use the correct installation method, otherwise it may damage the motherboard.
2. How to identify the first pin of the jumper or interface, observe the text mark next to the plug and socket, which will be represented by a triangle symbol or "1" or bold lines; Look at the solder pad on the back. The square solder pad is the first pin. When inserting the device and connecting wires, pay attention to distinguishing the first pin, otherwise it may damage the motherboard

3.3 Schematic Diagram of Interface Location



Reminder:

The working voltage of LVDS screen supports 3.3V, 5V, and 12V voltage outputs, with a default value of 3.3V. Before using LVDS, please understand its required rated working voltage before setting it.

Reminder:

How to identify alarm sounds: (A long beep indicates a system memory error; a short 'beep' indicates a power on sound).

3.4 Installation Steps

Please follow these steps to assemble your computer:

1. Refer to the user manual and adjust all Jumpers on the M/B correctly.

2. Install other expansion cards.

3. Connect all signal lines, cables, panel control lines, and power supplies.

4. Start the computer and complete the setup of the BIOS program.

3.5 Memory Installation

This motherboard is equipped with 2 SO-DIMM slots. Please note the following two points when installing a memory module:

During installation, align the notch of the memory module with the notch of the slot and then firmly insert it.

When selecting a memory module, you must select a memory module that supports the specifications of this motherboard.

3.6 Jumper Function Settings

Before installing hardware devices, please set the corresponding jumpers according to the table below according to your needs.

Tip: How to identify the first pin of the jumper or interface, observe the text mark next to the plug and socket, and use "1" or add

Thick lines or triangular symbols represent; Look at the solder pad on the back, the square solder pad is the first pin; All jumper pins There is a white arrow on either side.

3.7 CMOS Content Clear/Hold Settings (JBAT1)

CMOS is powered by a button battery on the board. Clearing CMOS will permanently erase the previous system settings and set them to the original (factory set) system settings.

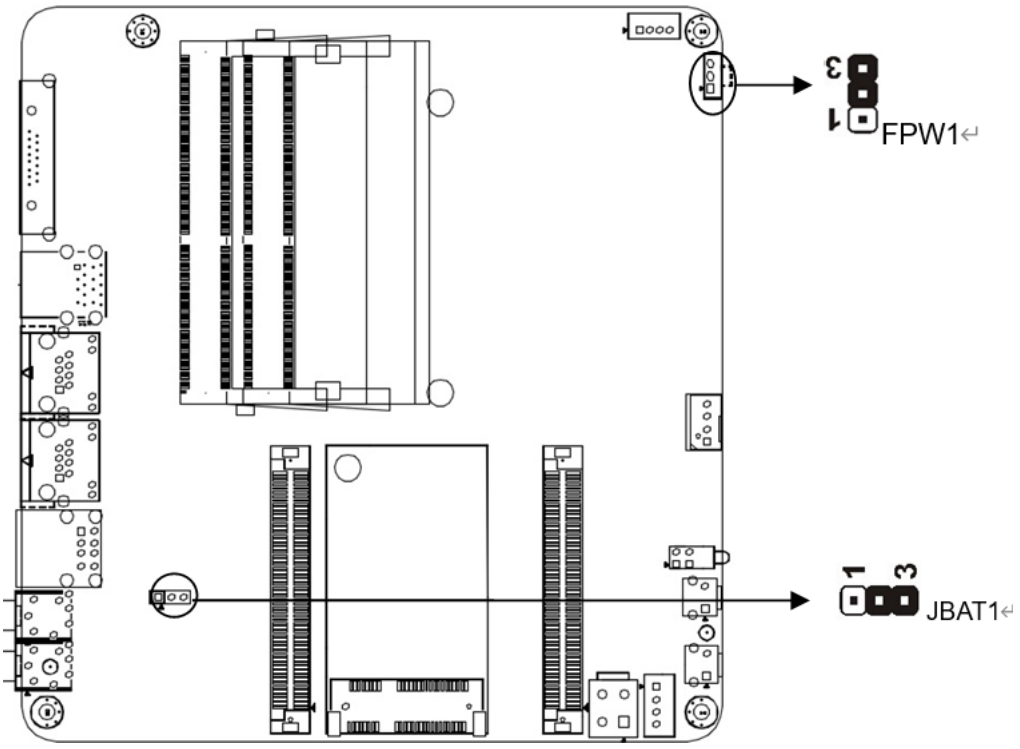
The steps are:

(1) Turn off the computer and disconnect the power supply;

(2) Short circuit "JBAT1" pins 2 and 3 using a jumper cap for 5-6 seconds, then restore to 1-2; (3) Press the "Delete" button on the keyboard to enter the BIOS interface when turning on the computer;

(4) Enter the BIOS interface and press the "F9" key and "Enter" to reload the optimal default value;

(5) Press F10 to save and exit the settings.needs.



Jumper	JBAT1
1-2 short circuit	Normal working state
2-3 short circuit	Clear CMOS content and restore all BIOS settings to factory values

(JBAT1)

PW1

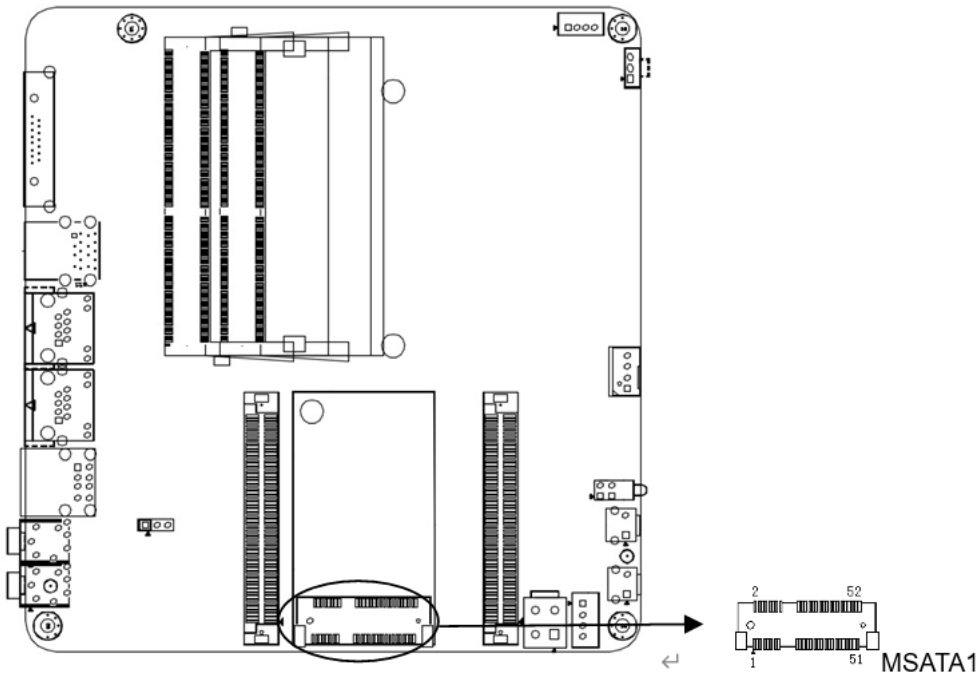
Jumper	PW1
1-2 short circuit	Turn off the automatic start function for incoming calls
2-3 short circuit	Turn on the automatic start function for incoming calls

3.8 Interface Description

Please read this manual carefully before connecting external connectors to avoid damage to the motherboard!

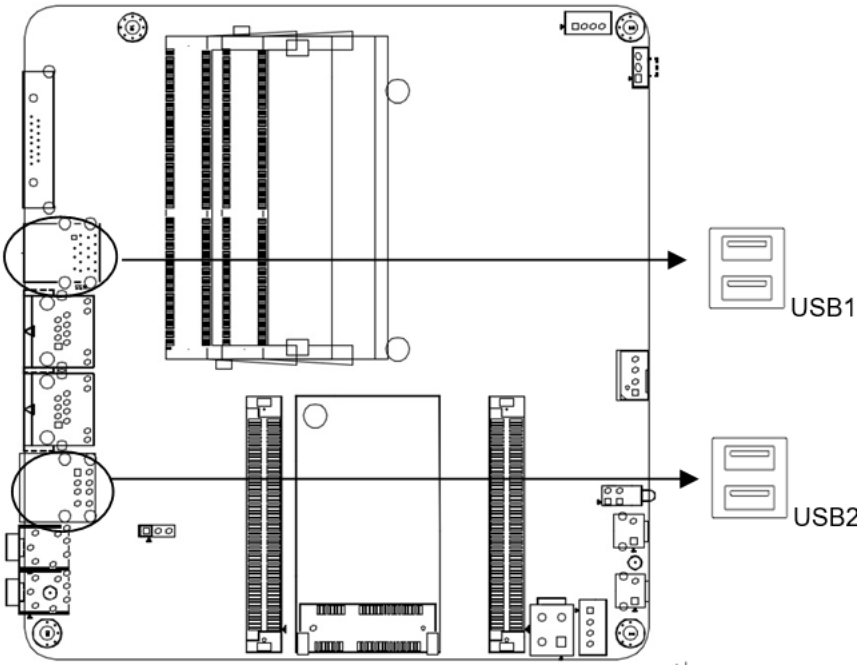
3.8.1 Mini-PCIe interfaces (MSATA1)

The motherboard is equipped with one MSATA1 slot, which supports SSD solid-state drives with a transfer speed of up to 6Gbps



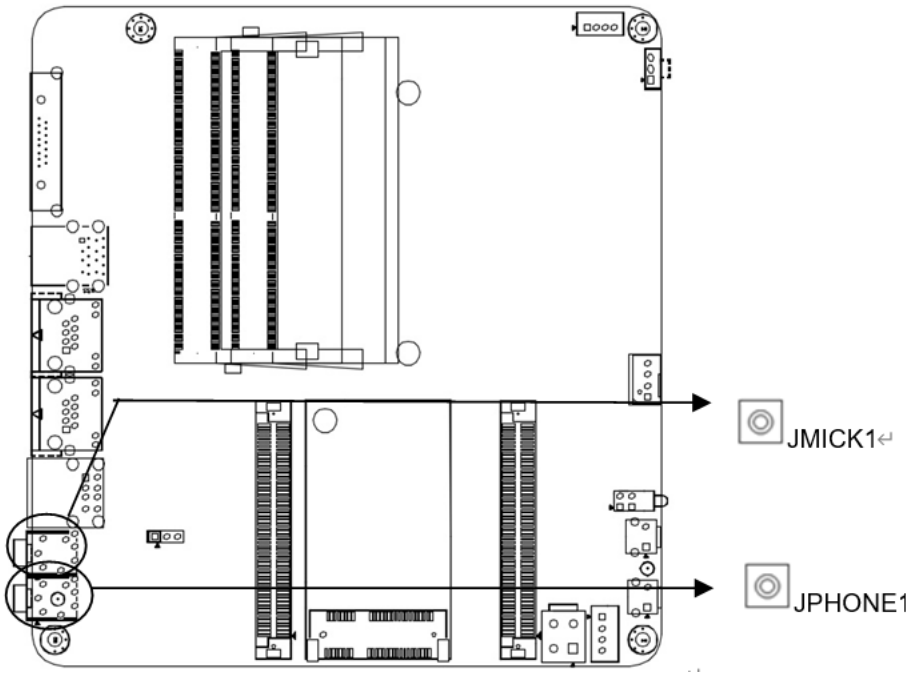
3.8.2 USB interface

Provide 2 standard USB 3.0 interfaces and 2 standard USB 2.0 interfaces



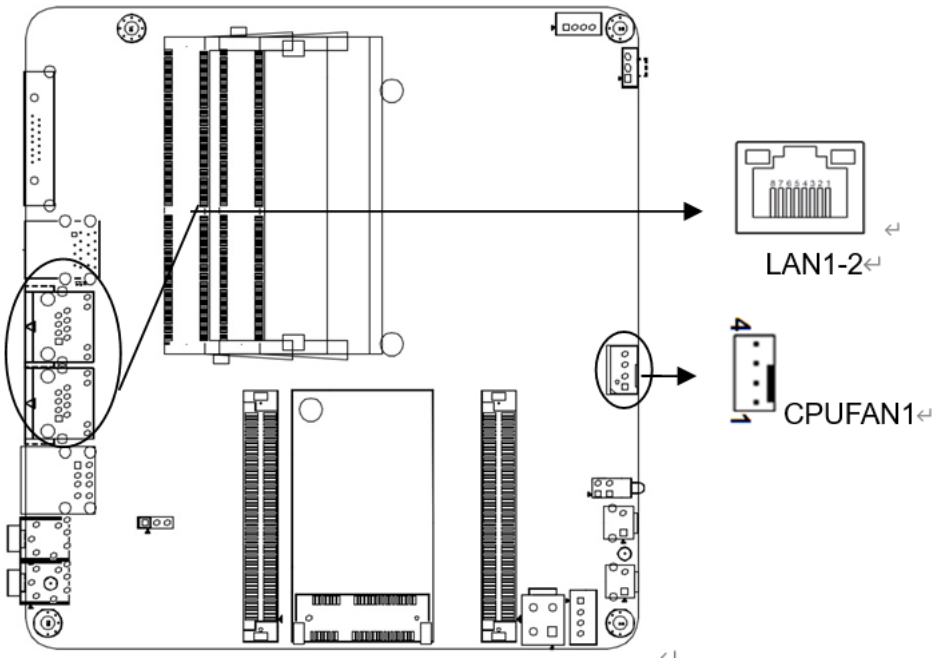
3.8.3 Audio interface (JPHONE1, JMICK1)

Provide a JPHONE1 and JMICK1 standard audio jack on the board



3.8.4 Network and Fan Interface (LAN1, LAN2, CPUFAN1)

Two standard gigabit network interfaces are provided on the board. 1 4-pin CPU intelligent fan interface



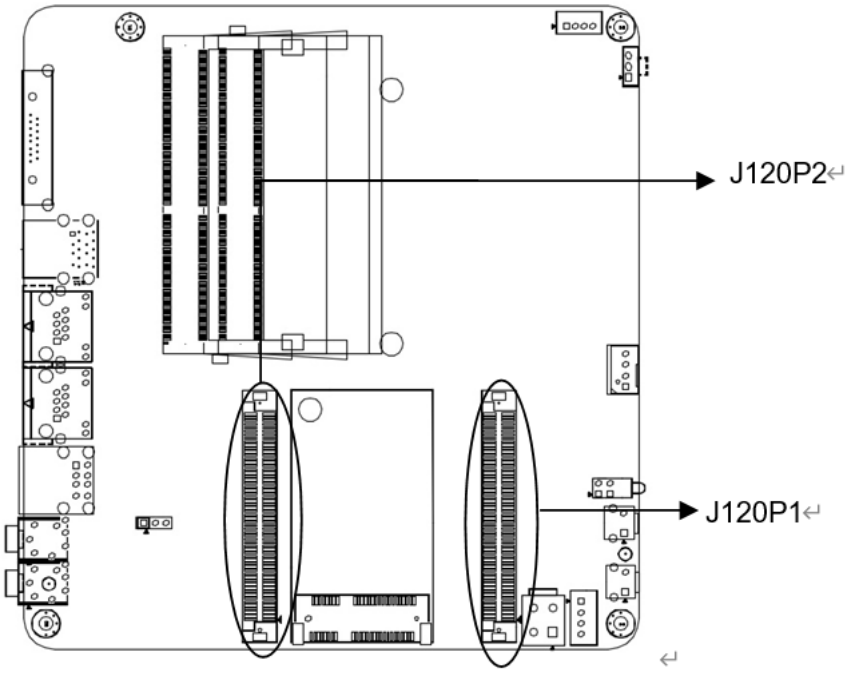
CPUFAN1 Definition

Pin	signal
1	GND
2	+12V
3	DET
4	PWM

Note: DET: Fan speed pulse output; PWM: Fan speed PWM control

3.8.5 High speed terminals (J120P1, J120P2)

Two 120pin high-speed sockets are provided on the board, including 6 * PCIE, 2 * DDI, 1 * SATA, 1 * LPC, 1 * SPEAKER, 1 * AUDIO, 5 * USB2.0, 6 * COM, 8 * GPIO, and 1 * PS/2 signals



