DARVEEN

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DPC-9100
User's Manual

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Chapter 1. About this Manual

1. About this Manual

1.1 Revision History

Date	Version	Chapter	Updates
2024/08/13	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 the DPC-9100 industrial all-in-one machine, which uses the INTEL EPIC-E641 motherboard, which uses the Intel® Celeron® low-power processor with strong graphics processing and application computing capabilities. Supports dual channel SODIMM DDR4 with up to 2666MHz memory and up to 64GB, integrated with Intel ® UHD Graphics core graphics card, supporting VGA, HDMI, LVDS, or EDP display output, providing 1 or 2 Realtek RTL8111H gigabit network cards, supporting 2 or 6 serial interfaces, supporting 1 MINI PCIE slot, 1 MSATA standard slot, and Mini PCIE interface

The EPIC-E641 combines stable and reliable industrial grade product performance with the advantages of an intelligent digital multimedia player, and can be widely used in industries such as advertising, education, media playback, LCD screens, traffic control, information systems, financial equipment, automotive, military, and more

1Table 1.1-1 Motherboard specification of DPC-9100

Operating system	Microsoft Windows 10/11
processor	Integrated Intel® Celeron® Processor J6412 2.0GHz Quad Core four Thread Processor, TDP 10W
Chipset	SOC
Memory	1 * 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, supports 4K 1 * VGA interface, and supports a maximum resolution of: 1920X1200@60Hz 1 * HDMI1.4 interface, supporting a maximum resolution of: 4096x2304@24Hz 1 * Embedded Displayport, supported with a maximum resolution of: 4096X2304@60Hz 1 * Supports dual channel 24bit LVDS interface Note: The LVDS interface and Embedded Displayport interface can support 12V output by jumping one out of two LVDS screen voltage, with a default value of 3.3V Before using LVDS, please understand its required operating voltage before setting up
network functions	1 * RTL8111H gigabit network card, supporting network wake-up and PXE functions Note: LAN2 and USB1 are optional, and can be used as two gigabit network interfaces
Audio function	Integrated ALC897 7.1+2 channel high fidelity audio controller, supporting MIC, Line_ Out, amplifier, amplifier supports 2 Ω/5W dual channel
Expansion bus	1 * Mini PCIE slot, supporting WIFI/4G module storage function 1 * SATA3.0 hard disk interface, with a transmission speed of up to

	6Gbps 1 * MSATA slot, SSD solid-state drive supporting Intel protocol, with a transmission speed of up to 6Gbps 1 * MINI-PCIE slot, supporting WIFI 2 * USB3.0 interface, 1 * USB2.0 interface 1 * VGA interface 1 * RJ45 Gigabit Network Interface (LAN2 and USB1 are optional, with 2 Gigabit networks available) 1 * Line out (green), 1 * MIC (red) 1 * DC12V power interface, supporting built-in interfaces for 12V power input and output 1 * JVGA1 interface 1 * 12pin (same signal as DB15) 1 * JHDMI interface 2 * 10pin, with the same signal as the HDMI interface 1 * LVDS interface 2 * 15pin, supporting dual channel 24bit 1 * LVDS backlight power interface 1 * 6pin 1 * EDP interface 2 * 15pin, LVDS and EDP can choose one from the other through buffering, and the default LVDS interface 6 * RS232 serial interface, optional as 2 or 6 serial ports, COM1/2 supports the 9th pin electrification function, COM2 supports RS485/422 function 1 * PS/2 keyboard and mouse interface (red) 1 * 6Pin 4 * USB2.0 interface 2 * 5pin, where USB1 and F_ USB3 is a choice of two, with 6 built-in USB2.0 for dual networks 1 * Front audio interface 2 * 5pin 1 * Front panel switch button and indicator light interface 2 * 5Pin 1 * Hard disk power interface 1 * 4pin 1 * Amplifier interface 1 * 4pin 1 * 4pin DC power interface (can be used as a 12V input power interface) 1 * SIM card holder
GPIO function	Supporting 4-way input/output GPIO function
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/Linux Note: 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	148mm x 102mm
Working temperature	-10 ℃~60 ℃
Working humidity	5-95% relative humidity
non condensing storage temperature	-20 ℃~70 ℃

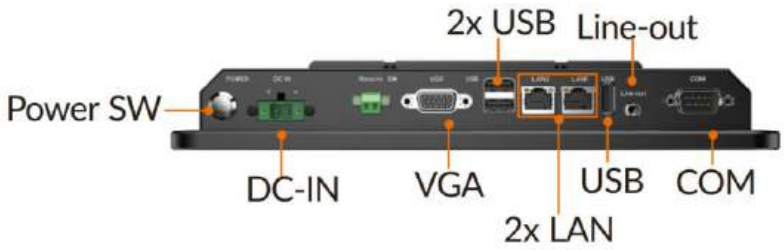
2.2 Main-board Physical Image

Figure 1: EPIC-E641 VER: 1.1A motherboard front view

Figure 2: EPIC-E641 VER: 1.1A motherboard I/O diagram

2.3 Front and Rear View

2.4 System I/O：



2.5 System Information

2Table 1.1-1 Product specification of DPC-9100

Display	
Size	10.1 inch
Touch Type	Projected capacitive multi touch
Transmittance	87%
Control Interface	USB
Surface Hardness	≥7H
Resolution	1280 x 800
Luminance	350 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	Intel® Celeron® J6412(2.0 GHz) processor
Memory	1x SO-DIMM DDR4-2600MHz, up to 16GB
Storage	1x 2.5" SATA HDD/SSD (optional) 1x full length Mini PCIe for mSATA SSD
I/O Ports	
USB	2x USB 3.0, 1x USB 2.0
Serial	1x COM (COM1 supports RS-232)
Ethernet	2x GbE LAN

Display	1x VGA
SIM Card Slot	1x SIM slot for 4G (optional)
Antenna	2x SMA antenna holes
Expansion Slot	
Mini PCIe	1x full length Mini PCIe for Wi-Fi 1x full length Mini PCIe for mSATA
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 (optional)
Power	
Bution	YES
Remote Power On/Off	1x Remote switch connector
DC Input	12VDC (9-36VDC optional)
Power Connector	2-pin phoenix terminal
Power Consumption	23W
Power Adaptor	AC-DC, 12V@5A, 60W
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 G²/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-9100 1x AC-DC power adapter 6x 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 EIPC-E641. Care must be taken during the installation of equipment. For some components, if installed incorrectly, they will not function properly.

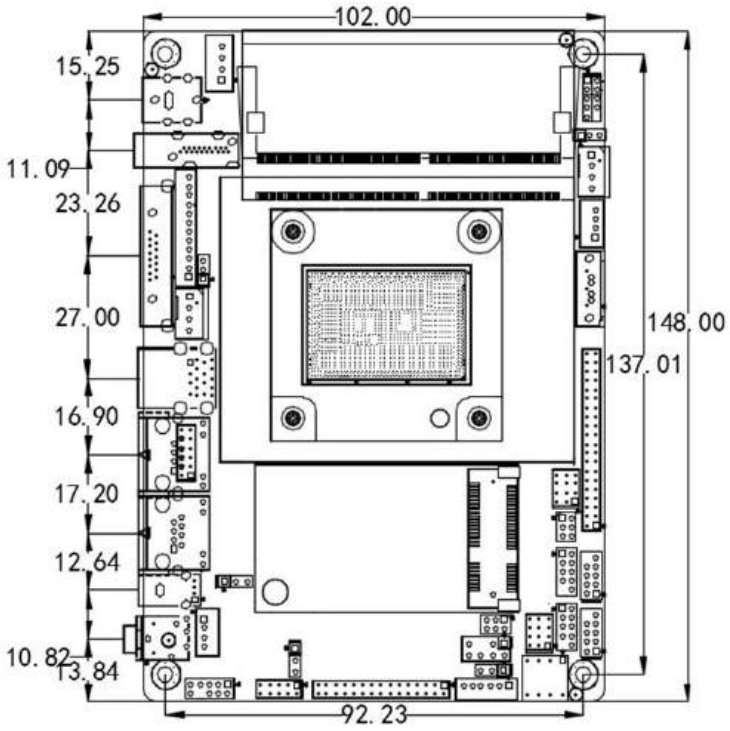
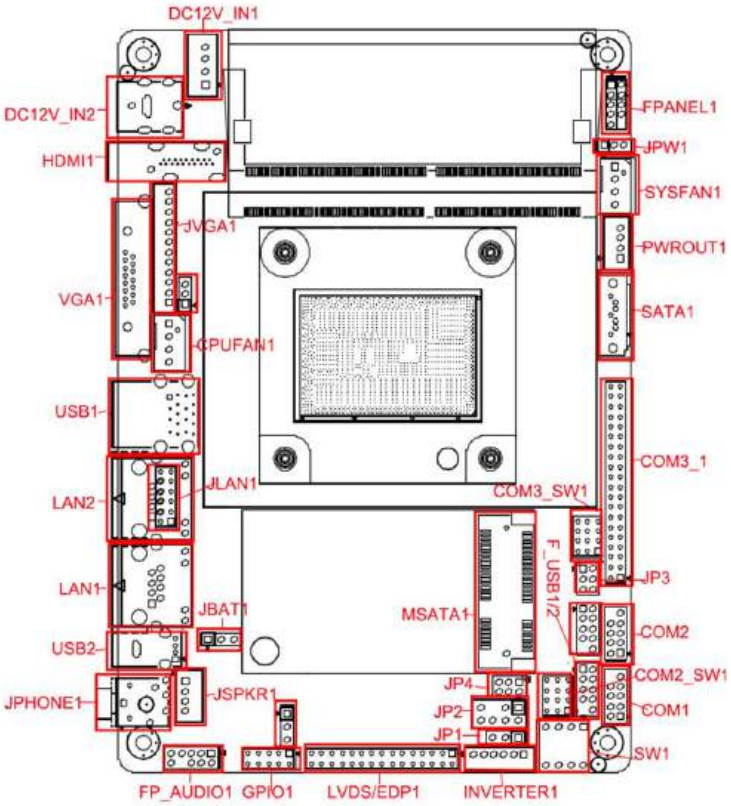


Figure 1 3.2 Main board size diagram

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 ITX-B641 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 1x 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

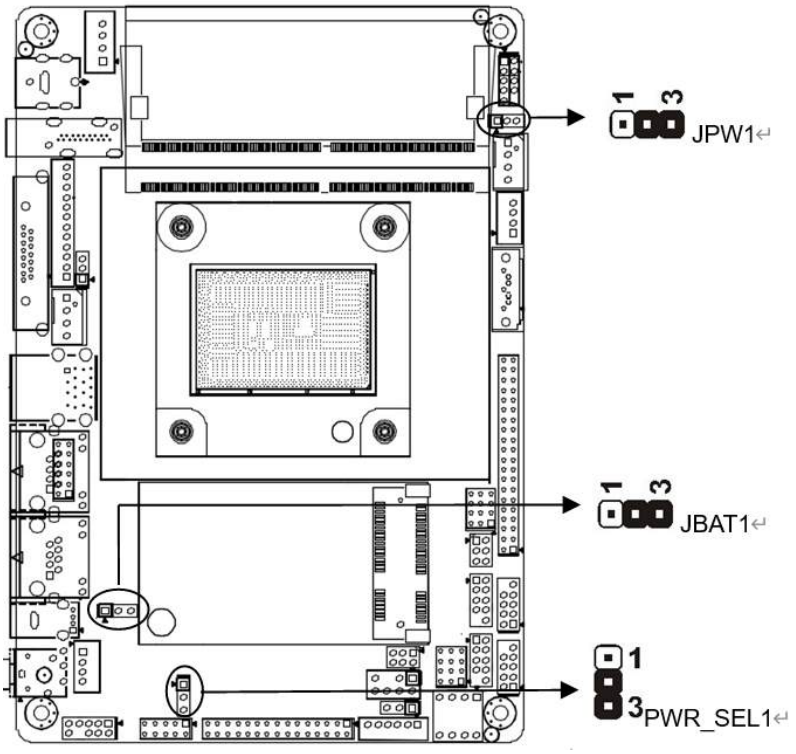
insert it.
When selecting a memory module, you must select a memory module that supports the specifications of this motherboard.