J120P1

Pin	signal	Pin	signal
1	+12V	2	+12V
3	+12V	4	+12V
5	+12V	6	+5V
7	+5V	8	+5V
9	+5V	10	+3.3V
11	+3.3V	12	+3.3V
13	+3.3V	14	+3.3V

15	RI_5	16	CTS_5
17	DCD_5	18	DTR_5
19	+5V	20	MS_CLK
21	MS_DATA	22	GND
23	RTS_4	24	DSR_4
25	DCD_4	26	RI_4
27	LAD2	28	LAD3
29	SERIRQ	30	RXD3
31	DSR_3	32	DCD_3
33	RI_3	34	GPIO36
35	GPIO23	36	GPIO52
37	GPIO51	38	CTS_6
39	RXD6	40	TXD6
41	DCD_6	42	GND
43	PCIE_RXP4	44	PCIE_RXN4
45	GND	46	PCIE_TXP4
47	PCIE_TXN4	48	GND
49	CLK_PCIE_N4	50	CLK_PCIE_P4
51	GND	52	CLK_PCIE_P3
53	CLK_PCIE_N3	54	GND
55	PCIE_RXP11	56	PCIE_RXN11
57	GND	58	PCIE_RXP12
59	PCIE_RXN12	60	GND
61	GND	62	GND
63	GND	64	GND
65	SMB_DATA	66	SMB_CLK
67	LPC_SLO2_CLK2	68	GND
69	CLK_PCIE_N5	70	CLK_PCIE_P5
71	GND	72	USB_N9
73	USB_P9	74	GND
75	RTS_5	76	DSR_5
77	TXD5	78	RXD5
79	+5V	80	KB_CLK
81	KB_DATA	82	GND
83	TXD4	84	RXD4
85	DTR_4	86	CTS_4
87	LAD1	88	LAD0
89	LFRAME	90	RTS_3
91	TXD3	92	CTS_3
93	DTR_3	94	GPIO10
95	GPIO37	96	GPIO81
97	GPIO80	98	RI_6
99	DTR_6	100	RTS_6
101	DSR_6	102	GND
103	PCIE_RXN10	104	PCIE_RXP10

105	GND	106	PCIE_RXN9
107	PCIE_RXP9	108	GND
109	PCIE_TXP12	110	PCIE_TXN12
111	GND	112	PCIE_TXN10
113	PCIE_TXP10	114	GND
115	PCIE_TXP11	116	PCIE_TXP9
117	GND	118	PCIE_TXP11
119	PCIE_TXN11	120	GND

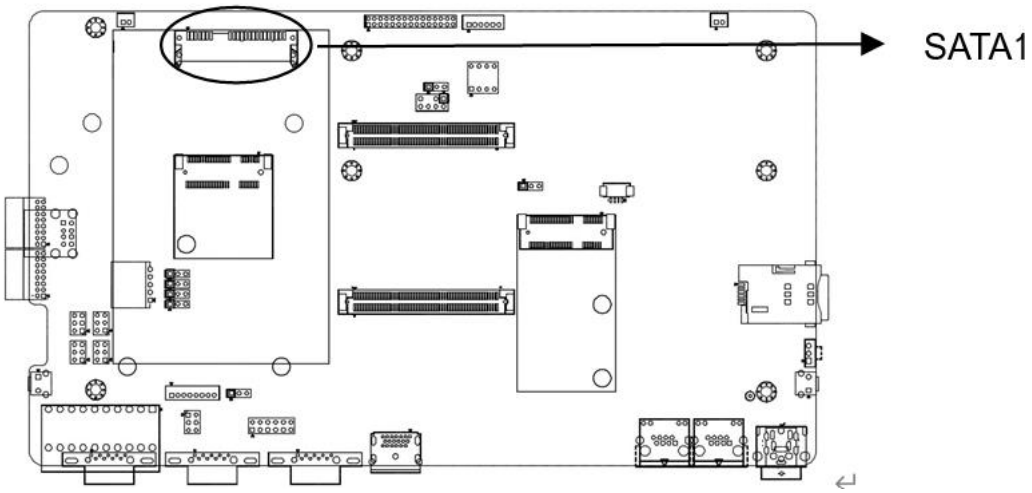
J120P2

Pin	signal	Pin	signal
1	+12V	2	+12V
3	+12V	4	+12V
5	+12V	6	+12V
7	+12V	8	+12V
9	+12V	10	+12V
11	GND	12	GPIO40
13	PEWAKE-	14	PLTRST#
15	GND	16	DDI2_AUXN
17	DDI2_AUXP	18	GND
19	RXD2	20	TXD2
21	DSR_2	22	RTS_2
23	DTR_2	24	CTS_2
25	RI_2	26	DCD_2
27	GND	28	DDI2_TXN2
29	DDI2_TXP2	30	GND
31	DDI2_TXN0	32	DDI2_TXP0
33	GND	34	DDI2_TXN3
35	DDI2_TXP3	36	GND
37	DDI2_TXN1	38	DDI2_TXP1
39	GND	40	CLK_PCIE_3G#
41	CLK_PCIE_3G	42	GND
43	PCIE_TXP3	44	PCIE_TXN3
45	GND	46	DDI1_DDCCLK
47	DDI1_DDCDATA	48	DDI1_HPD
49	GND	50	USB_P5
51	USB_N5	52	GND
53	USB_N6	54	USB_P6
55	GND	56	USB_N7
57	USB_P7	58	GND
59	USB_N8	60	USB_P8
61	MIC2-L	62	MIC2-R
63	LINEOUT2-L	64	LINEOUT2-R
65	EAPD	66	AMP_L

67	AMP_R	68	SENSE_B
69	GND	70	GND
71	GND	72	GND
73	DDI1_AUXN	74	DDI1_AUXP
75	GND	76	PCIE_RXN3
77	PCIE_RXP3	78	GND
79	DDI1_TXP2	80	DDI1_TXN2
81	GND	82	DDI1_TXP0
83	DDI1_TXN0	84	GND
85	DDI1_TXP3	86	DDI1_TXN3
87	GND	88	DDI1_TXP1
89	DDI1_TXN1	90	GND
91	SATA_TXN1	92	SATA_TXP1
93	GND	94	SATA_RXN1
95	SATA_RXP1	96	GND
97	RTS_1	98	DSR_1
99	TXD1	100	RXD1
101	CTS_1	102	DTR_1
103	DCD_1	104	RI_1
105	GND	106	DDI1_HPD
107	DDI1_DDCDATA	108	DDI2_DDCCLK
109	PCTL_	110	RST_
111	FP_SPSW	112	HLED-
113	ZD_SPSW	114	+5V
115	+5V	116	+5V
117	+5V	118	+3.3V
119	+3.3V	120	+3.3V

3.8.6 Hard disk interface (SATA1)

Provide one 2.5-inch hard drive slot on the board for direct installation of the hard drive

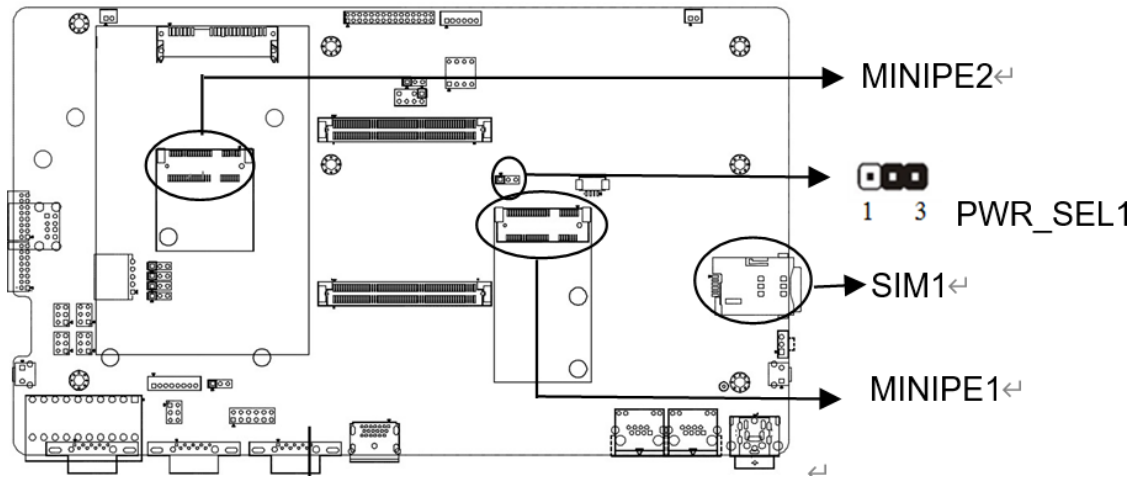


Definition of SATA1 (2.5-inch hard drive interface)

Pin	signal	Pin	signal
1	GND	2	SATA_TXP1
3	SATA_TXN1	4	GND
5	SATA_RXN1	6	SATA_RXP1
7	GND	8	3.3V
9	3.3V	10	3.3V
11	GND	12	GND
13	GND	14	5V-HDD
15	5V-HDD	16	5V-HDD
17	GND	18	/
19	GND	20	NC
21	NC	22	NC

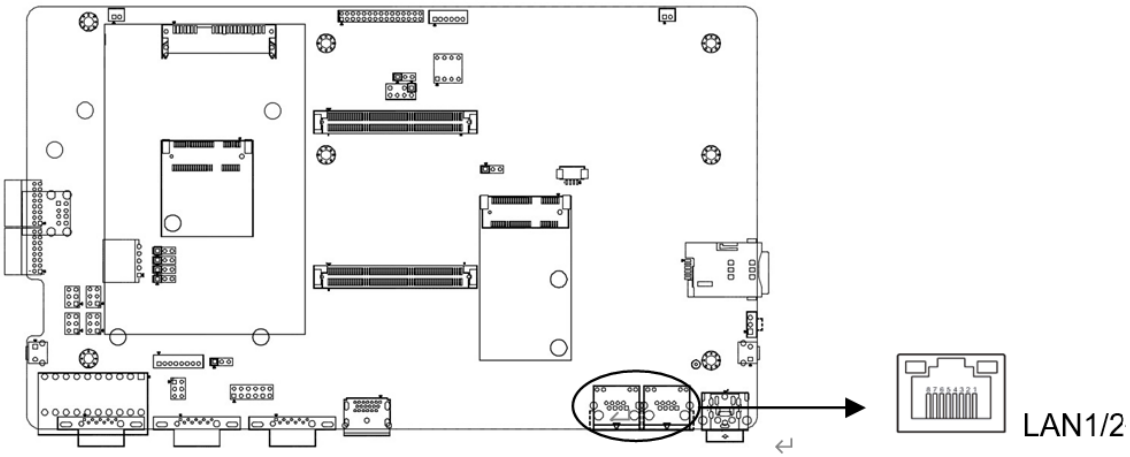
3.8.7 Mini-PCIE slot (MINIPE2)

Provide 1 Mini PCIE 2 slot on the board, supporting WIFI



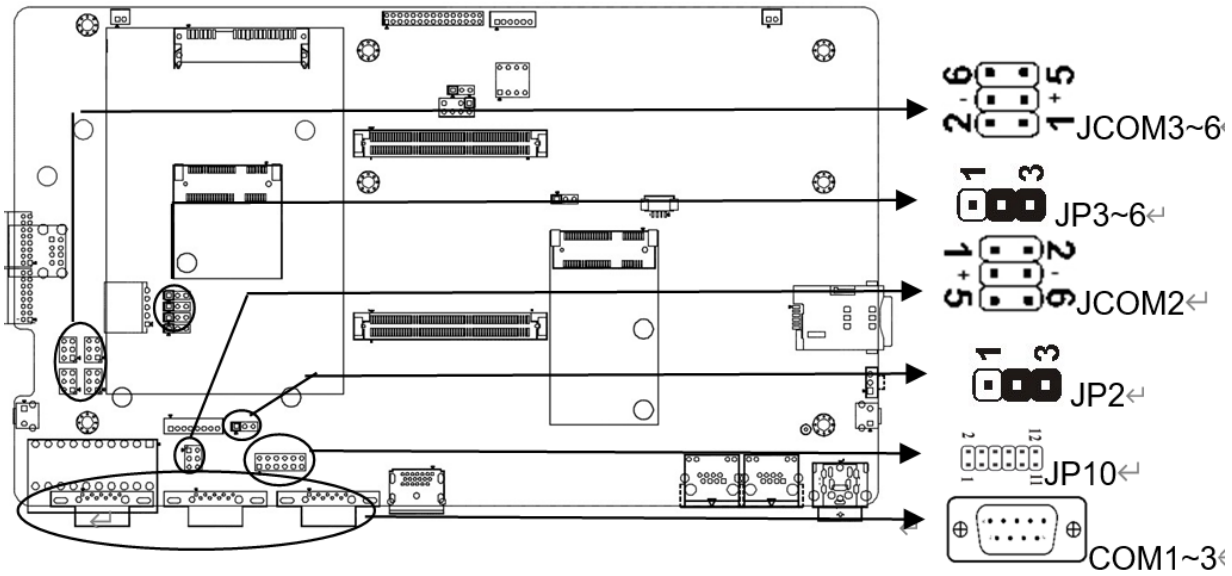
3.8.8 LAN1 LAN2

Two standard gigabit network interfaces are provided on the board



3.8.9 Serial Interface（COM1, COM2, COM3, JP2, JP3, JP4, JP5, JP6, JCOM2, JCOM3, JCOM4, JCOM5, JCOM6, JP10）

There are 6 RS232 serial interfaces provided on the board, among which COM1~COM3 are DB9 serial ports, and COM2~COM6 also support RS485 function. Through jump cap switching, COM1/COM2 also supports the 9th pin electrification function



COM1~COM3

Pin	signal	Pin	signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

JP10（COM1, COM2）：

SET	function（JP4）	
1-2 short	RS232	COM1
3-4 short	+5V	
5-6 short	+12V	
7-8 short	RS232	COM2
9-10 short	+5V	
11-12 short	+12V	

COM2~COM6 RS485/232

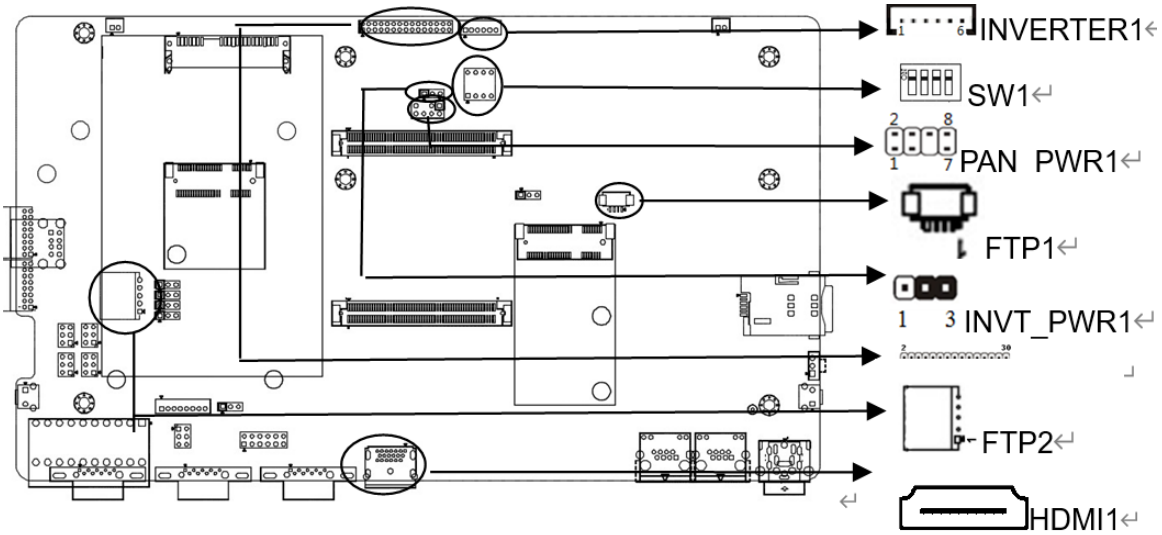
SET	JCOM2/3/4/5/6	SET	JP2/3/4/5/6
3-5 short 4-6 short	RS485	1-2 short	RS485
1-3 short 2-4 short	RS232	2-3 short	RS232

3.8.10 Display interface (HDMI1, LVDS1, INVERTER1, SW1, FTP1)

Provide one standard HDMI interface on the board,

Built in with 1 LVDS interface 2 * 15 pins,

Built in 1 resistor touch screen interface, 1 * 5pin



HDMI1

Pin	signal	Pin	signal
1	TMDS Data2+	2	TMDS Data2 Shield
3	TMDS Data2-	4	TMDS Data1+
5	TMDS Data1 Shield	6	TMDS Data1-
7	TMDS Data0+	8	TMDS Data0 Shield
9	TMDS Data0-	10	TMDS Clock+
11	TMDS Clock Shield	12	TMDS Clock-
13	Reserved(N.C.)	14	Reserved(N.C.)
15	SCL	16	SDA
17	CEC Ground	18	+5V Power
19	Hot Plug Detect		

LVDS1

Pin	signal	Pin	signal
1	LCDVDD	2	LCDVDD
3	LCDVDD	4	NC
5	GND	6	GND
7	LVDS_A0-	8	LVDS_A0+
9	LVDS_A1-	10	LVDS_A1+
11	LVDS_A2-	12	LVDS_A2+
13	GND	14	GND
15	LVDSA_CLK-	16	LVDSA_CLK+
17	LVDS_A3-	18	LVDS_A3+
19	LVDS_B0-	20	LVDS_B0+
21	LVDS_B1-	22	LVDS_B1+
23	LVDS_B2-	24	LVDS_B2+
25	GND	26	GND
27	LVDSB_CLK-	28	LVDSB_CLK+
29	LVDS_B3-	30	LVDS_B3+

The voltage of different LCD screens may vary. This board provides three types of screen working voltage options: 3.3V, 5V, and 12V, as well as 5V and 12V screen backlight power supply voltage options. Before using LVDS, please understand its required rated working voltage. When the selected LCD voltage is consistent with the used LCD screen voltage, the LCD screen can display normally. The setting method is as follows:

INVERTER1(Backlight power supply interface)

Pin	signal
1	12V/5V(INV_PWR1 Setting)
2	12V/5V(INV_PWR1 Setting)
3	Backlight enable
4	Backlight brightness control
5	GND
6	GND

INV_ PWR1 (screen backlight power supply) setting

Pin	INVT_PWR1
1-2 short	12V
2-3 short	5V

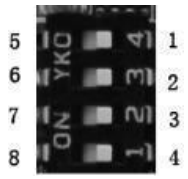
PAN_ PWR1 (screen working voltage) setting

Pin	PAN_PWR1
1-2 short	3.3V
3-4 short	5V
5-6 short	NC
7-8 short	12V

JSW1 (Screen Brightness Adjustment Interface)

Pin	signal
1	BLUP
2	BLDN
3	BKLT-
4	GND

SW1 is used to set the resolution of LVDS, and the detailed settings are as follows:



SW1 switch is shown in the figure

1. 2, 3, and 4 represent 1, 5, 6, 7, and 8 represent 0

Example:

The position of the 0011 switch is: 5634

The position of the 0101 switch is: 5274

The position of the 1010 switch is: 1638

The default switch position is 1234, which is 1111

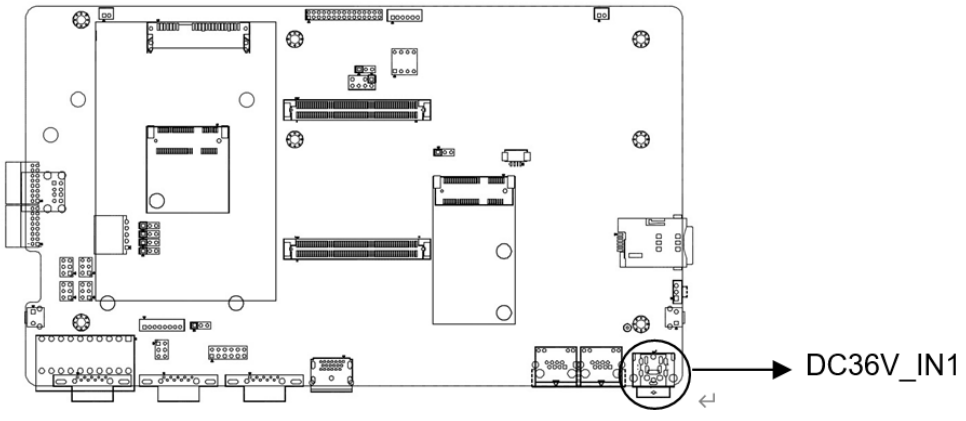
Switch [4:1]	HA (Pixel)	VA (line)	RR (Hz)	PC (MHz)	CD (bit)	Port	HB (Pixel)	HSO (Pixel)	HSPW (Pixel)	VB (line)	VSO (line)	VSPW (line)
0000	800	600	60	38.25	6	Single	224	32	80	24	3	4
0001	1024	768	60	56.00	6	Single	160	48	32	22	3	4
0010	1280	768	60	68.25	6	Single	160	48	32	22	3	7
0011	1280	800	60	71.00	6	Single	160	48	32	23	3	6
0100	1280	960	60	85.25	6	Single	160	48	32	28	3	4
0101	1280	1024	60	91.00	8	Dual	160	48	32	30	3	7
0110	1366	768	60	72.75	6	Single	160	48	32	23	3	10
0111	1366	768	60	72.25	8	Single	160	48	32	23	3	10
1000	1440	900	60	106.50	8	Dual	464	80	152	34	3	6
1001	1024	600	60	56.00	6	Single	160	48	32	22	3	4
1010	1920	1080	60	138.50	6	Dual 15.6 inch	160	48	32	31	3	5
1011	1920	1080	60	138.50	8	Dual 21.5 inch	160	48	32	31	3	5
1100	1920	1080	60	138.50	8	Dual 42 inch	160	48	32	31	3	5
1101	1920	1200	60	154.00	6	Dual	280	48	32	35	3	6
1110	1920	1200	60	154.00	8	Dual	280	48	32	35	3	6
1111	1024	768	60	56.00	8	Single	160	48	32	22	3	4

Definition of FTP2 (resistive touch screen):

Pin	signal	Pin	signal
1	TP1	2	TP2
3	TP3	4	TP4
5	TP5		

3.8.11 Power interface (DC36V-IN1)

Provide one 4-pin DC power interface on the board, supporting DC9-36V power supply

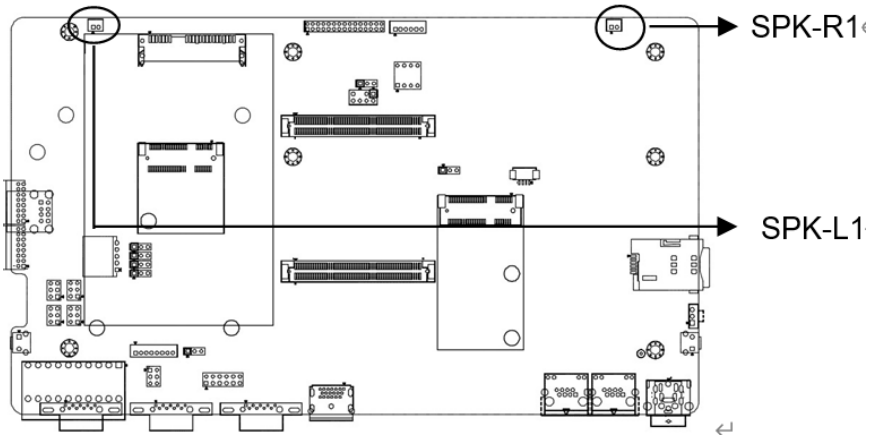


DC36V_IN1

Pin	signal	Pin	signal
1	GND	2	+8~36V

3.8.12 Audio interface (SPK-R1, SPK-L1)

Two 2-pin audio interfaces are provided on the board, one for the left channel and one for the right channel

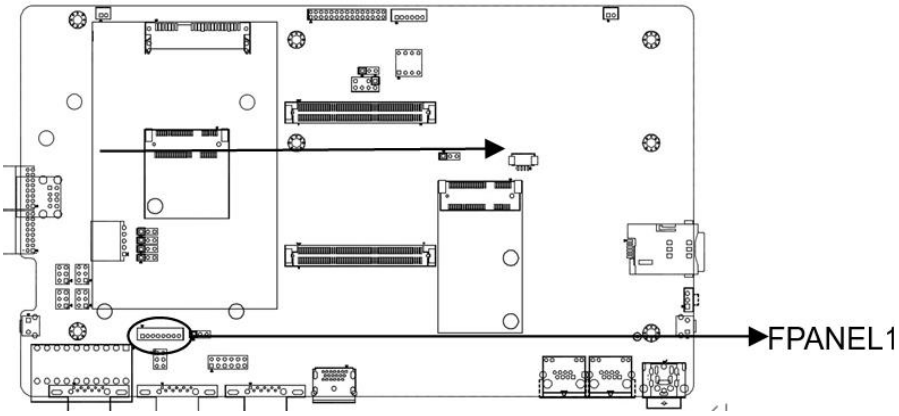


SPK-L1 SPK-R1

Pin	signal		Pin	signal
1	IN_SPKR+		1	IN_SPKL+
2	IN_SPKR-		2	IN_SPKL-

3.8.13 Front panel function buttons and indicator light interface (FPANEL1)

Provide one front panel function button and indicator light interface FPANEL on the board



FPANEL1

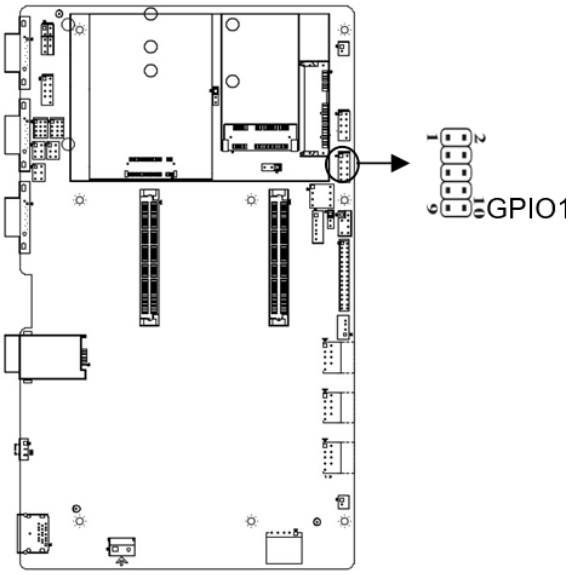
Pin	signal	Pin	signal
1	+5V	2	GND
3	HLED+	4	HLED-
5	FP_SPSW	6	GND
7	BLUP	8	BLDN

3.8.14 Programmable input/output port (GPIO1)

Please write a normal GPIO driver in OS (for Windows series, please refer to Microsoft driver related materials, for Linux and Unix, please refer to the relevant Linux driver framework model), and use the GPIO driver to drive the GPIO module, hereinafter referred to as the driver.

The GPIO1 module consists of 5 sets (10) rows of pins (refer to the motherboard), with pins 1, 2, 3, 4, 5, 6, 7, and 8 leading out as Simple GPIO, code 9 as GND, code 10 as+5V, and singular number

(1,3, 5, 7) are the signal input pin rows, and the double numbered (2, 4, 6, 8) are the signal output pin rows:



GPIO1 define

Pin	signal	Pin	signal
1	Inuput	High	
2	Output	Low	Determined by BIOS settings
3	Inuput	High	
4	Output	Low	Determined by BIOS settings
5	Inuput	High	
6	Output	Low	Determined by BIOS settings
7	Inuput	High	
8	Output	Low	Determined by BIOS settings
9	GND		
10	+5V		

Chapter 4. System Utilities

4. System Utilities

BIOS (Basic Input and Output System) records the setting parameters of various hardware devices in the system through the CMOS chip on the motherboard BIOS includes a BIOS setup program for users to set system parameters as needed to ensure that the motherboard functions properly or performs specific functions

The relevant settings modified through the BIOS Setup program (except for date and time) are saved in the flash memory of the system. The power required to memorize CMOS data is supplied by the battery on the motherboard. Therefore, when the system power is turned off, these data will not be lost. When the power is turned on again, the system can read these set data When unable to access the Setup interface due to incorrect operation, to restore factory settings, please short circuit JBAT1 2 and 3 pins to clear CMOS content

Attention! The BIOS settings directly affect the performance of the computer. Setting incorrect parameters can cause damage to the computer and even prevent it from turning on. Please use the built-in default values in the BIOS to restore normal system operation

Due to the slight differences in the settings interface between different products of our company, the following screen is for your reference and may not be completely the same as the BIOS setup program you are currently using

4.1 BIOS Basic Function Settings

4.1.1 Enter the BIOS interface

Follow these steps to enter the BIOS interface

1. Turn on the power and the display screen will display a POST interface

2. When the prompt "Press<DEL>or<ESC>to enter setup" appears on the screen, press<DEL>or

<ESC>key to enter the BIOS setup program

3. Use the arrow keys<↑><↓><←><→>to move to the option you want to modify, and press the<Enter>key to enter the sub screen of the option

4. Use the arrow keys and<Enter>key to modify the value of the selected item. Press Enter to select the BIOS option and modify it