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)

JPW1

Jumper	JPW1
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

4G module voltage setting (PWR_SEL1)

Jumper	PWR_SEL1
1-2 short circuit	3.3V
2-3 short circuit	3.8V

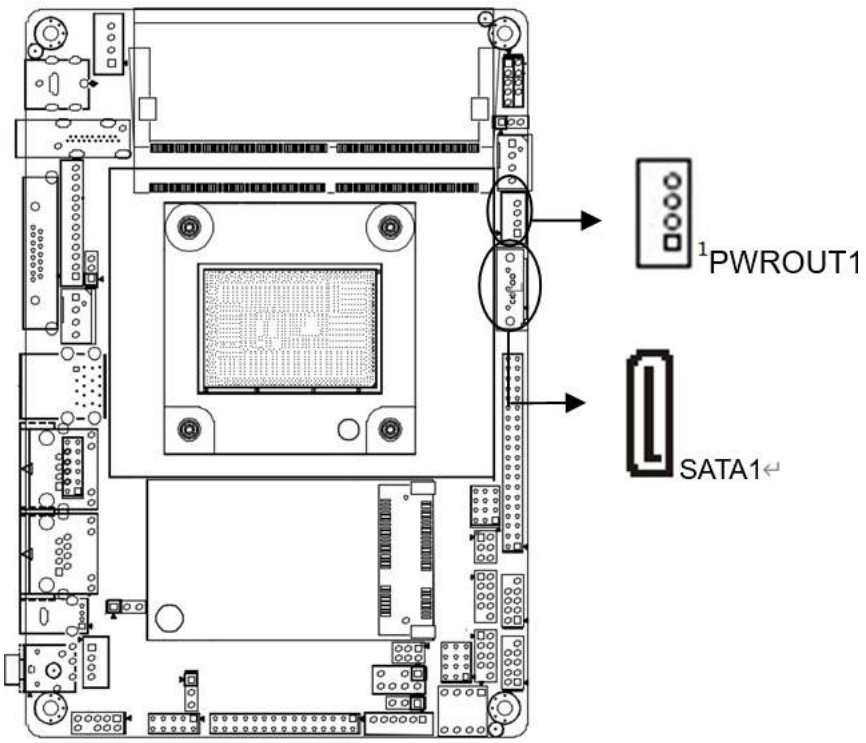
3.8 Interface Description

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

3.8.1 SATA interface (SATA1, PWROUT1)

Equipped with a built-in 7 Pin SATA3.0 interface, with a transmission rate of 6Gbps

Built in 1 1x4Pin hard drive power interface



SATA1

PIN	signal
1	GND
2	SATA_TXP
3	SATA_TXN
4	GND
5	SATA_RXN
6	SATA_RXP
7	GND

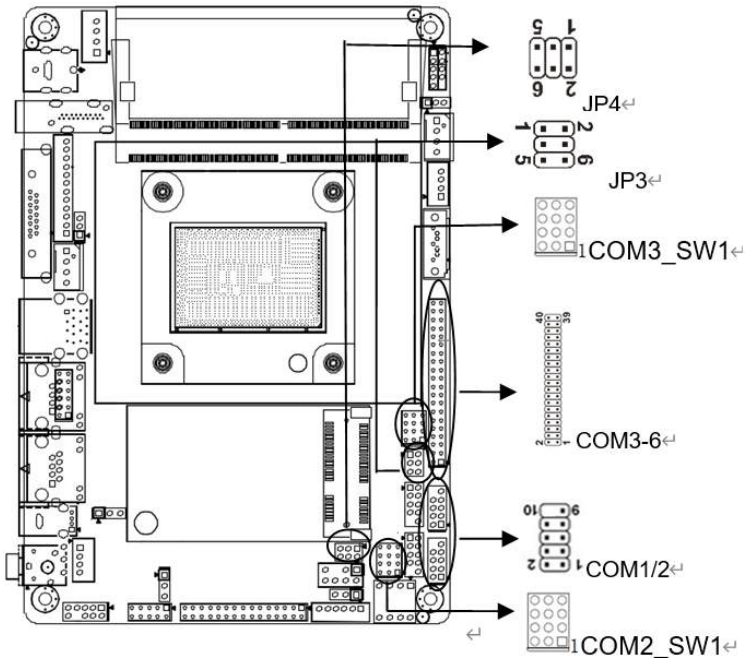
PWROUT1

PIN	signal
1	+12V
2	GND
3	GND
4	+5V

Reminder: The first pin of the hard drive power supply interface PWROUT1 is for+12V output, and the fourth pin is for+5V output. When using it, our standard power cord must be used to avoid burning the hard drive

3.8.2 Serial interfaces (COM1, COM2, COM3-6, JP16, COM2SW1, JP1)

This board can provide up to 6 RS232 serial interfaces, of which COM1/COM2 is 2 * 5pin and COM3-6 is 2 * 20pin. You can turn on or off the serial interface in the BIOS settings option, and you can choose its interrupt IRQ and I/O address. Among them, COM1/COM2 supports the 9th pin power function, COM2 also supports the RS485/422 function, and COM2's RS485/422 function is set through jumpers. Please refer to JP1 and COM2 for details_ SW1 Jump Settings



COM1, COM2

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

COM3~6

Pin	signal	Pin	signal
1	COM3_DCD	2	COM3_RXD
3	COM3_TXD	4	COM3_DTR
5	GND	6	COM3_DSR
7	COM3_RTS	8	COM3_CTS
9	COM3-RI	10	NC
11	COM4_DCD	12	COM4_RXD
13	COM4_TXD	14	COM4_DTR
15	GND	16	COM4_DSR
17	COM4_RTS	18	COM4_CTS
19	COM4-RI	20	NC
21	COM5_DCD	22	COM5_RXD
23	COM5_TXD	24	COM5_DTR
25	GND	26	COM5_DSR
27	COM5_RTS	28	COM5_CTS
29	COM5-RI	30	NC
31	COM6_DCD	32	COM6_RXD
33	COM6_TXD	34	COM6_DTR
35	GND	36	COM6_DSR
37	COM6_RTS	38	COM6_CTS
39	COM6-RI	40	NC

JP3 setting

Set	function(JP3)	
1-2short	RS232	COM3
3-4 short	RS485	
5-6 short	RS422	

JP4 setting

Set	function (JP4)	
1-2 short	RS232	COM2
3-4 short	RS485	
5-6 short	RS422	

COM2_SW1 (COM2 RS485/422)setting:

Set	function
2-3,5-6,8-9,11-12 short	RS232
1-2,4-5,7-8,10-11 short	RS485/422

COM3_SW1 (COM3 RS485/422)setting:

Set	function
2-3,5-6,8-9,11-12 short	RS232
1-2,4-5,7-8,10-11 short	RS485/422

COM2/3 RS485 definition：

Pin	signal	Pin	signal
1	DATA+	2	DATA-
3	NC	4	NC
5	GND	6	NC
7	NC	8	NC
9	NC	10	NC

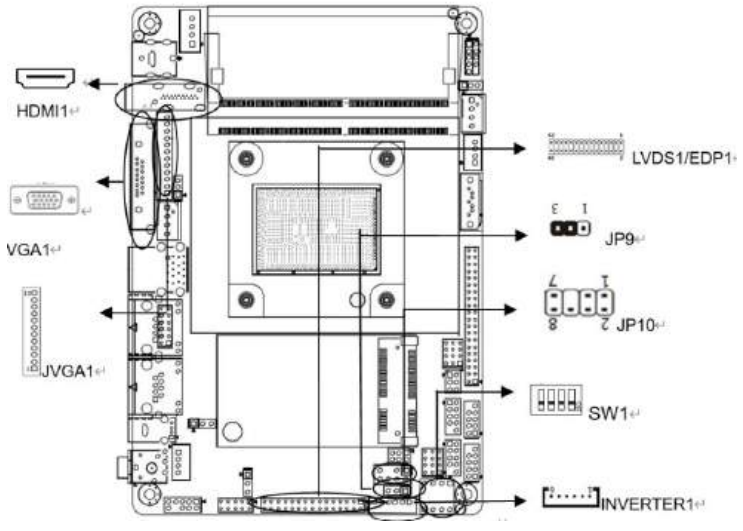
COM2/3RS422 definition：

Pin	signal	Pin	signal
1	T/R+	2	T/R-
3	RXD+	4	RXD-
5	GND	6	NC
7	NC	8	NC
9	NC	10	NC

3.8.3 Display interface(VGA1, JVGA1, HDMI1, J_HDMI1, EDP, LVDS1, INVERTER1, INVT_PWR1, JP2, PAN_PWR1, SW1)

The motherboard provides 1 standard VGA interface and 1 standard HDMI interface
Built in 1 1 * 12pin JVGA interface, 1 2 * 8pin JHDMI interface,
Provide 1 LVDS interface that supports dual channel 24bit and 1 Embedded Display port interface

Note: VGA1 and JVGA1 are the same signal, while HDMI1 and JHDMI1 are the same signal
The LVDS interface and EDP interface are either selected through phishing, and the default LVDS interface



VGA1

Pin	signal	Pin	signal
1	Red	2	Green
3	Blue	4	NC
5	GND	6	GND
7	GND	8	GND
9	NC	10	GND
11	NC	12	DDCDATA
13	HSYNC	14	VSYNC
15	DDCCLK		

JVGA1

Pin	signal	Pin	signal
1	NC	2	VSYNC
3	HSYNC	4	GND
5	R	6	GND
7	G	8	GND
9	B	10	GND
11	DDC_SDA	12	DDC_SCL

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		

EDP1

Pin	signal	Pin	signal
1	PVDD	2	PVDD
3	NC	4	NC
5	EDP_TX0+	6	EDP_TX0-
7	GND	8	GND
9	EDP_TX1+	10	EDP_TX1-
11	GND	12	GND
13	EDP_TX2+	14	EDP_TX2-
15	GND	16	GND
17	EDP_TX3+	18	EDP_TX3-
19	GND	20	GND
21	EDP_AUX+	22	EDP_AUX-
23	GND	24	HPD_DET
25	BKLT_PWM	26	BKLT_EN
27	GND	28	GND
29	INVERT_PWR	30	INVERT_PWR

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

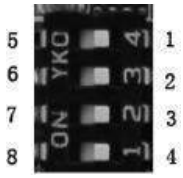
PAN_ PWR1 (screen working voltage) setting

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

JP2 (LVDS/EDP selection) settings

Pin	JP2
1-2 short	LVDS
2-3 short	EDP

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
2.