5. Use<Esc>to exit the main menu without saving changes, submenu to exit the current page and return to the main menu

6. <Page Up/+>Add numerical values or change

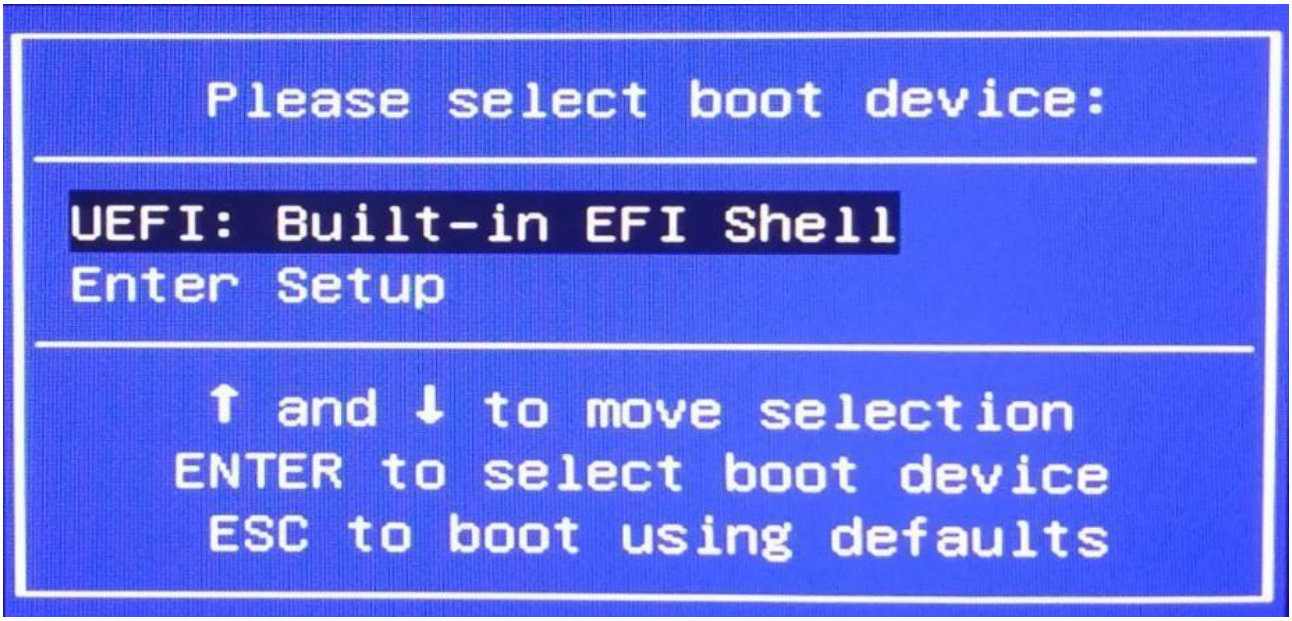
<Page Down/->Reduce numerical values or change

<F1>Settings submenu help

<F9>Set to default value (optimized to factory settings)

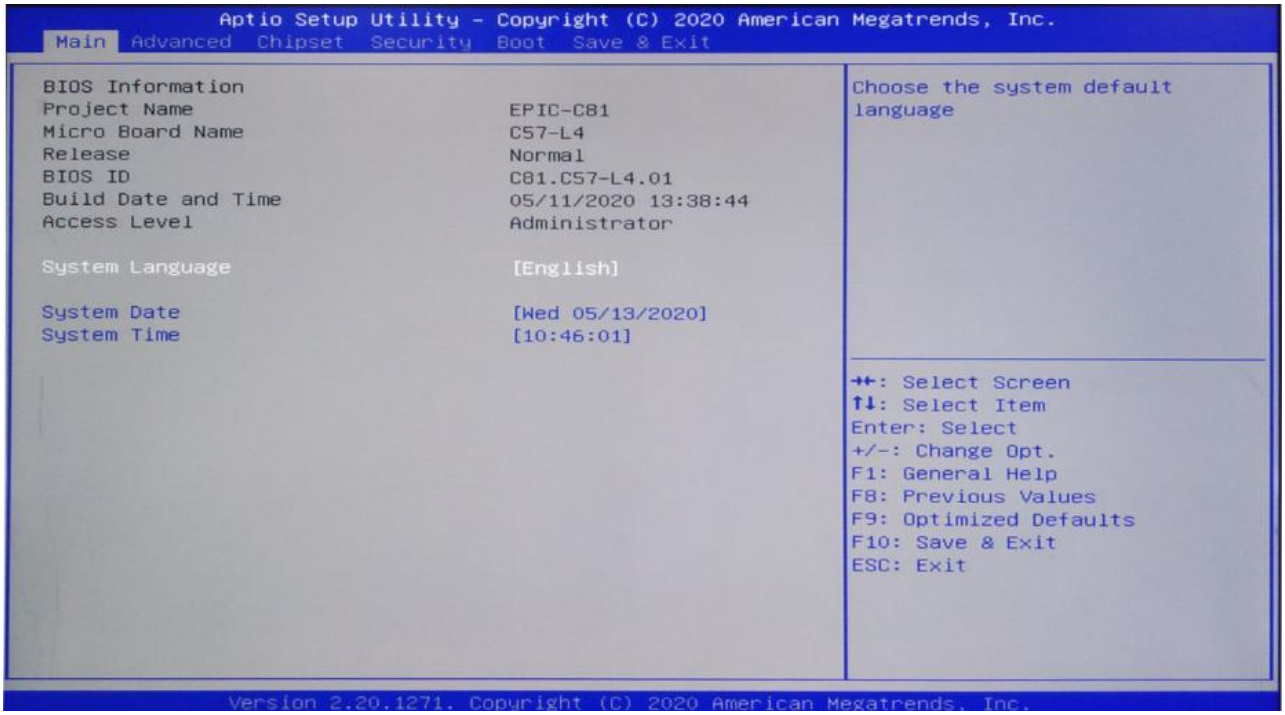
<F10>Save BIOS settings

Note: 1. For BIOS that supports hard disk UEFI mode, hard disk information cannot be seen in BBS, but it can be viewed in SATA Configure in BIOS to access the hard disk information. The following are the details



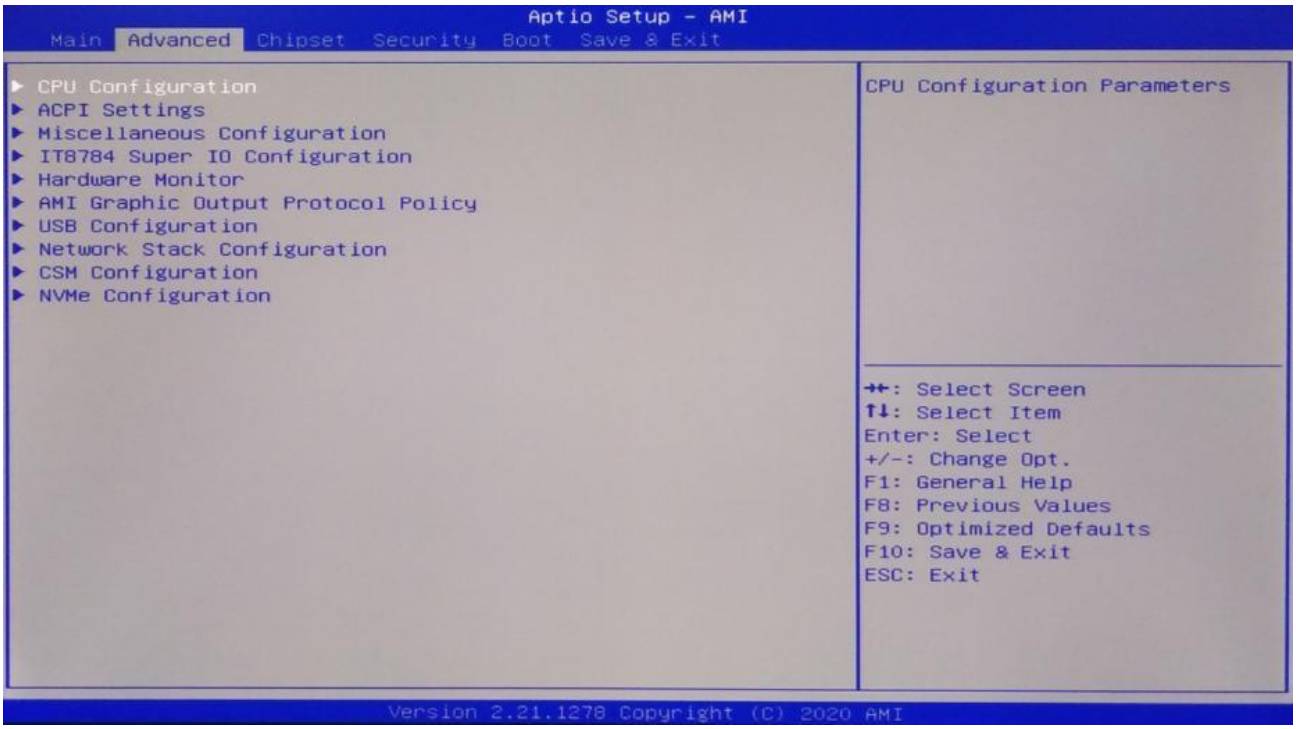
2. After installing the UEFI system, you can view the system boot information ex: Windows Boot Manager (hard disk information) in BBS

4.2 MIAN Menu (BIOS information and time date)



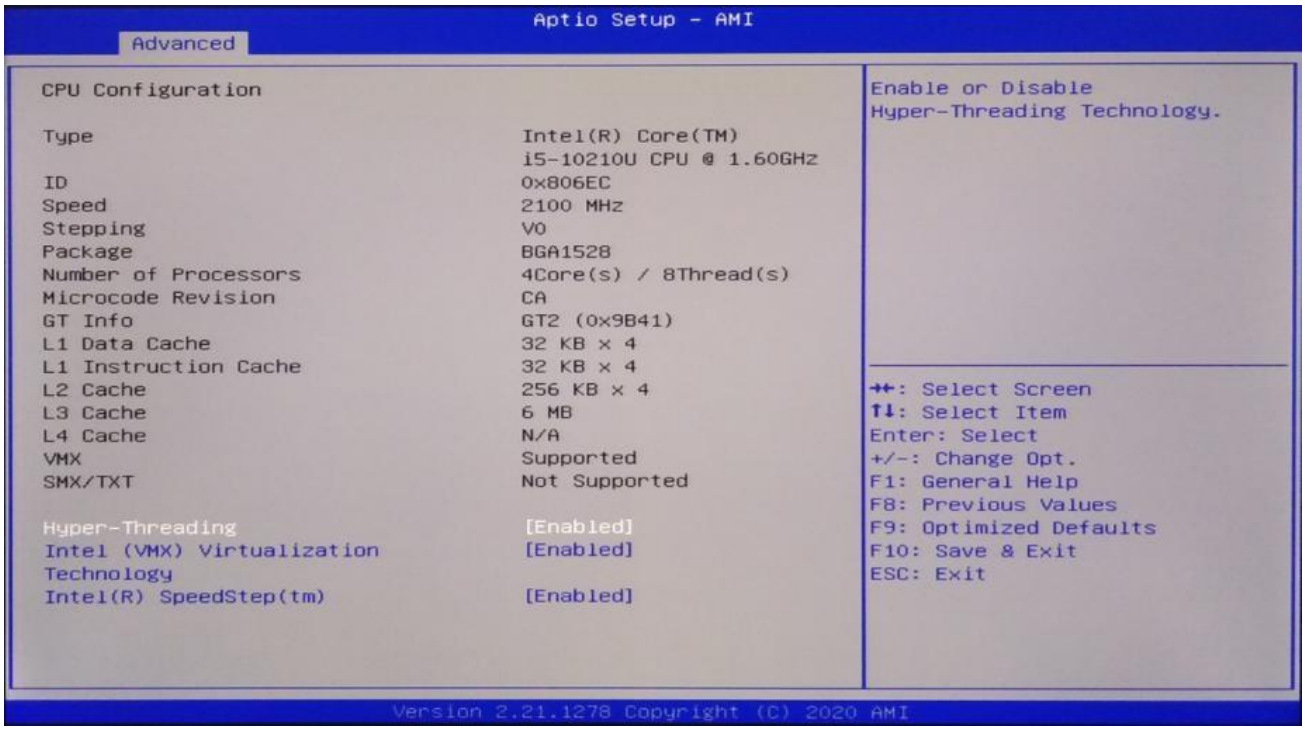
1. BIOS ID: BIOS version
2. Build Date and Time: BIOS time date
3. System Date:
4. Set the current date. Expressed in month/day/year format. The setting range is: Month/Month (Jan. Dec.),
5. Date/day (01-31), Year/year (up to 2099), Week/week (Mon. to Sun.). System Time:
6. Set the current time. Represented in hours/minutes/seconds format. The setting range is: Hour/hour (00-23), Minute/minute (00-59), Second/second (00-59).

4.3 Advance (Advanced Menu Settings)



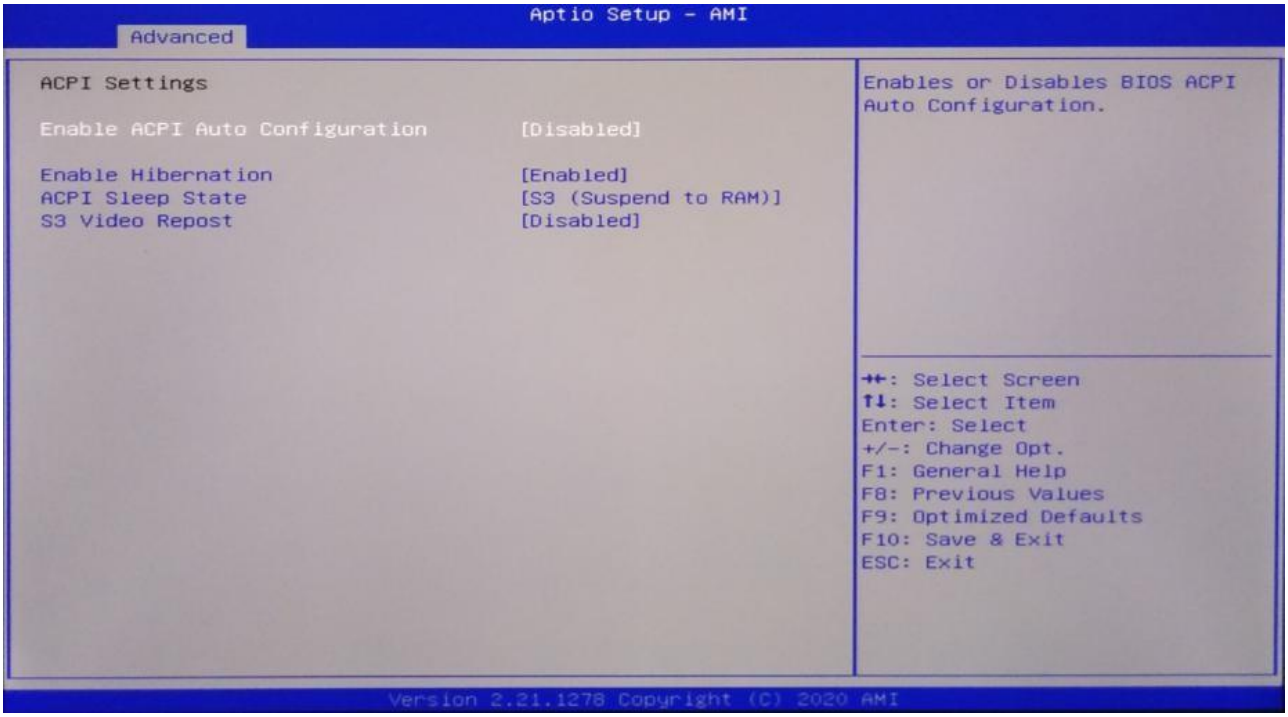
1. CPU Configuration: CPU parameter information and common setting options.
2. ACPI Settings: Advanced configuration and power management interface settings.
3. Miscellaneous Configuration: Miscellaneous management, including setting scheduled startup, power on startup, watchdog IT8613E Super IO Configuration: Super IO configuration information, including COM port interrupt number and address settings.
4. Hardware Monitor: System monitoring, hardware monitoring, hardware monitor USB Configuration: USB information and control options.
5. CSM Configuration: CSM Configuration