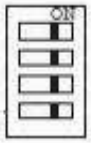
Example:

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

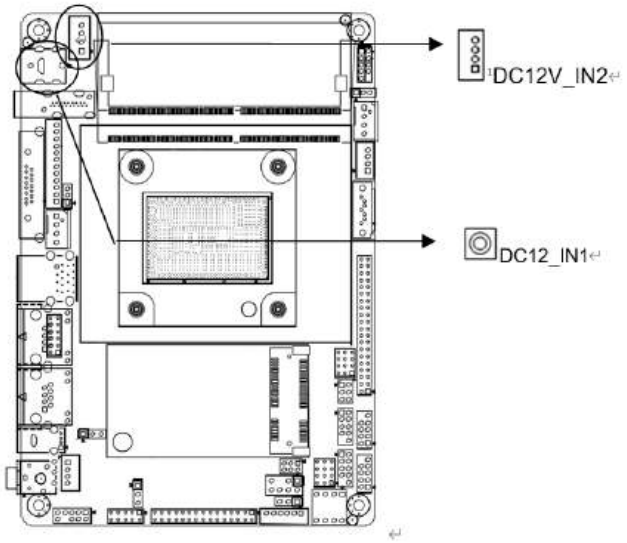


Switch [4:1]	HA (Pixel)	VA (line)	RR (Hz)	PC (MHz)	CD (bit)	Port	HB (Pixel)	HSO (Pixel)	HSPW (Pixel)	VB (line)	VSO (line)	VSPW (line)
0000	800	600	60	38.25	6	Single	224	32	80	24	3	4
0001	1024	768	60	56.00	6	Single	160	48	32	22	3	4
0010	1280	768	60	68.25	6	Single	160	48	32	22	3	7
0011	1280	800	60	71.00	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

3.8.4 power interface (DC_IN)

1* adapter power interface is provided on the board, which can support 12V input and output

Provide 1* 4-pin power socket, supporting 12V power input and output



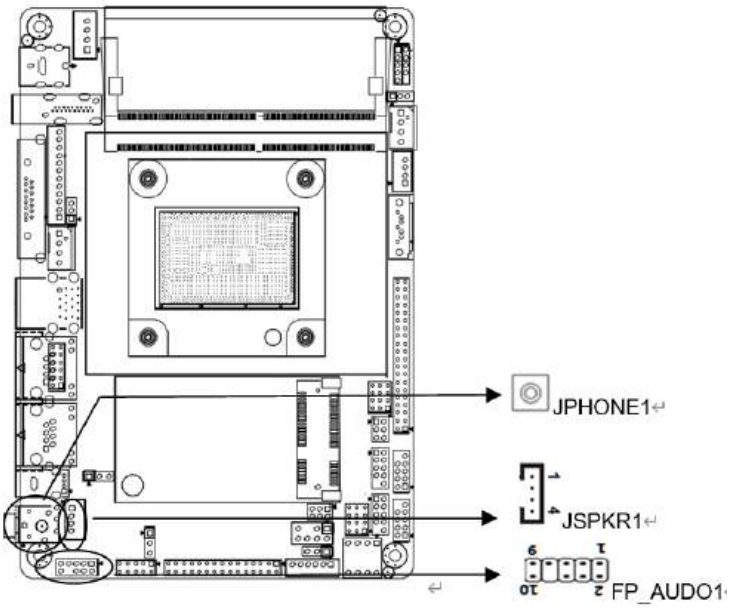
DC_IN

Pin	signal
1	12V
2	12V
3	GND
4	GND

3.8.5 Audio interface (JPHONE1, JMICK1, FP_AUDIO1, JSPKR1)

Provide a JPHONE1 and JMICK1 standard audio jack on the board

Built in 1 2 * 5pin front audio interface and 1 4pin power amplifier interface.



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

FP_ AUDIO1 (front audio interface)

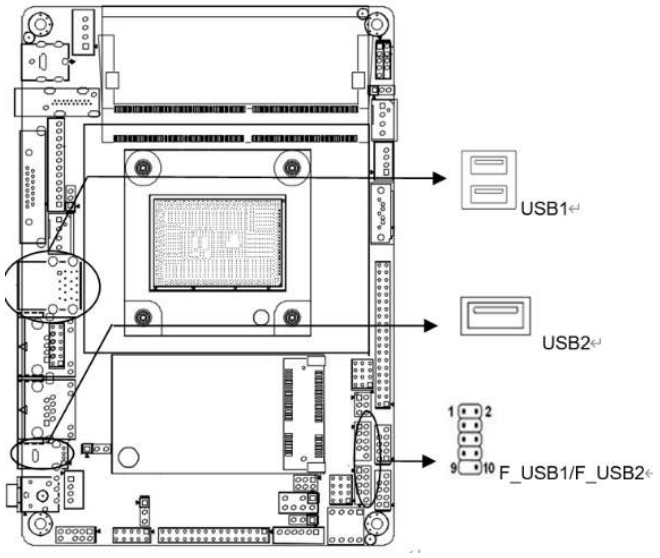
Pin	signal	Pin	signal
1	MIC-L	2	GND
3	MIC-R	4	NC
5	Line out-R	6	Sense Return1
7	Sense-FB	8	NC
9	Line OUT-L	10	Sense Return2

JSPKR1 (power amplifier interface)

Pin	signal
1	SPKR+
2	SPKR-
3	SPKL-
4	SPKL+

3.8.6 F_USB1, F_USB2, F_USB3

Built in 6 * USB2.0 interface (2.0mm, 2 * 5pin)

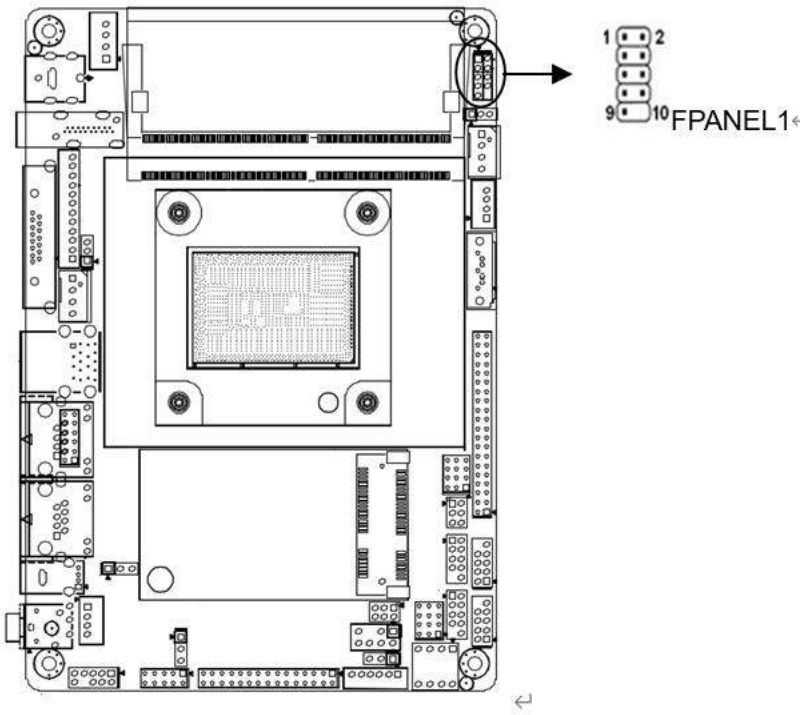


F_USB1, F_USB2, F_USB3 define

Pin	signal	Pin	signal
1	+5V	2	+5V
3	D0-	4	D1-
5	D0+	6	D1+
7	GND	8	GND
9		10	GND

3.8.7 Front panel interface (FPANEL1)

2 * 5pin front panel pin is provided on the board for connecting to the function buttons and indicator lights set on the front panel of the chassis



FPANEL define

Pin	signal	Pin	signal
1	HDDLED+	2	PWRLED+
3	HDDLED-	4	PWRLED-
5	GND	6	PWRBTN#
7	RESETBTN#	8	GND
9	NC	10	

(1) The hard drive indicator light (pin 1 and pin 3 of the HDD LED are the positive pole of the LED) will flash when the hard drive is performing read and write operations, indicating that the hard drive is running.

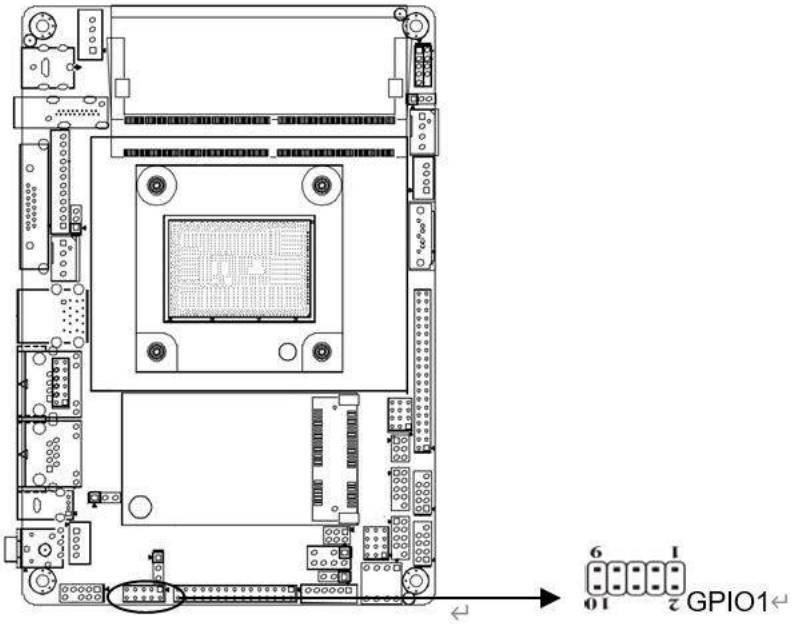
(2) The power indicator light (pin 2 and pin 4 POWERLED, pin 2 being the positive pole of the LED) is on when the system is powered on; When the system is powered off, the power indicator light goes out.

(3) When the reset button (pins 5 and 7 RESET BUTTON) fails and the system cannot continue to operate, resetting can restart the system.

(4) The power switch control (6th and 8th pin POWER BUTTON) is connected to the bounce switch on the front panel of the chassis, which can be used to turn on or off the power supply.

3.8.8 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:



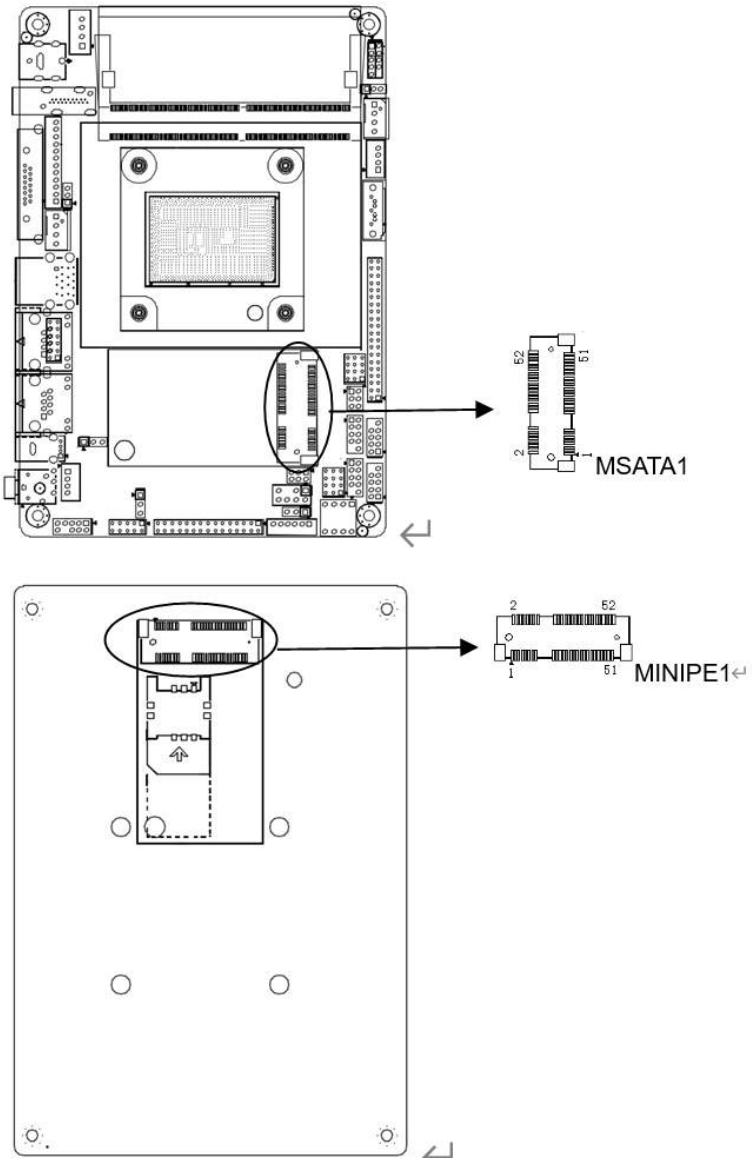
GPIO1 define

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

3.8.9 Mini PCIe interface (MINIPE1, mSATA1, SSD1)

The motherboard is equipped with one Mini PCIE slot built-in, supporting WIF/4GI modules