4.4 CPU Configuration



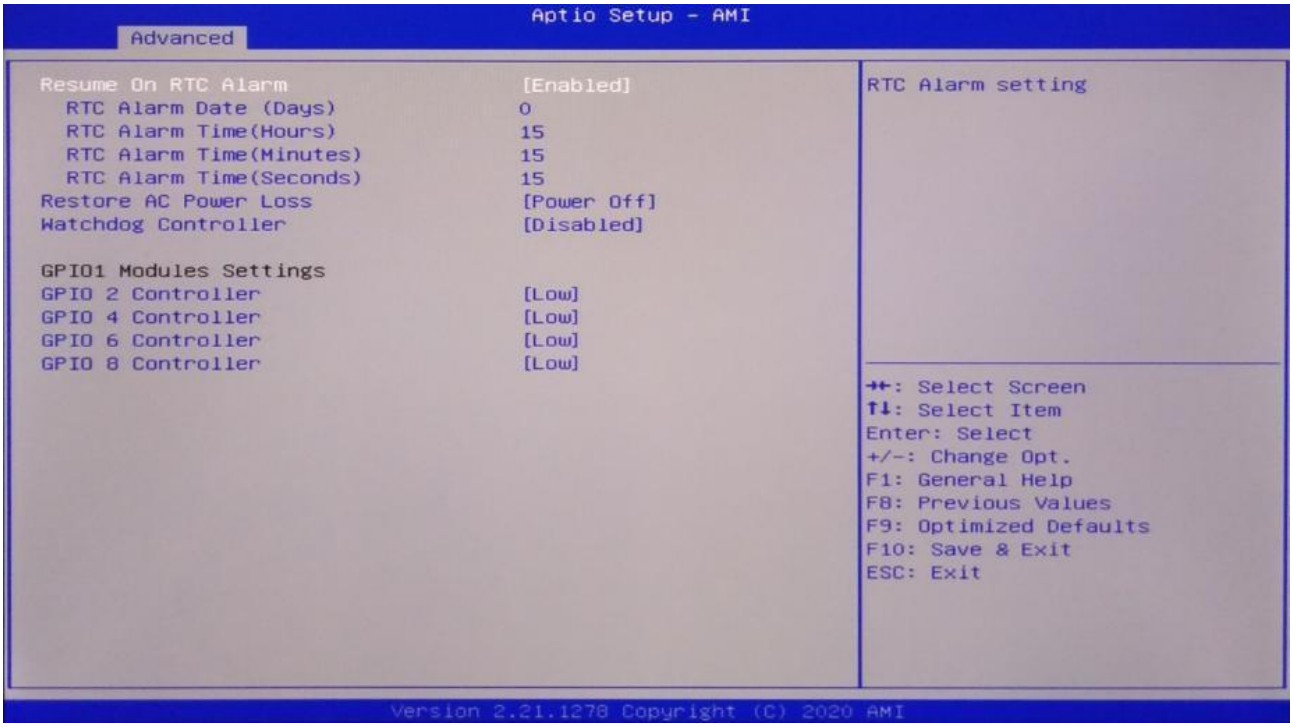
1. The read-only item contains detailed information about the CPU, including CPU manufacturer, model, frequency, primary cache size, secondary cache size, and other information.
2. Intel Virtualization Technology:
3. Intel Virtualization Technology is a system virtualization technology used in Intel's CPUs. It enables multiple OSs to run on one PC, and VT technology is about to play a very important role in various types of processors (including dual core processors). This technology enables processors to have and/or virtualization technology, and using Vanderpool Technology, we can run two operating systems simultaneously on the same machine. One processor runs one operating system, while the other processor runs another operating system.

4.5 ACPI Settings

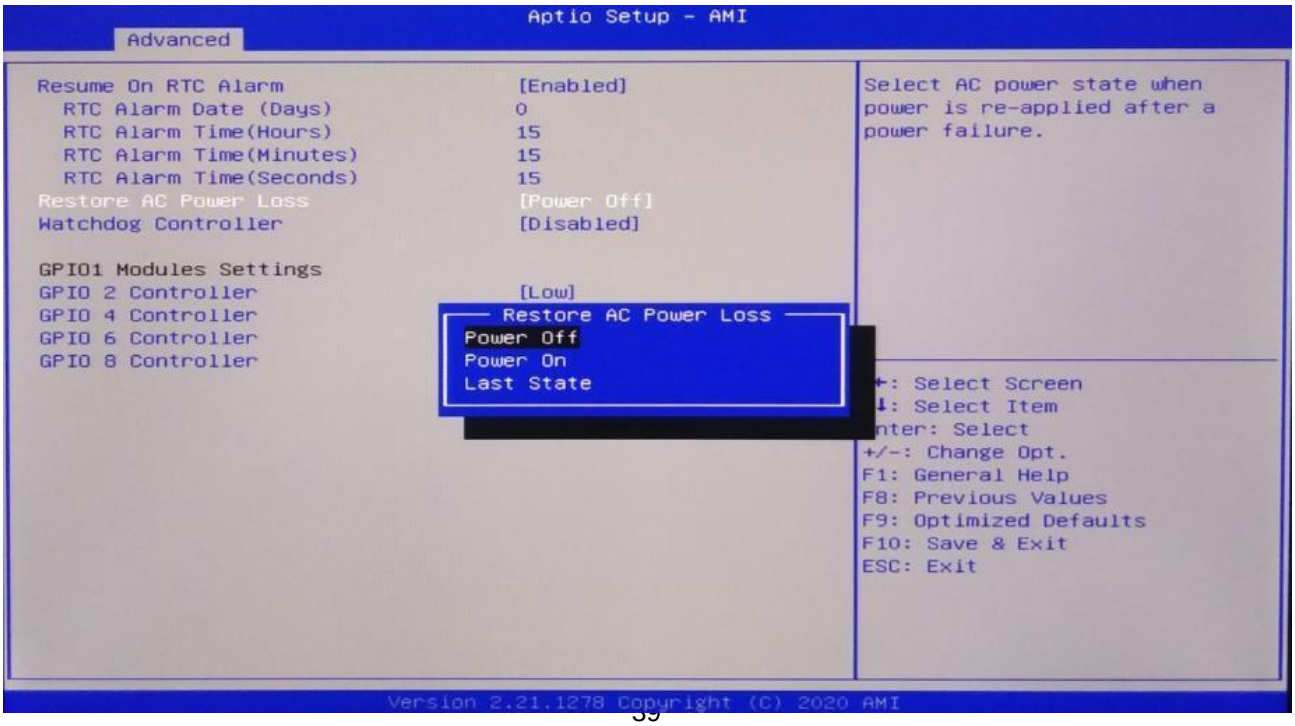


1. Enable ACPI Auto Configuration: This item is for ACPI automatic configuration. Enable or disable
2. (Disabled) ACPI automatic configuration of BIOS. The default is Disabled.
3. Enable Hibernation: This item supports starting hibernation. Enable or disable the system sleep function (OS/S4 sleep state). This option does not take effect in some OSs. The default is enabled. ACPI Sleep State: This option is used to select the power-saving mode that the system enters during sleep. If the mode is different, the system's power consumption level will also be different. Suspend Disabled; Turn off sleep mode: S1 (CPU Stop Clock): The CPU stops working and other devices are still powered on normally; S3 (Suspend to Ram): Suspend to memory.
4. Lock Legacy Resources: Resource locking, allowing (enabled) or disabling (disabled) resource locking functionality.

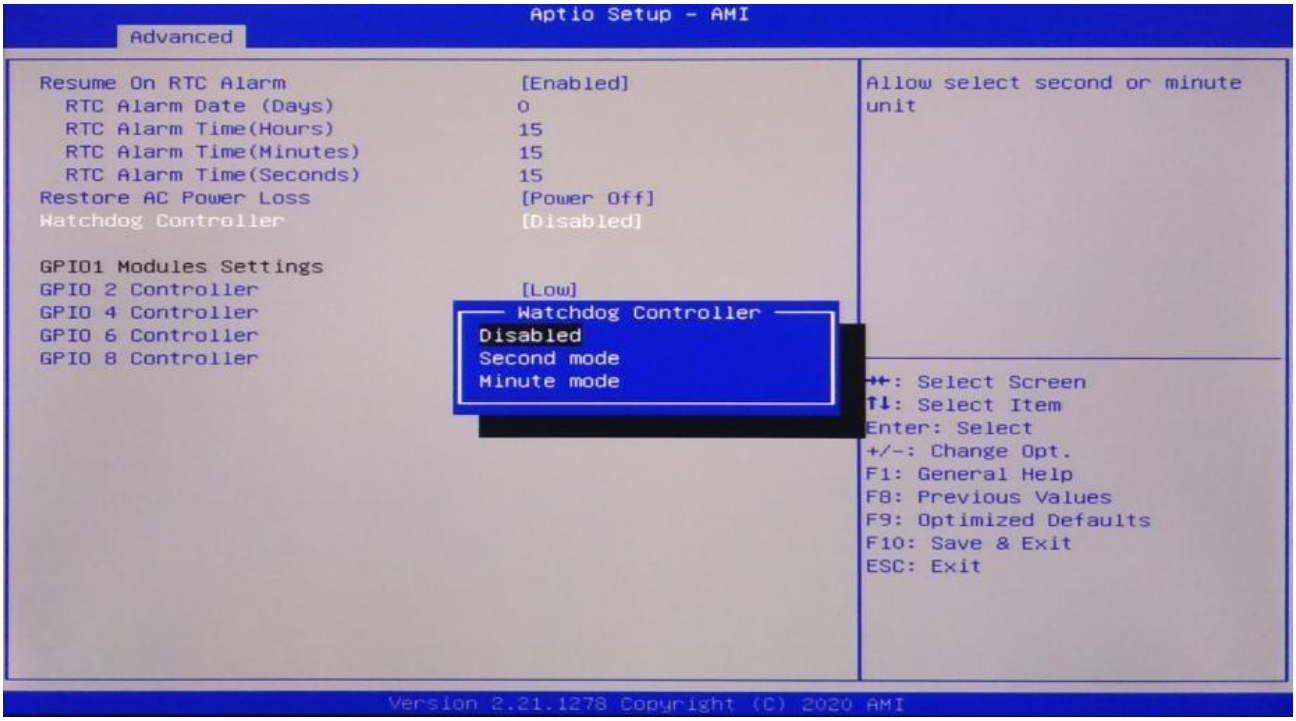
4.6 Miscellaneous Configuration



1. Resume On RTC Alarm: Set timed startup
2. RTC Alarm Date (Days): Set timed startup date
3. RTC Alarm Time (Hours): Set timed startup hours
4. RTC Alarm Time (Minutes): Set timed startup minutes
5. RTC Alarm Time (Seconds): Set timed startup seconds

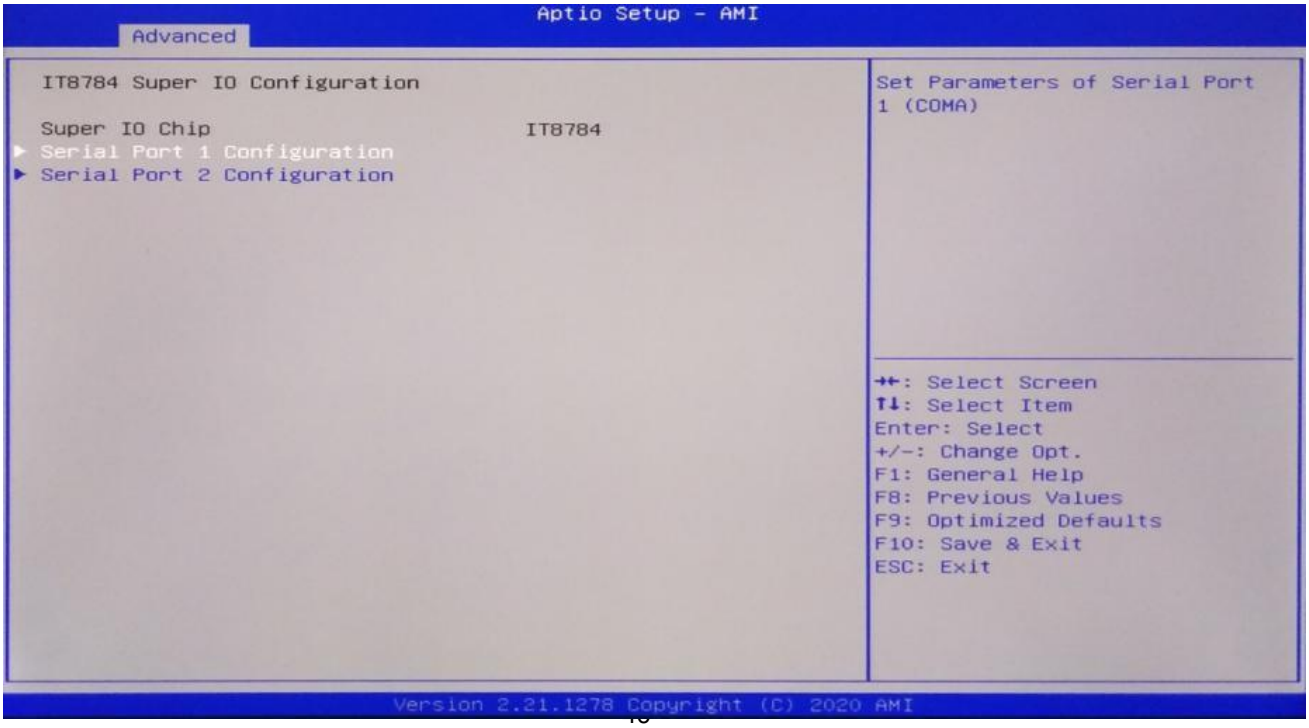


Restore AC Power Loss: This item is used to set the startup status after powering on. If you select Power Off, you need to press the power button to start up after powering on. If you select Power On, you can directly start up after powering on. If you select Last State, you will decide whether to power on and start up based on the last set value