Built-in 1 MSATA slot, supporting Intel protocol SSD solid-state drive, with a transmission speed of up to 6Gbps, built-in 1 * MINI-PCIE slot, supporting WIFI 4G



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

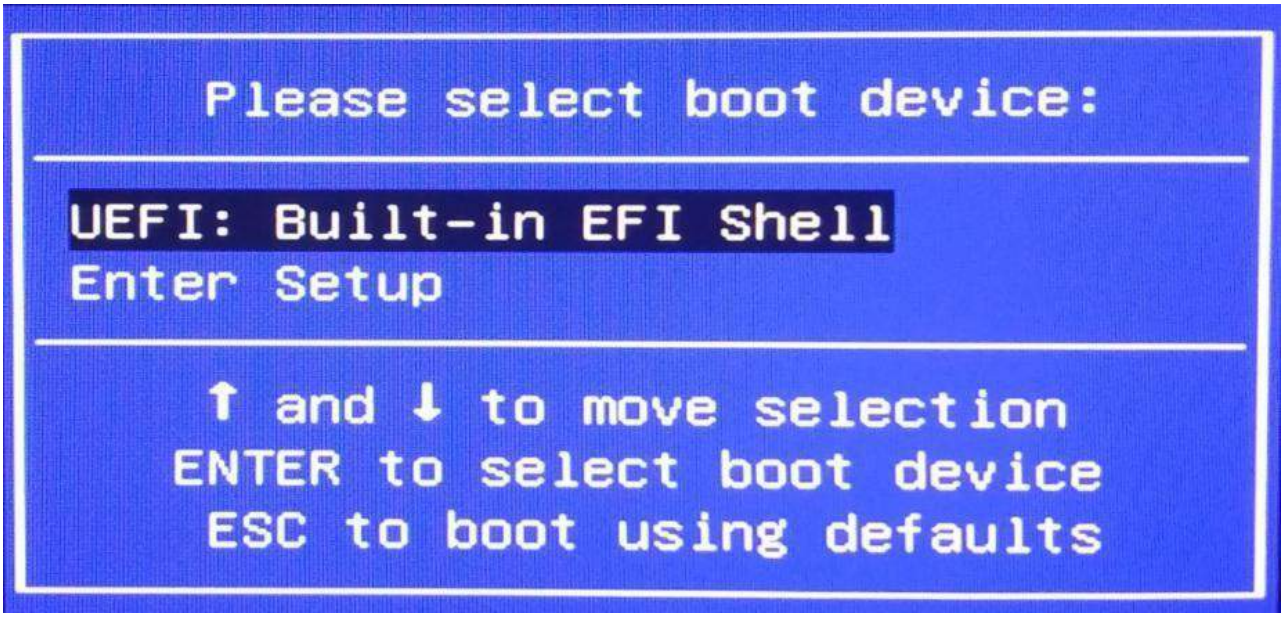
<Page Down/->Reduce numerical values or change

<F1>Settings submenu help

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

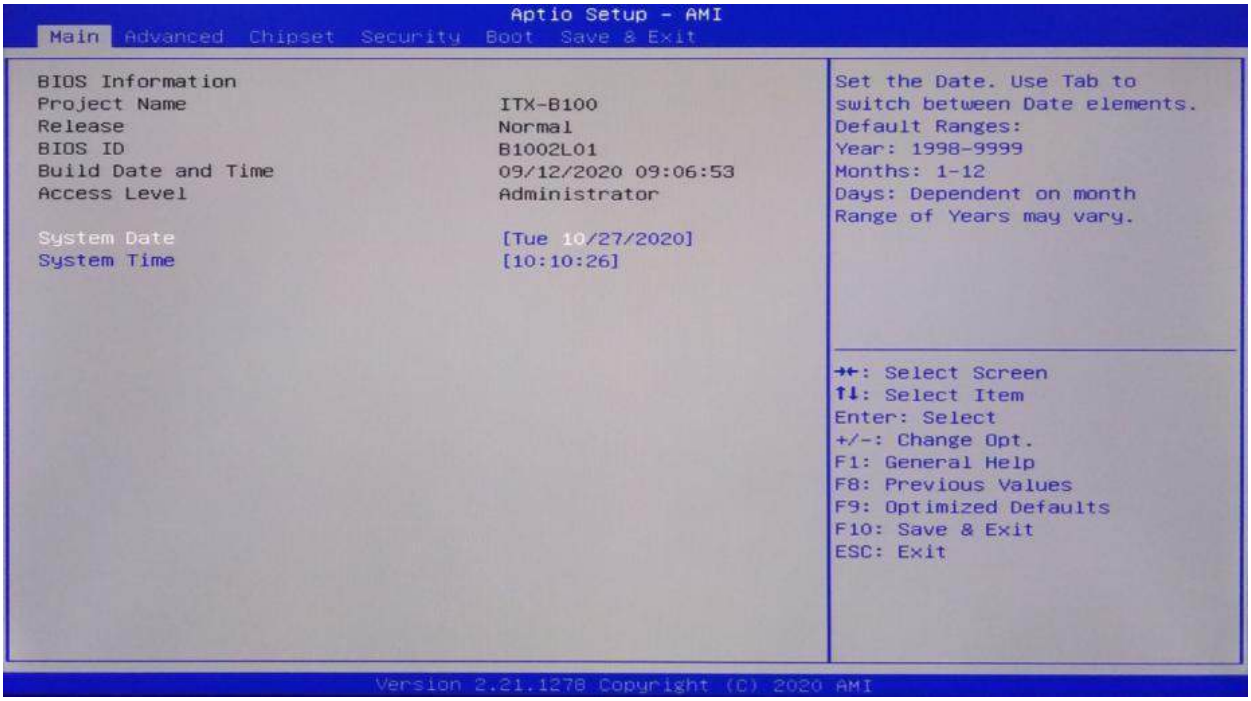
<F10>Save BIOS settings

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



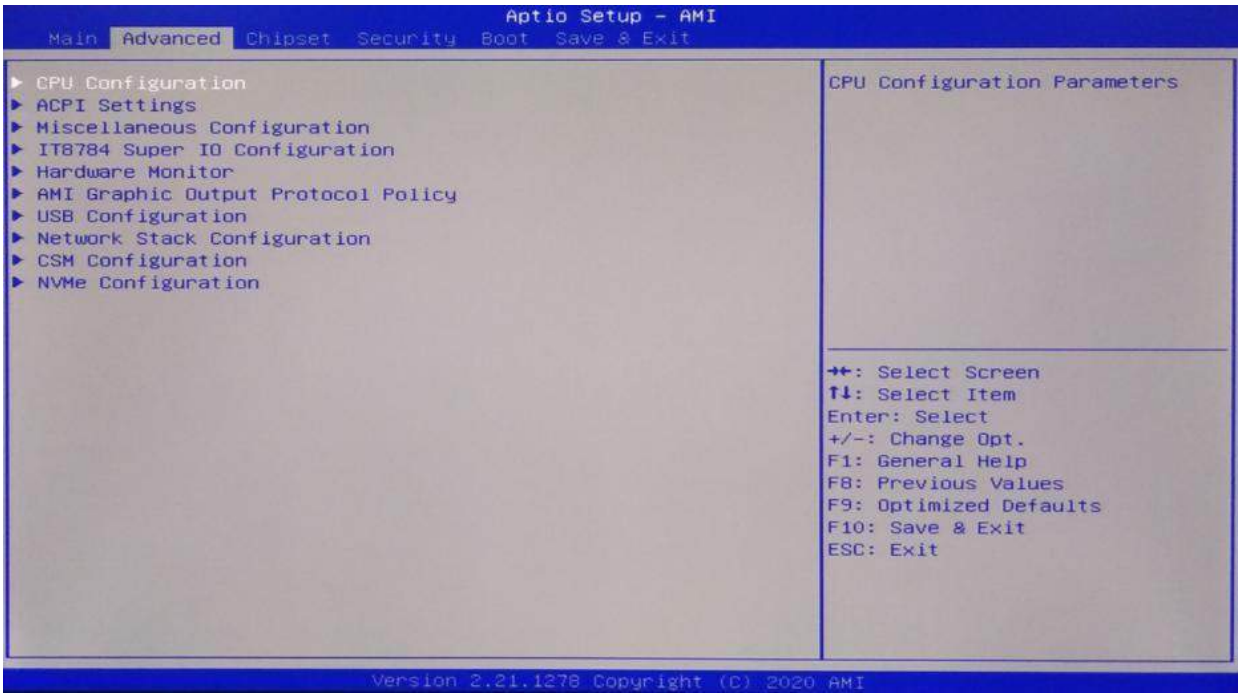
2. After installing the UEFI system, you can view the system boot information ex: Windows Boot Manager (hard disk information) in BBS

4.2 MIAN Menu (BIOS information and time date)



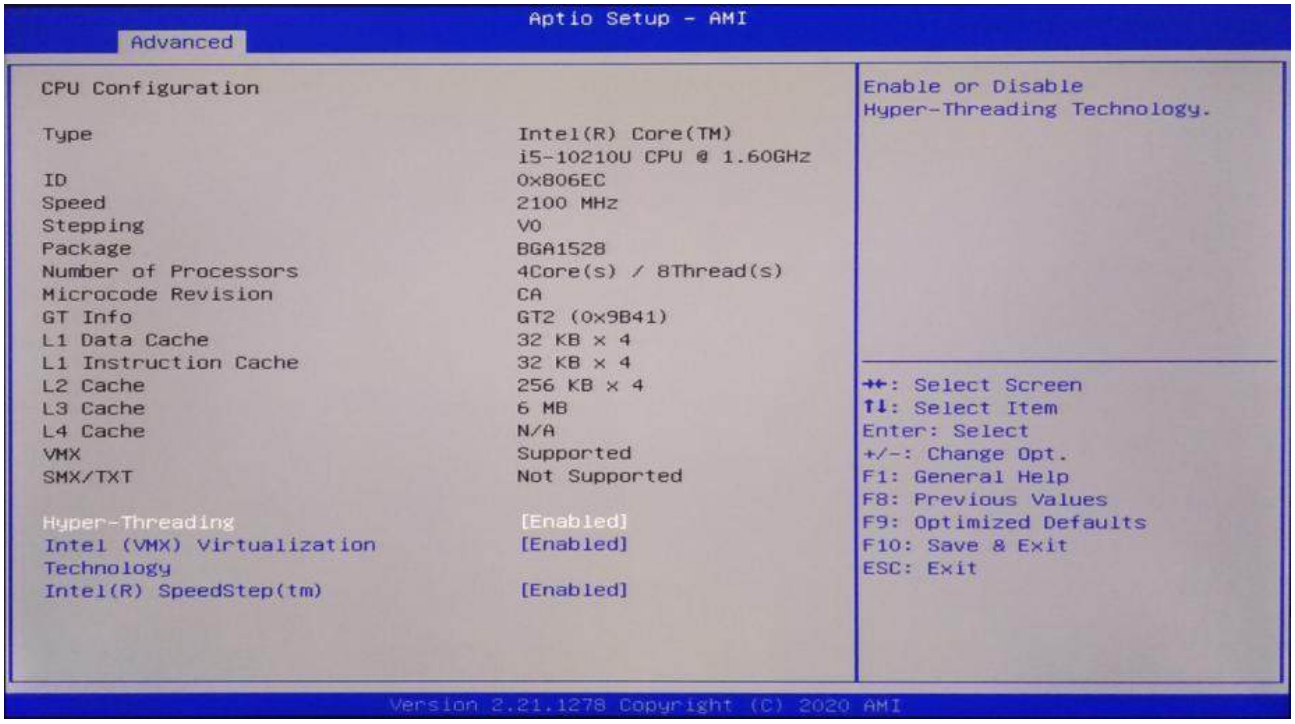
1. BIOS ID: BIOS version
2. Build Date and Time: BIOS time date
3. System Date:
4. Set the current date. Expressed in month/day/year format. The setting range is: Month/Month (Jan. Dec.),
5. Date/day (01-31), Year/year (up to 2099), Week/week (Mon. to Sun.). System Time:
6. Set the current time. Represented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