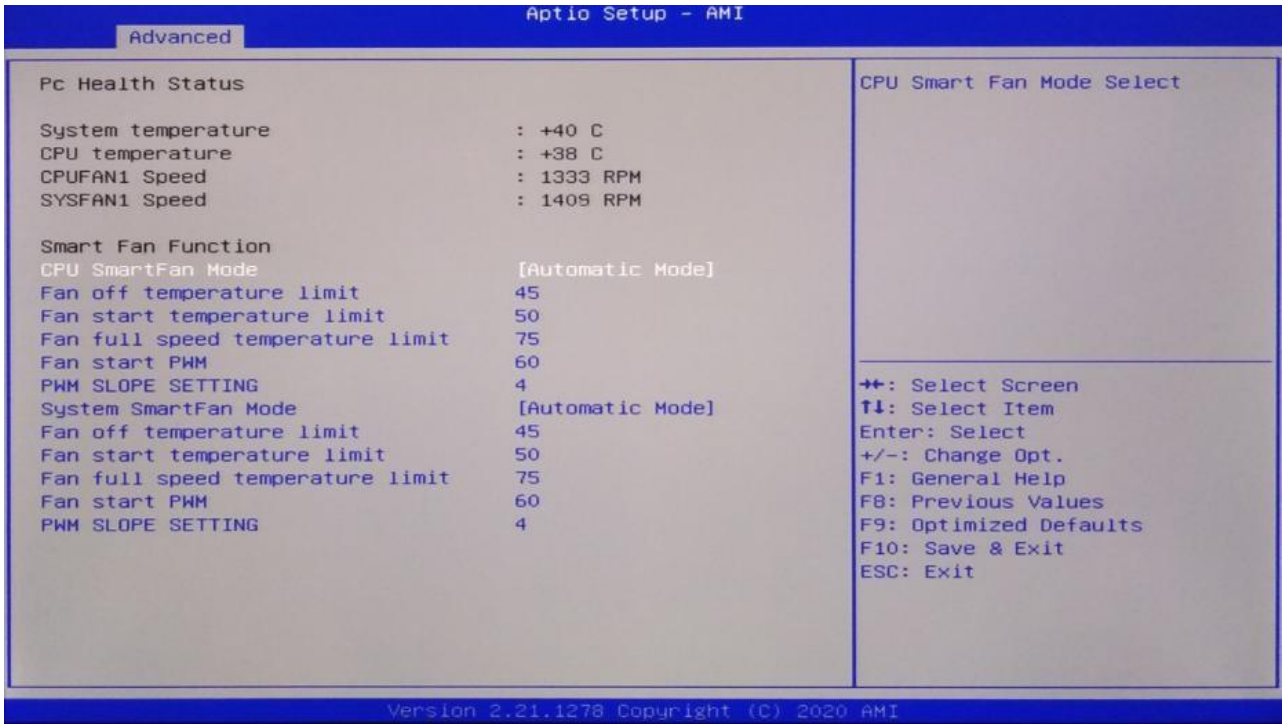
Watch dog controller: watchdog setting, [Disabled] to turn off watchdog, [Second mode] to set watchdog to second mode, [Minute mode] to set watchdog to minute mode

4.7Super IO Configuration



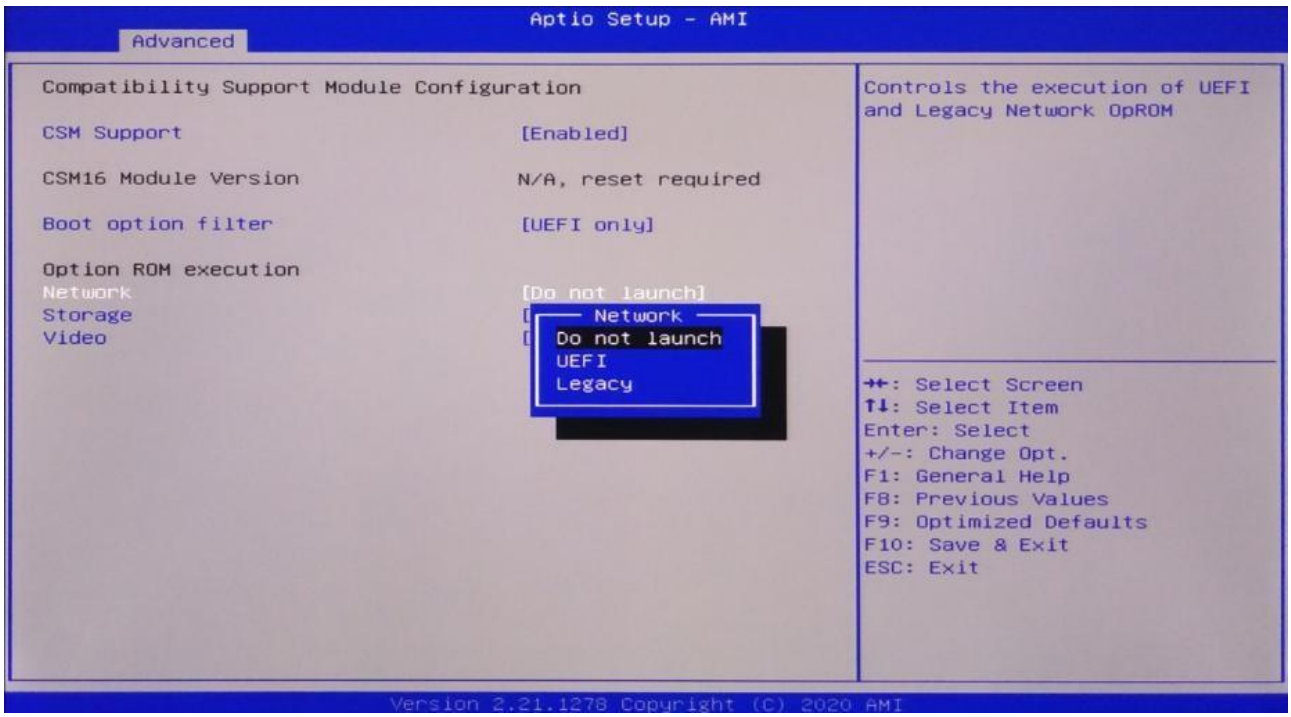
Serial Port 1 Configuration: This is the option for setting serial interface 1, including Super IO configuration information, including COM port interrupt number and address settings.

4.8 PC Health Status



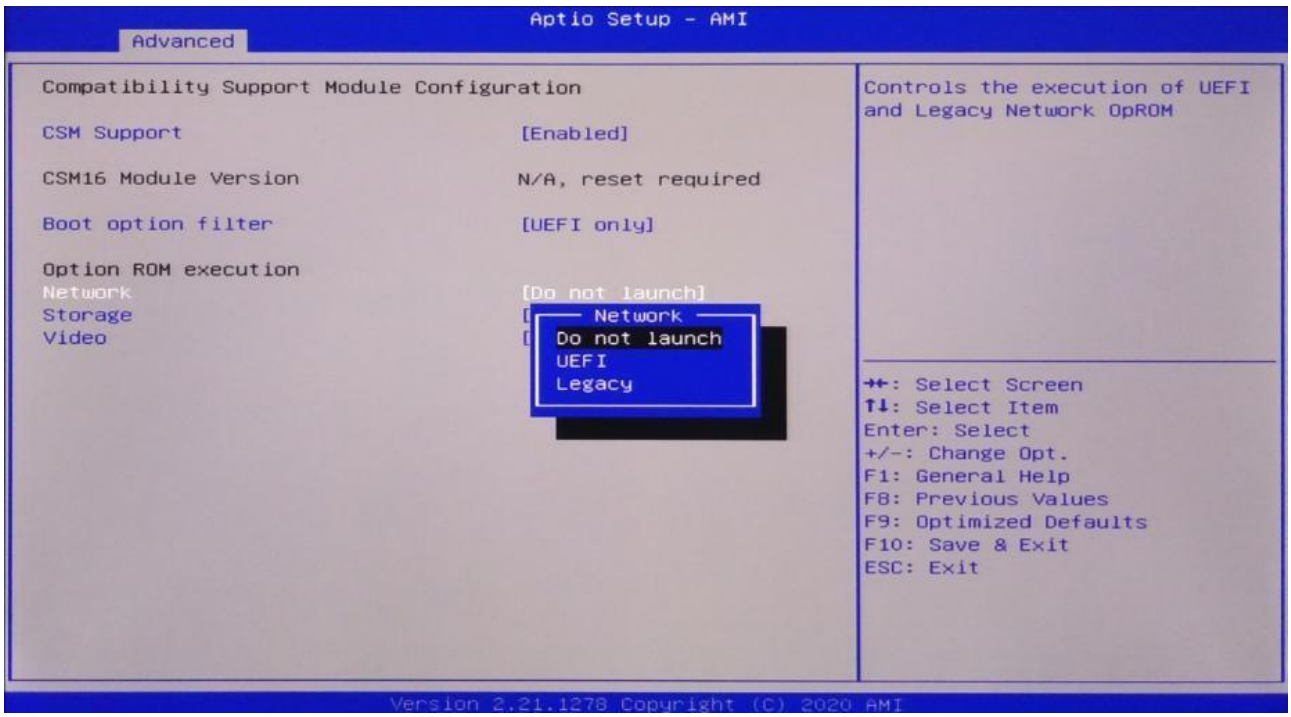
1. PC Health Status:Hardware security detection, displaying the current system temperature, CPU temperature, fan speed, and other related voltage values. The above parameters all have a certain range, and the system cannot operate beyond these ranges.
2. Smart Fan 1 Mode: This option enables the CPU automatic fan control function, which is used to automatically adjust the CPU fan speed based on the real-time detected CPU temperature, thereby achieving the goal of power saving and energy saving.
3. Fan off temperature limit: The minimum temperature setting for fan off. Fan start temperature limit: Set the minimum temperature value at which the fan is turned on. Fan start PWM: The value setting of the fan's start PWM.
4. Pwm slope setting: The linear value of Pwm.

4.9 CSM Configuration



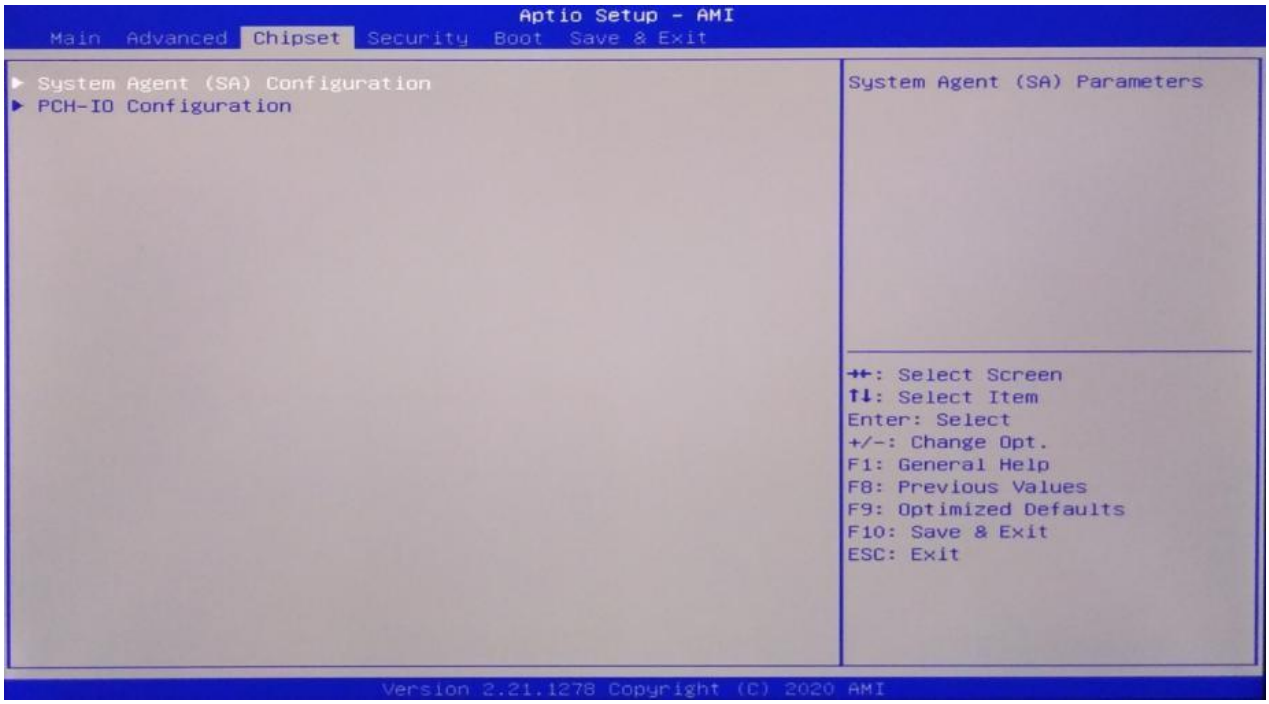
Network: Set diskless startup, Do not launch: Turn off diskless startup, Legacy: Set diskless startup mode to Legacy mode, UEFI: Set diskless startup mode to UEFI mode

4.10 USB Configuration

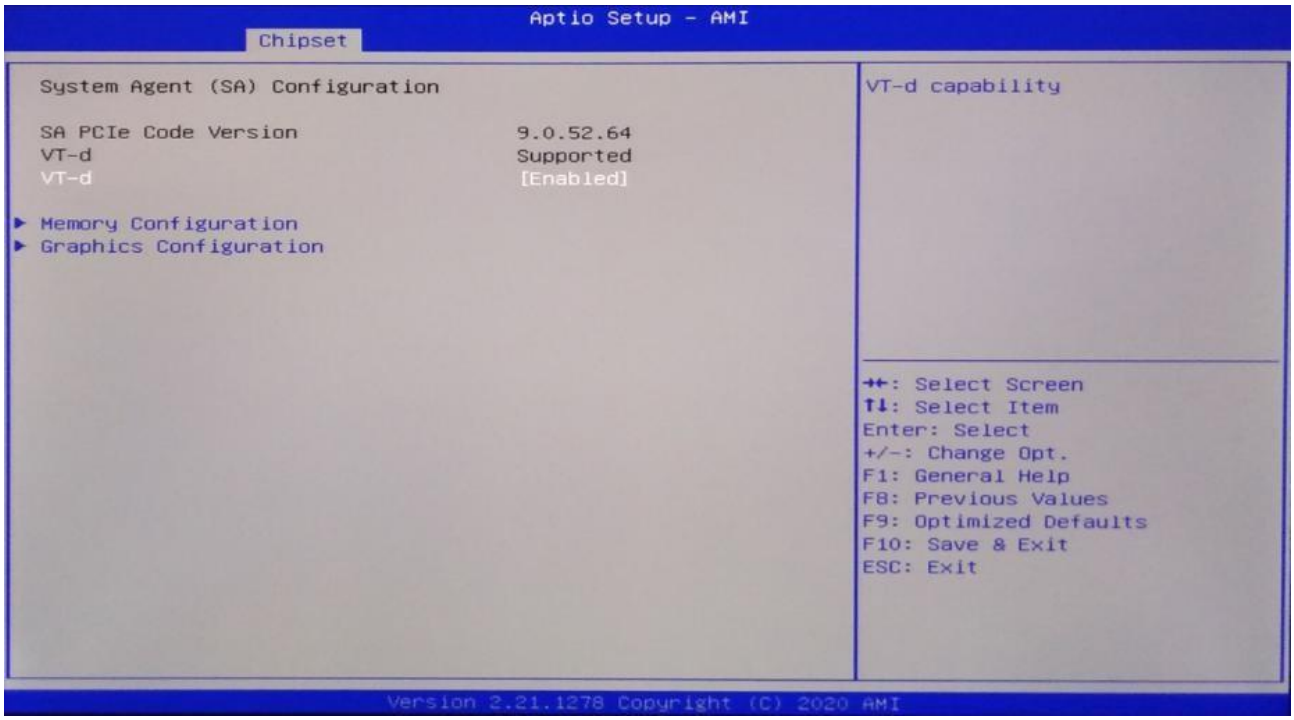


1. egacy USB Support:
2. This item is used for setting up older versions of USB. If you need to support USB devices such as USB drives, USB keyboards, etc. in DOS, you need to set this item to [Enabled] or [Auto]. Otherwise, select [Disabled].
3. XHCI Hand off: When the operating system does not support XHCI, should the BIOS take over XHCI control
4. USB Mass Storage Driver Support:
5. USB mass storage devices support switches.