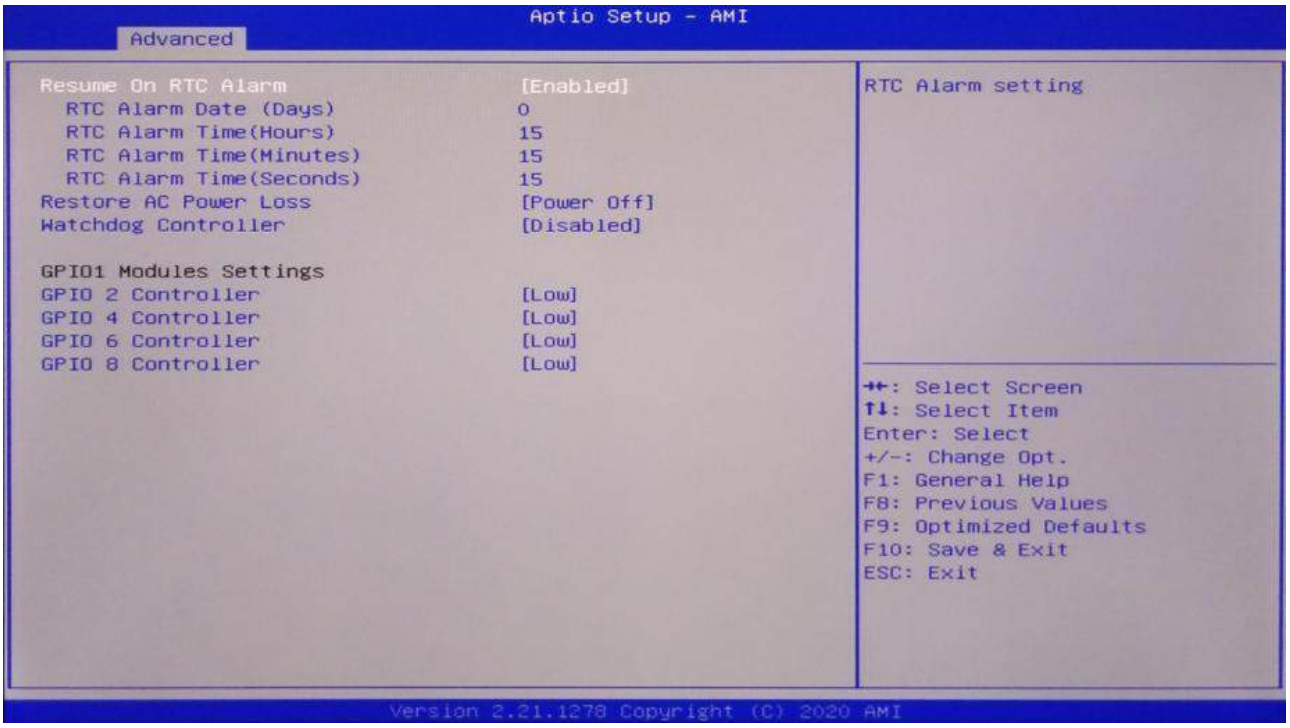


1. The read-only item contains detailed information about the CPU, including CPU manufacturer, model, frequency, primary cache size, secondary cache size, and other information.
2. Intel Virtualization Technology:
3. Intel Virtualization Technology is a system virtualization technology used in Intel's 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.

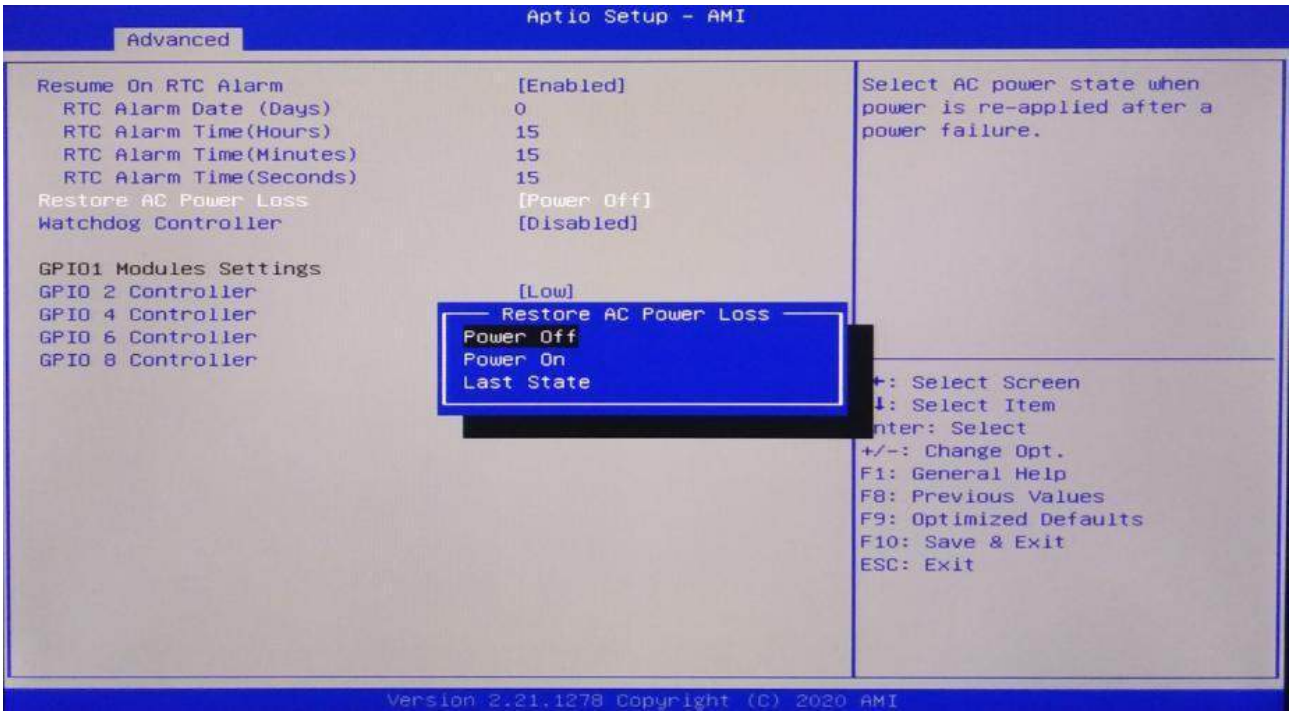
4.5 ACPI Settings

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.

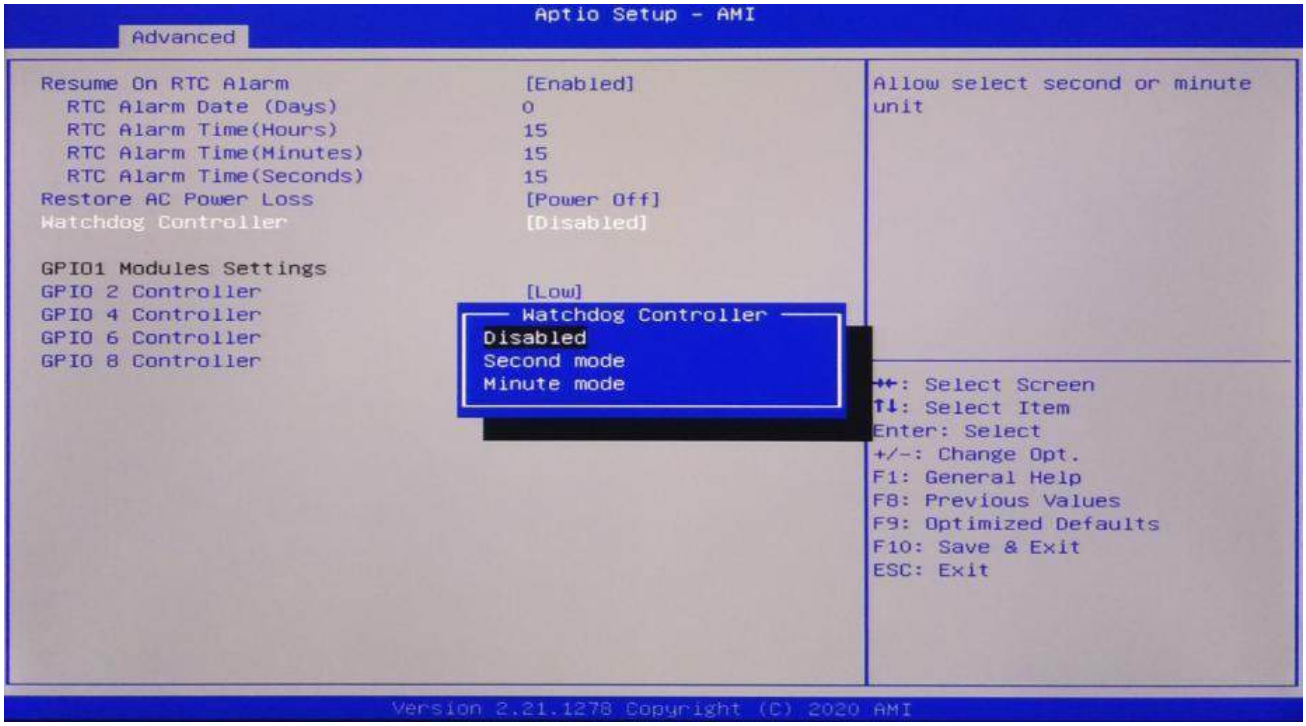
4.6 Miscellaneous Configuration



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

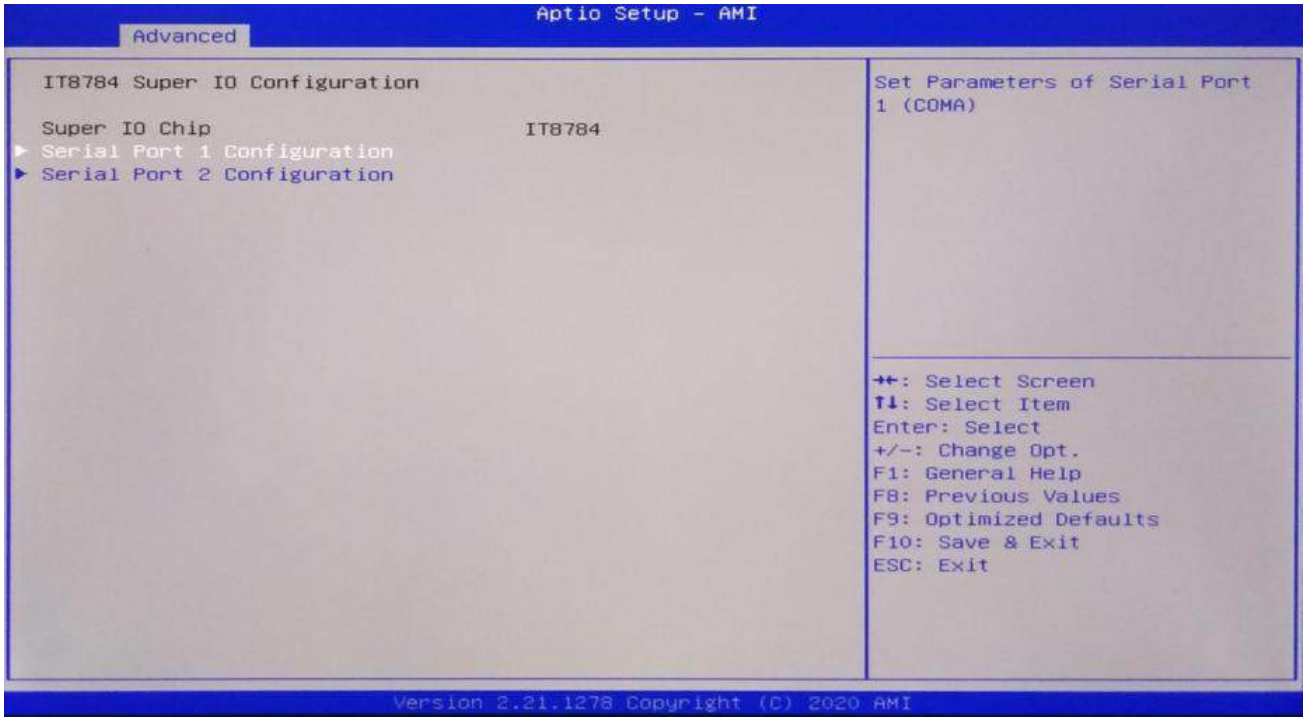


Restore AC Power Loss: This item is used to set the startup status after powering on. If you select Power Off, you need to press the power button to start up after powering on. If you select Power On, you can directly start up after powering on. If you select Last State, you will decide whether to power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



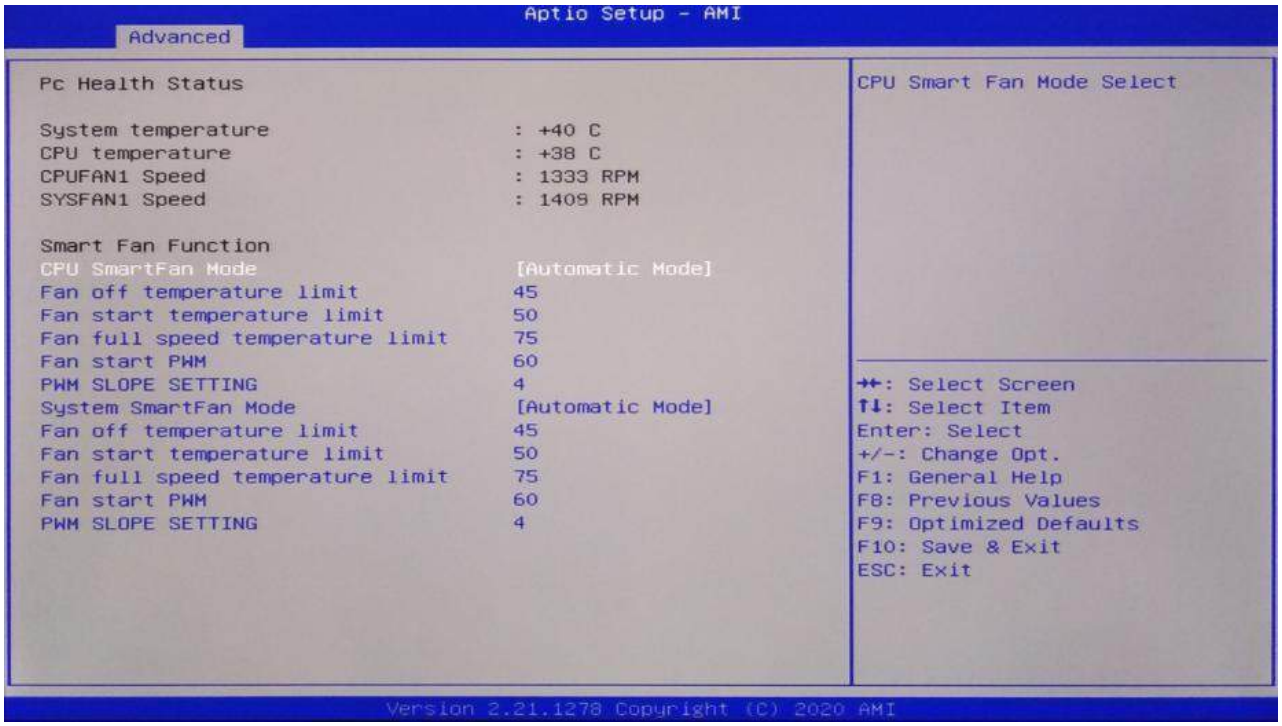
Watch dog controller: watchdog setting, [Disabled] to turn off watchdog, [Second mode] to set watchdog to second mode, [Minute mode] to set watchdog to minute mode

4.7Super I/O Configuration



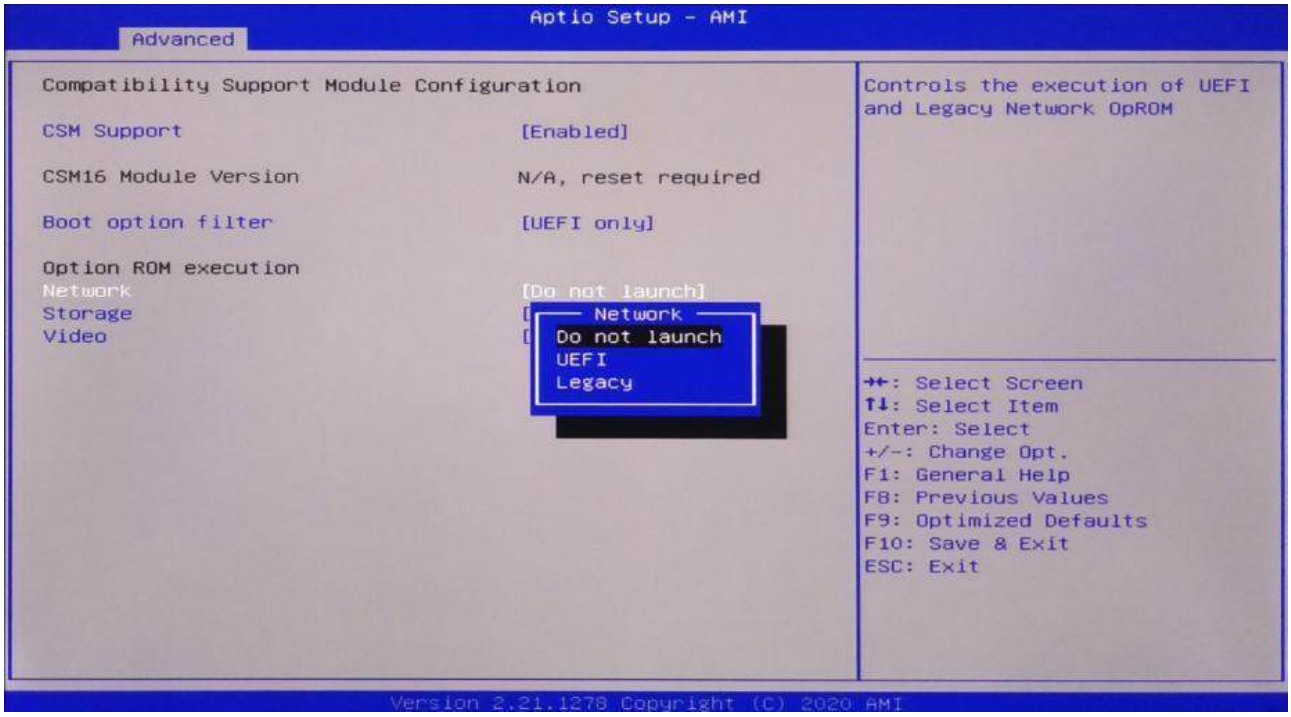
Serial Port 1 Configuration: This is the option for setting serial interface 1, including Super I/O configuration information, including COM port interrupt number and address settings.

4.8 PC Health Status



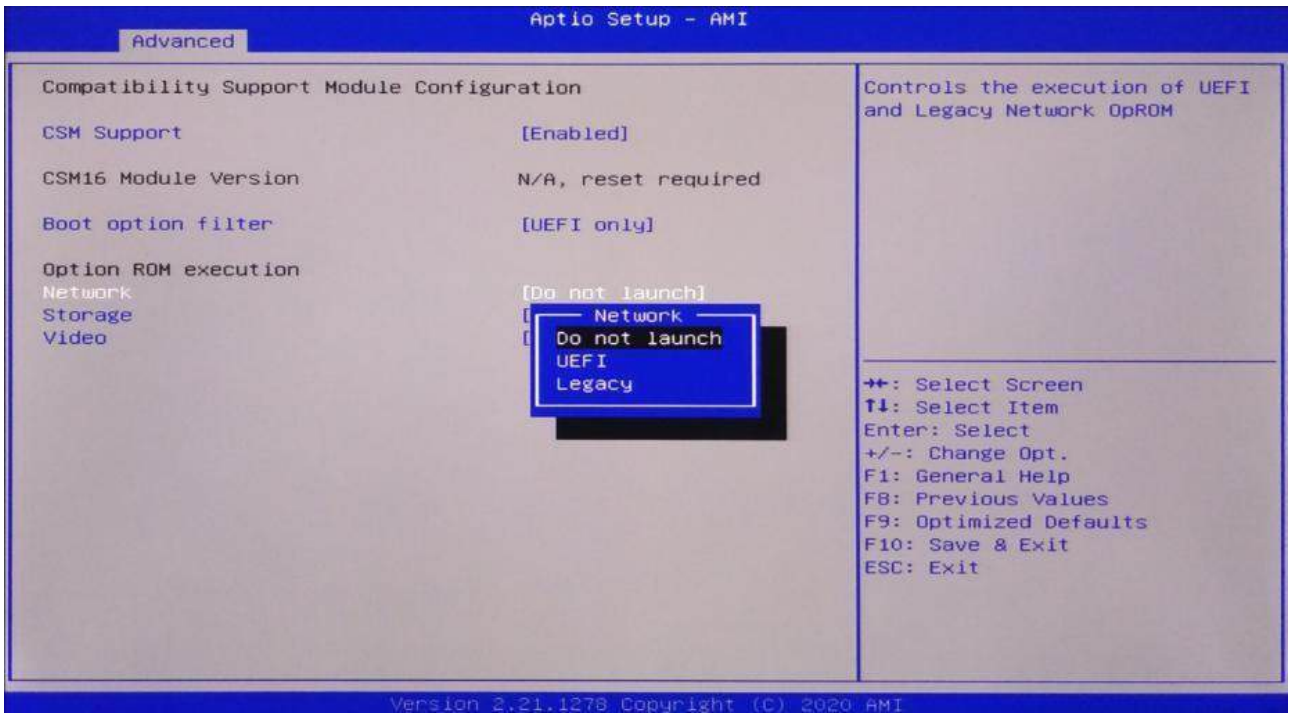
1. PC Health Status:Hardware security detection, displaying the current system temperature, CPU temperature, fan speed, and other related voltage values. The above parameters all have a certain range, and the system cannot operate beyond these ranges.
2. Smart Fan 1 Mode: This option enables the CPU 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.