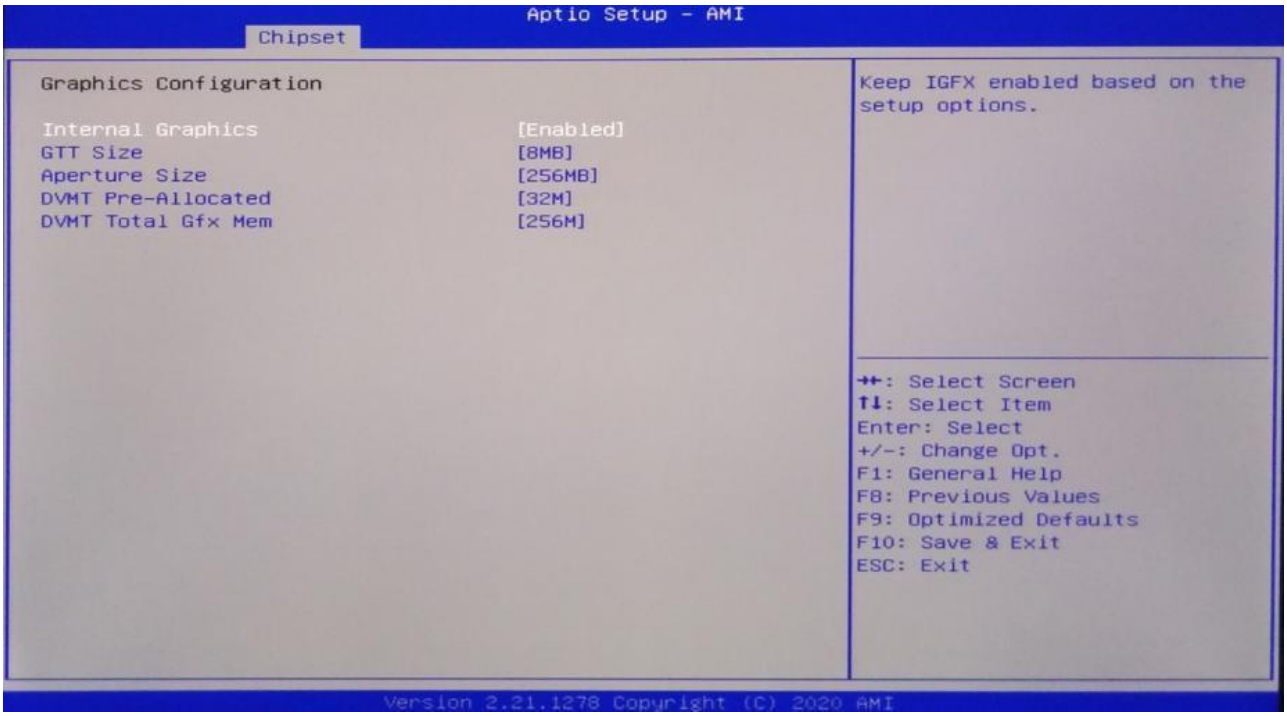
4.11 Chipset



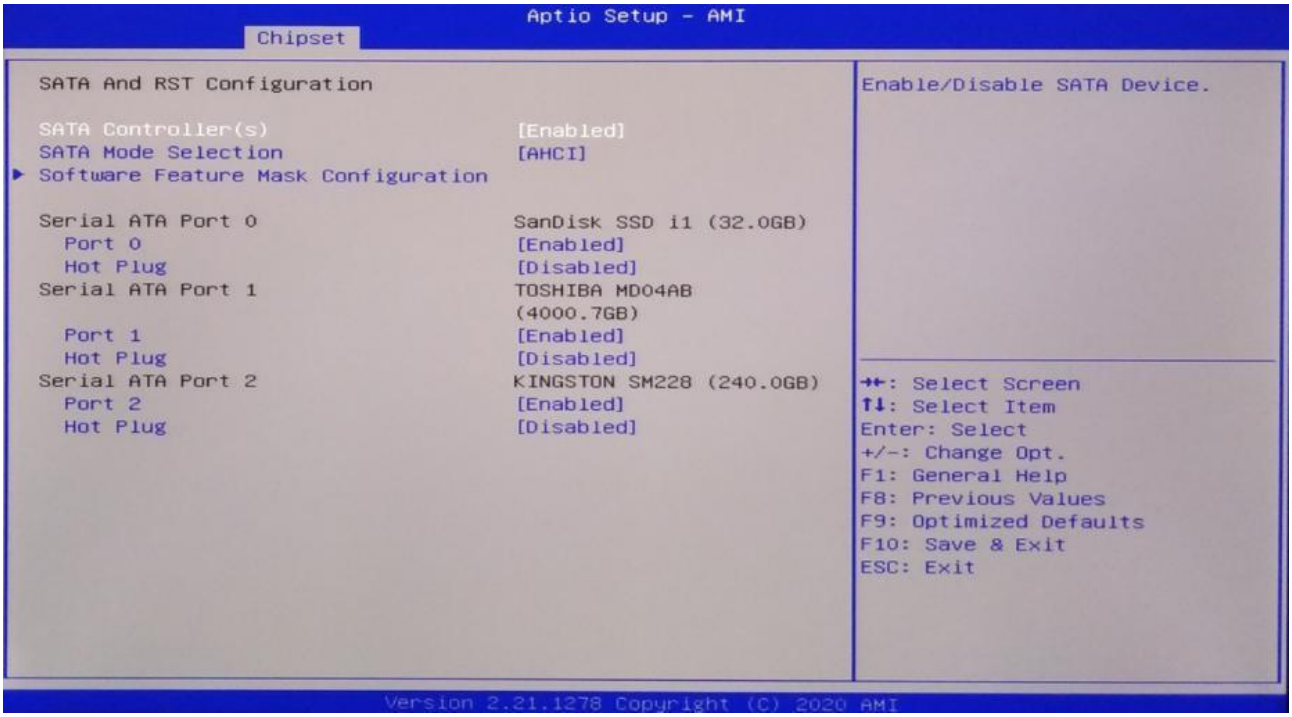
1. PCH-IO Configuration:
2. South Bridge Configuration Options. Including options such as sound card, network card, and automatic start upon call
3. System Agent (SA) Configuration:
4. North Bridge Configuration Options. Includes options such as graphics memory, display devices, and LVDS.



1. Intel's I/O virtualization technology requires chipset support, so some chipsets support it while others do not. BIOS will display or hide this option based on different chipsets. Please enable it when installing virtual machines.
2. Memory Configuration: Memory Configuration Graphics Configuration: Graphics Card Configuration

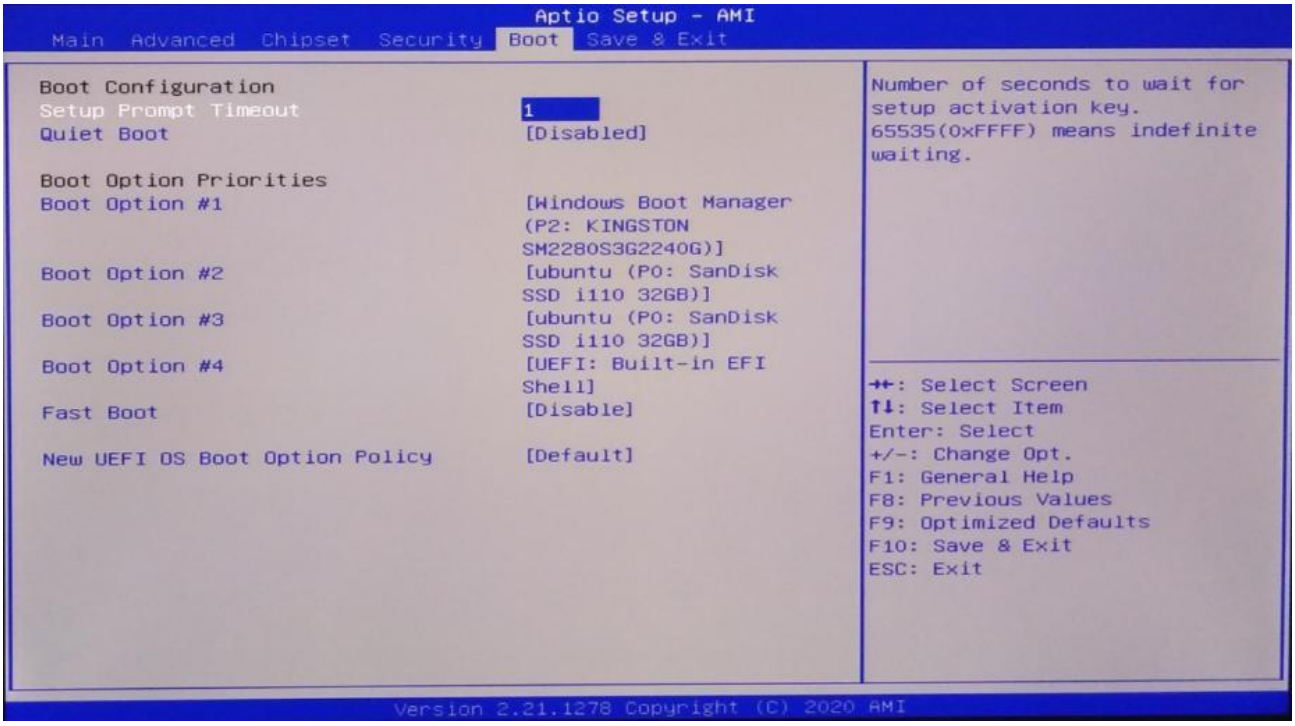


1. GTT Size: graphics memory size
2. DVMT Pre Allocated: Dynamically allocate the value of video memory.
3. DVMT Total Gfx Mem: Dynamically allocate the total value of the graphics card.
4. Aperture Size: Display the size of the card's shared main memory



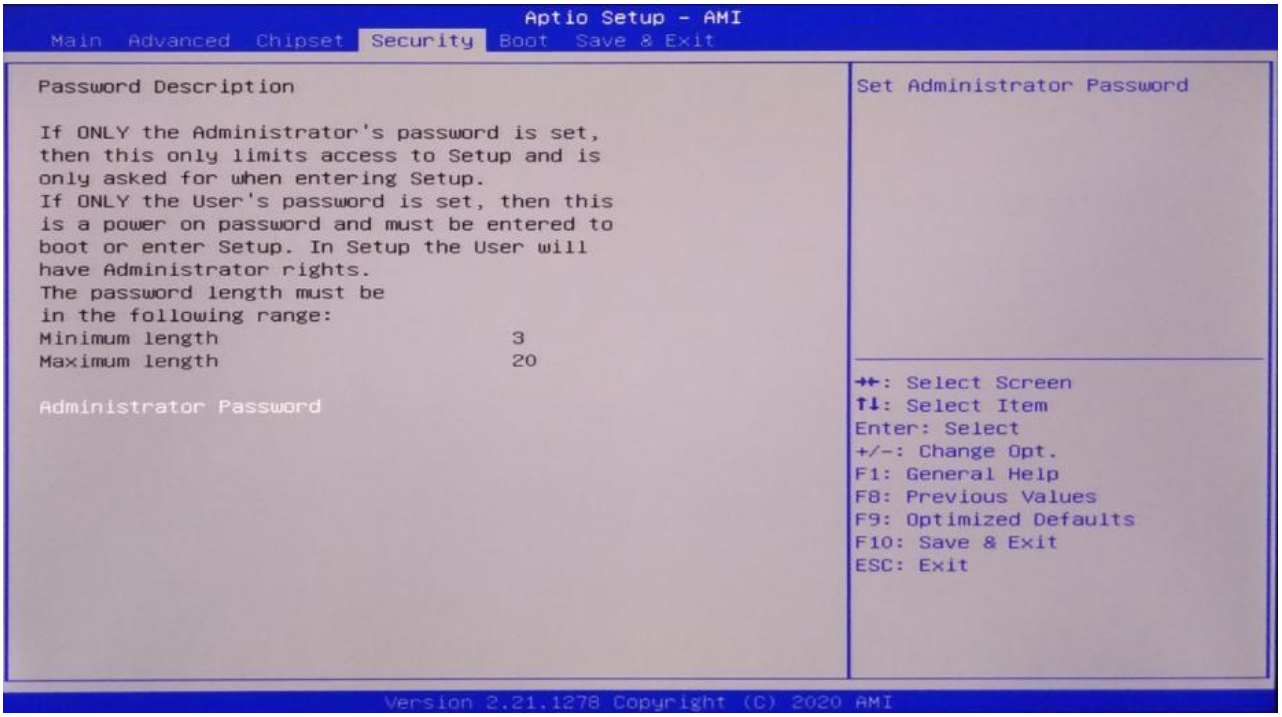
1. SATA And RST Configuration: SATA Configuration
2. SATA Mode Selection: Hard disk mode setting option.
3. SATA Controller speed: hard drive control speed
4. Serial ATA Port 0: Serial Port 0 (on or off).
5. Serial ATA Port 1: Serial Port 1 (on or off).