4.9CSM Configuration



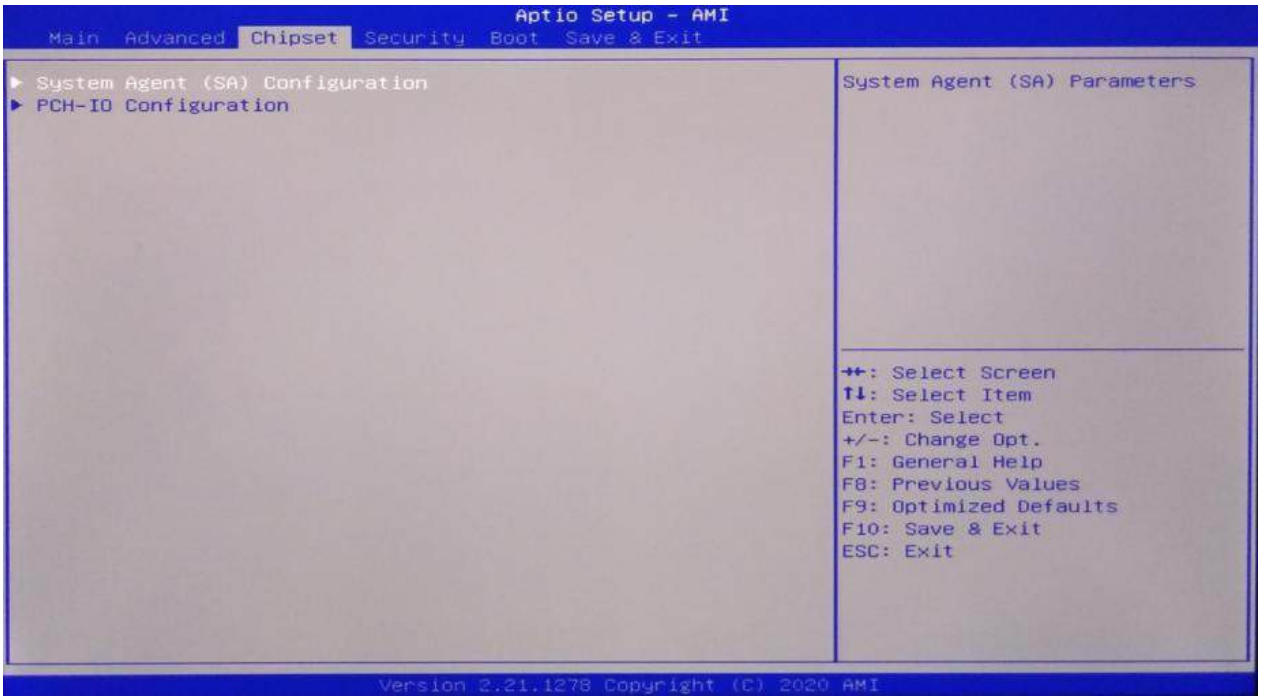
Network: Set diskless startup, Do not launch: Turn off diskless startup, Legacy: Set diskless startup mode to Legacy mode, UEFI: Set diskless startup mode to UEFI mode

4.10 USB Configuration

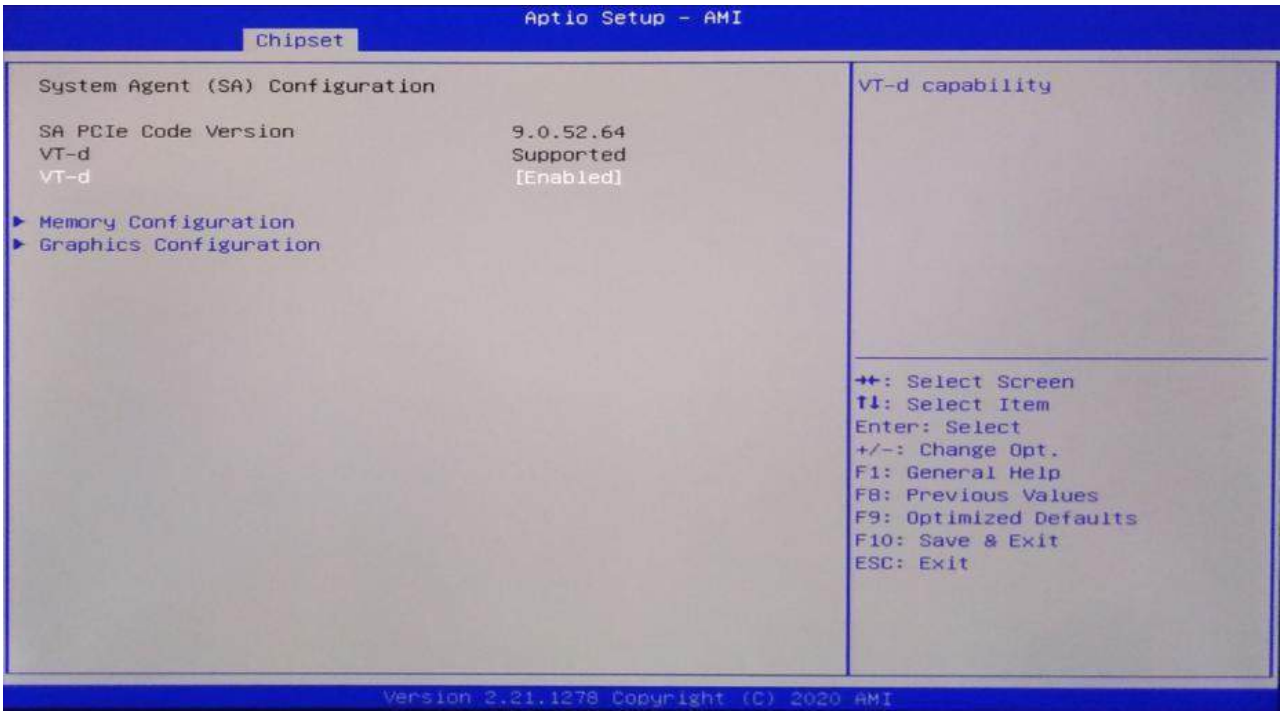


1. Legacy USB Support:
2. This item is used for setting up older versions of USB. If you need to support USB devices such as USB drives, USB keyboards, etc. in DOS, you need to set this item to [Enabled] or [Auto]. Otherwise, select [Disabled].
3. XHCI Hand off: When the operating system does not support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

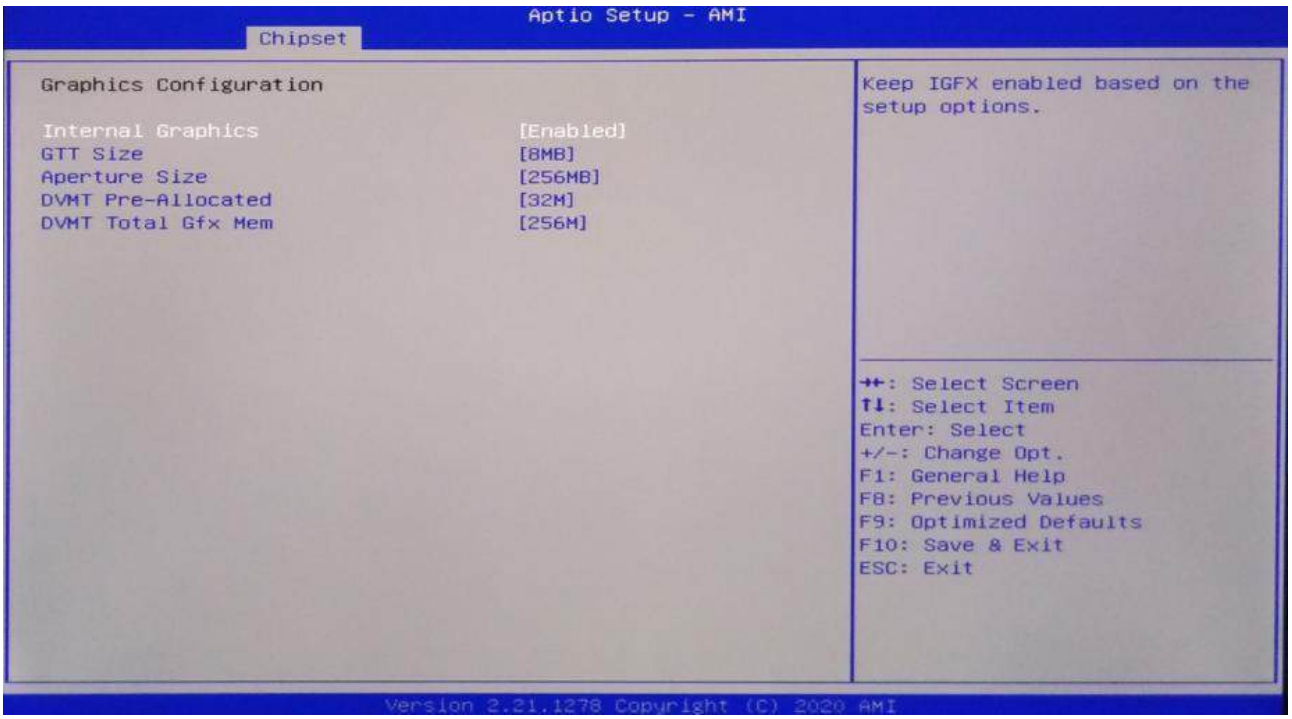
4.11 Chipset



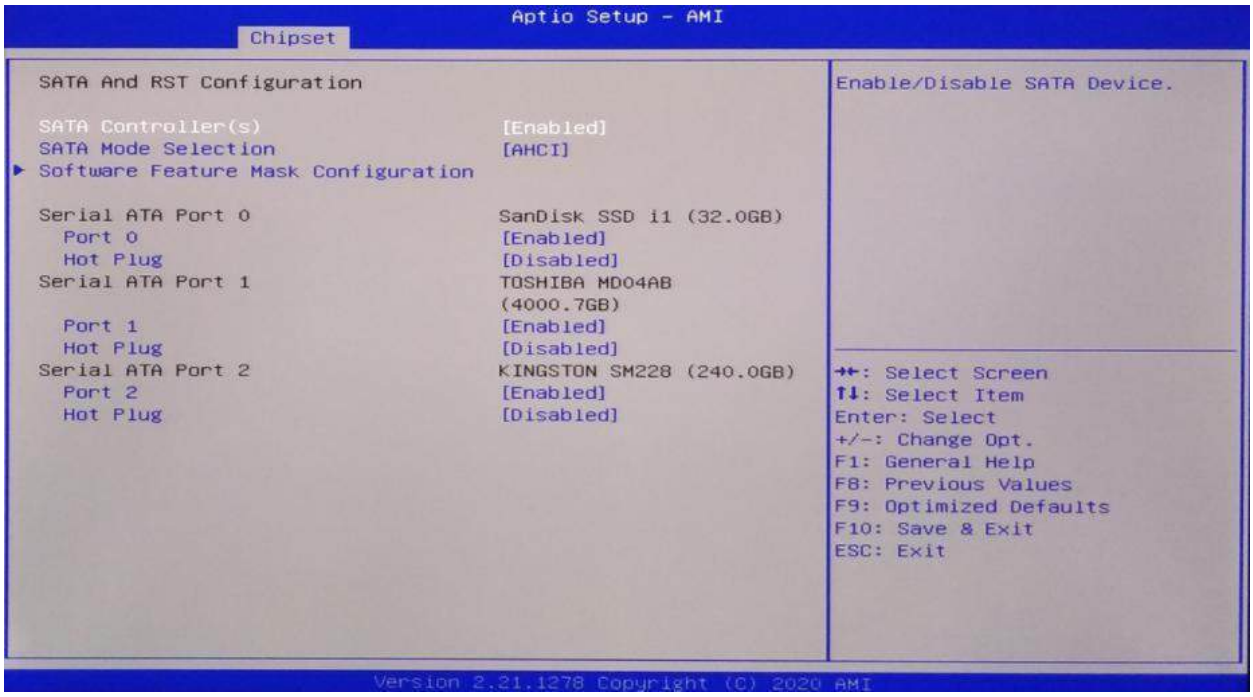
1. PCH-IO Configuration:
2. South Bridge Configuration Options. Including options such as sound card, network card, and automatic start upon call
3. System Agent (SA) Configuration:
4. North Bridge Configuration Options. Includes options such as graphics memory, display devices, and LVDS.