4.12 Boot



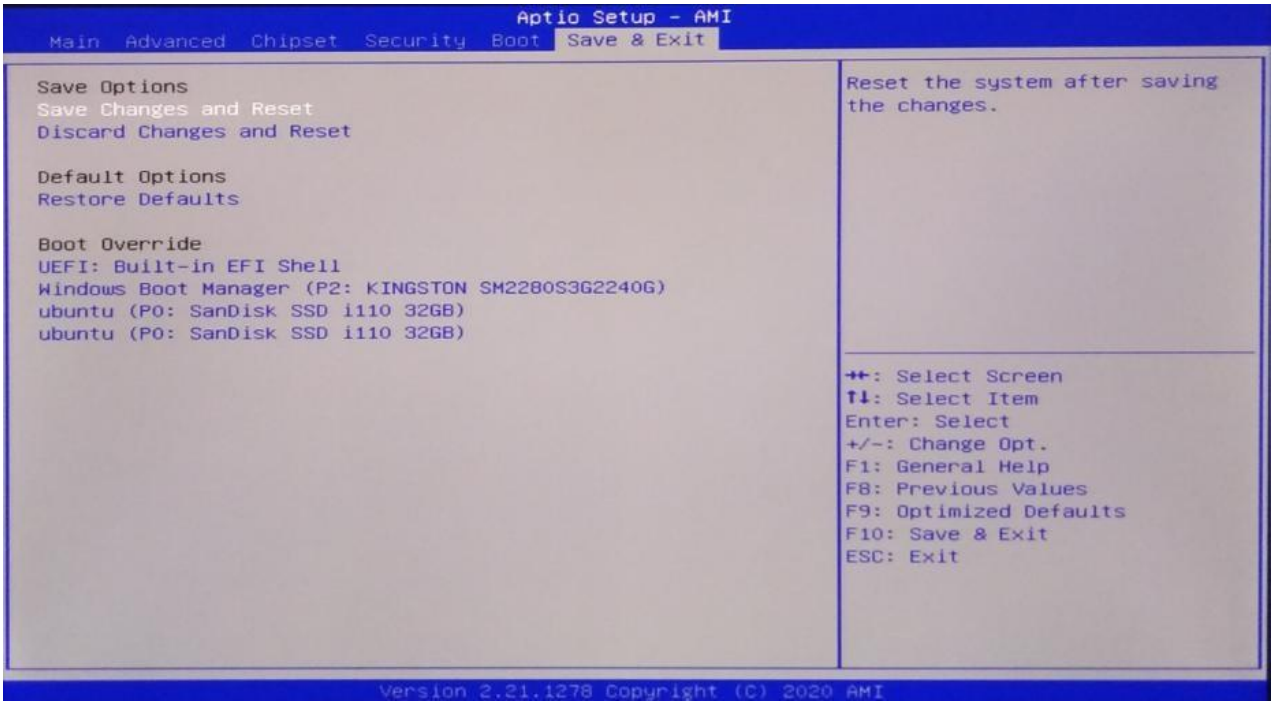
1. Setup Prompt timeout: Set the timeout time for the prompt, and press the setup shortcut key to wait for a longer time. If you do not press the Setup shortcut key within the set time, continue to start.
2. Bootup Numlock State: This feature allows the activation of the numeric lock function on the keypad after the system is powered on to the DOS system. The default value is On, which means the system is in digital lock mode when starting. Set to Off and the keypad will be in cursor control mode during startup.
3. Quiet Boot: Silent start (off, enable on).
4. Fast Boot: Quick start (Disabled off, enabled on).
5. New Boot Option Priorities: The system will detect devices in the set order until a bootable device is found, and then boot from that device. # 1 is the highest priority boot device among the boot options.

4.13 Security



1. Password character length prompt: The minimum length is 3, and the maximum length is 20.
2. Administrator Password:
3. This prompt line is used to set the super user password.

4.14 Save&Exit



1. Save Changes and Reset: Save BIOS settings and exit the settings interface to continue booting the computer.
2. Discard Changes and Reset: Discard changes and exit the settings interface, restart the computer.
3. Restore Defaults: Load optimization settings. If this option is selected, the system will set according to the factory optimization values
4. Boot Overrides: Select the specified boot device, such as SATA hard drive, USB flash drive, EFI Shell, PXE, etc., to directly boot without saving and exit. Press F11 to select the specified device Boot.

Chapter 5. Machine Disassembly and Replacement

5. Machine Disassembly and Replacement

1. To disassemble the computer, you need the following tools:
2. Wrist grounding strap and conductive mat for preventing electrostatic discharge.
3. Wire cutter.
4. Phillips screwdriver (may require different size).

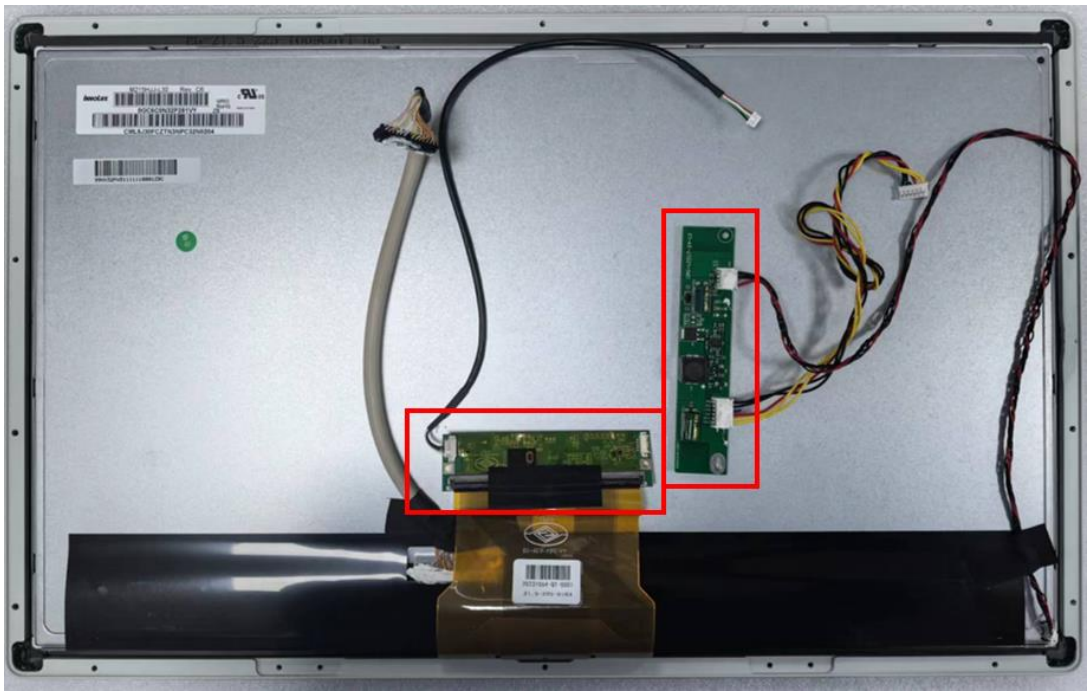
NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

Chapter 6. Standard Assembly Process

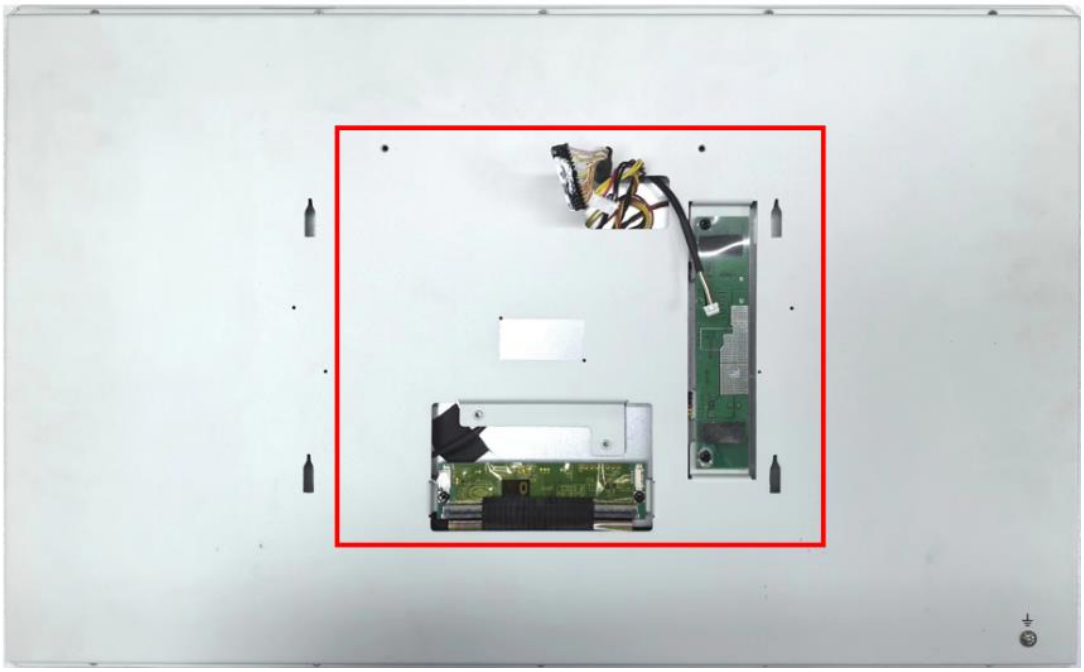
6. Standard Assembly Process

6.1 LCD Assemble

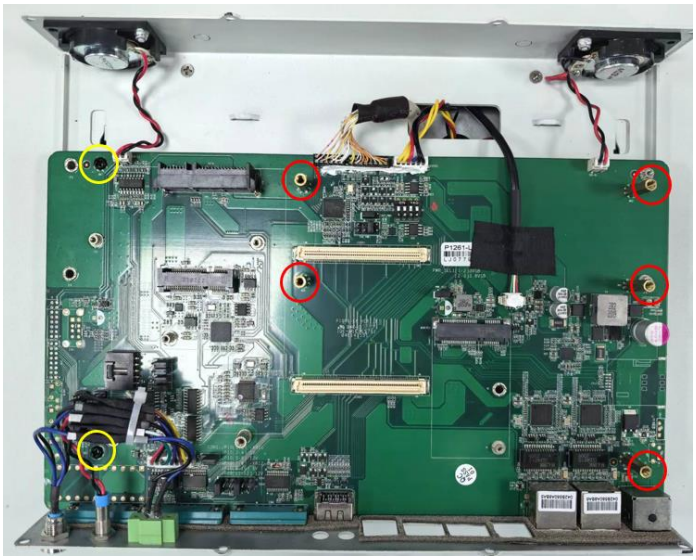
6.1.1 Assemble the LCD bracket

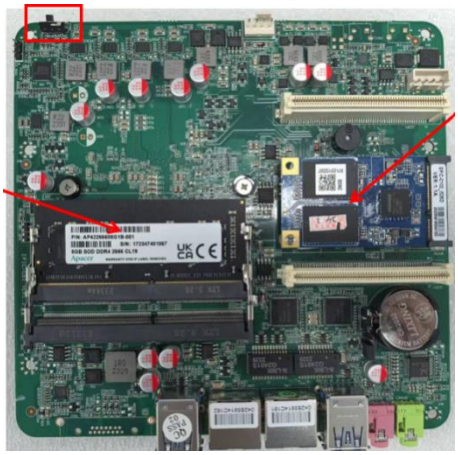


6.1.2 Assemble the LCD bracket

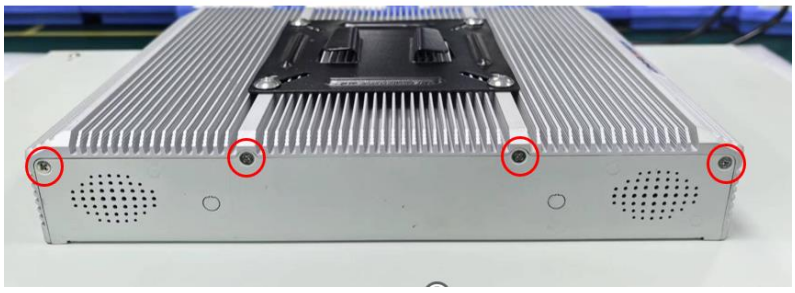


6.1.3 Assemble the M/B





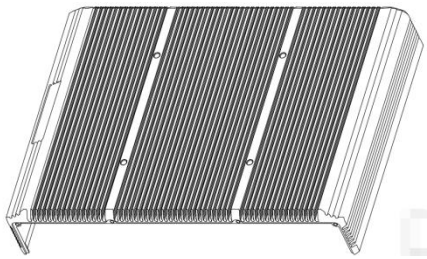
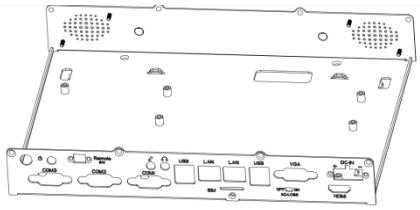
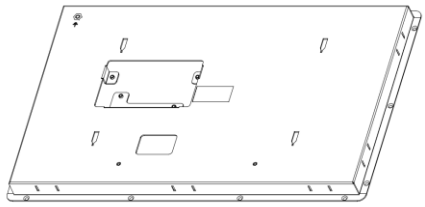
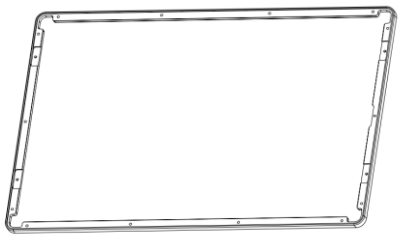
6.2.1 Assembly Heat dissipation aluminum profiles

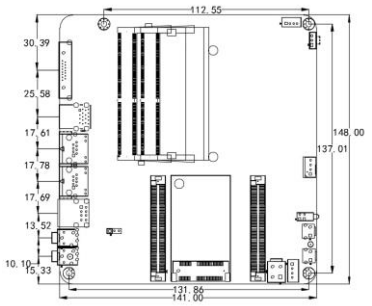
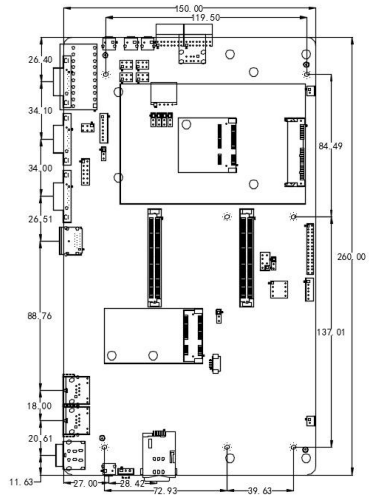
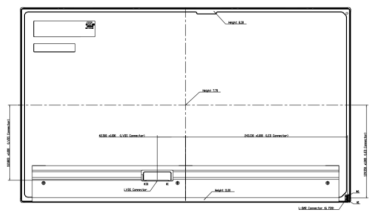
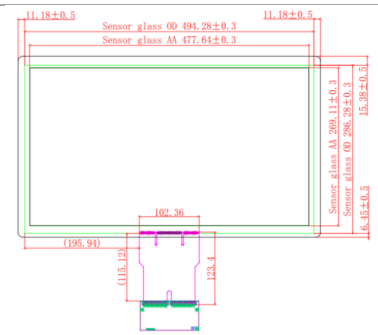
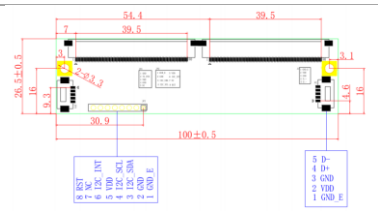


Chapter 7. Appendix

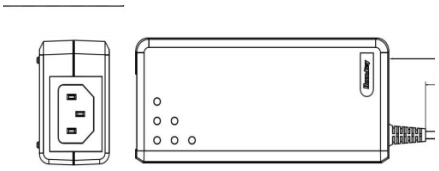
7. Appendix

7.1 Material List

CATEGORY	PARTNAME	PART NO.
Structure		
	Heatsink, Aluminum	A.03.002.000792
	Main Case	A.03.001.001771
	rear cabinet	A.03.001.001769
	Front Bezel	A.03.002.000817

MAINBOARD		
	M/B (I5-10210U)1.6GHz.	A.03.008.000566
	Interface Board.	A.03.008.000505
Display		
	LCD	A.03.006.000040
	Capacitive Touch Panel	A.03.007.000059
	Touch IC	A.03.008.000477

CATEGORY	PARTNAME	ACER PART NO.
SDD/ MEMORY		
	SSE128GTLC9-SB	C.02.002.000183
	DDR4,8G	C.02.002.000230

CATEGORY	PARTNAME	ACER PART NO.
POWER SUPPLY/ POWER CORD		
	220VAC Input, 2AAL090F 12.0V/7.5A 10748#14 4P	C.02.009.000122
	POWER Cable AC (European standard) 1.5M	C.02.099.000010

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