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

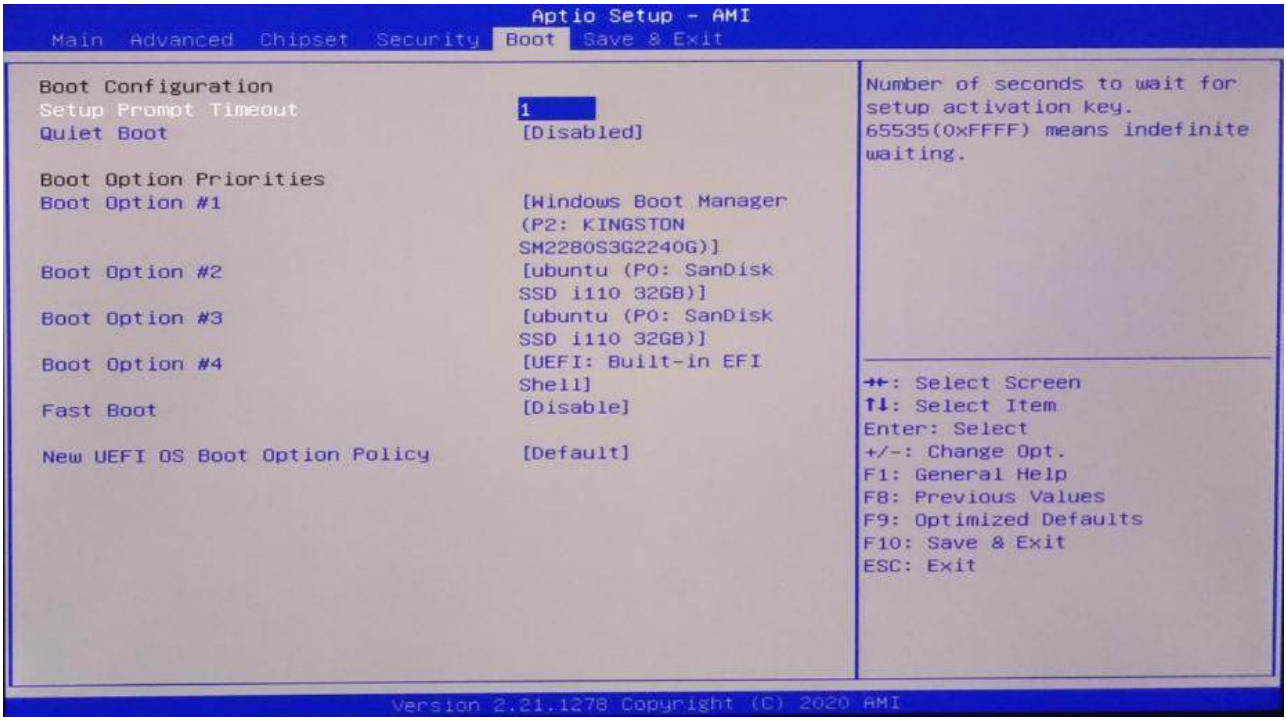


1. GTT Size: graphics memory size
2. DVMT Pre Allocated: Dynamically allocate the value of video memory.
3. DVMT Total Gfx Mem: Dynamically allocate the total value of the graphics card.
4. Aperture Size: Display the size of the card's shared main memory



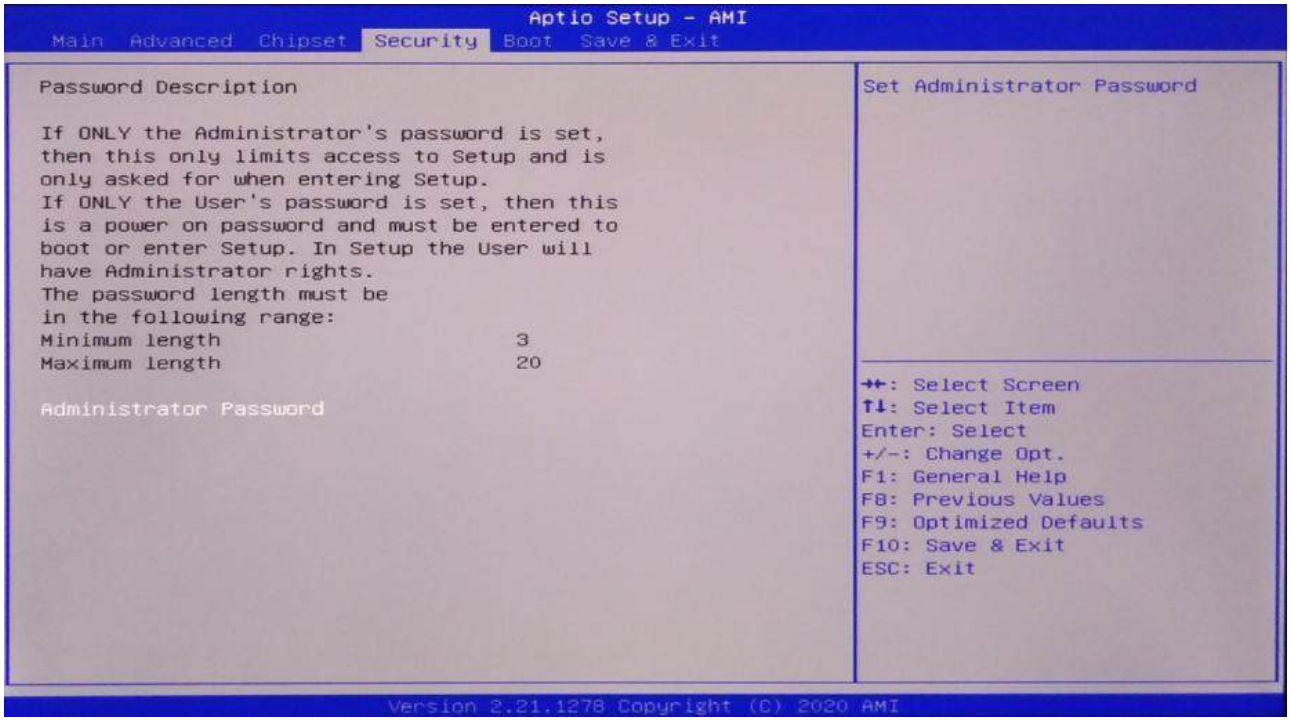
1. SATA And RST Configuration: SATA Configuration
2. SATA Mode Selection: Hard disk mode setting option.
3. SATA Controller speed: hard drive control speed
4. Serial ATA Port 0: Serial Port 0 (on or off).
5. Serial ATA Port 1: Serial Port 1 (on or off).

4.12 Boot



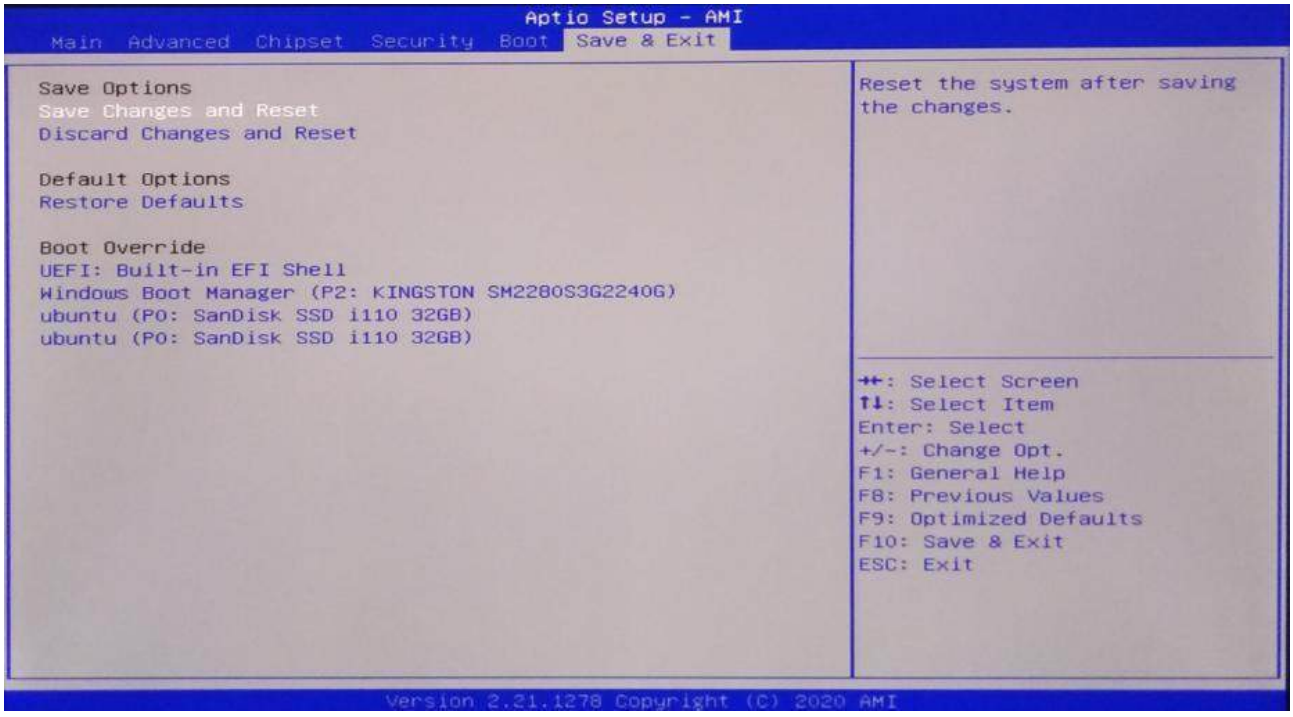
1. Setup Prompt timeout: Set the timeout time for the prompt, and press the setup shortcut key to wait for a longer time. If you do not press the Setup shortcut key within the set time, continue to start.
2. Bootup Numlock State: This feature allows the activation of the numeric lock function on the 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

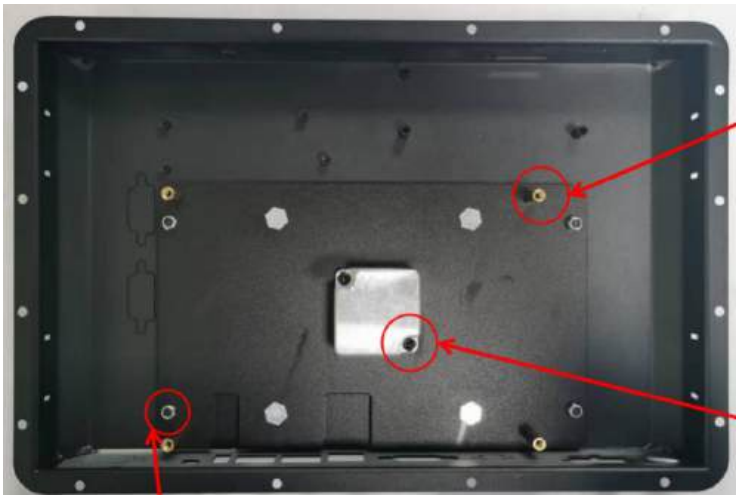
6.1 LCD Assemble

6.1.1 Assemble the LCD bracket

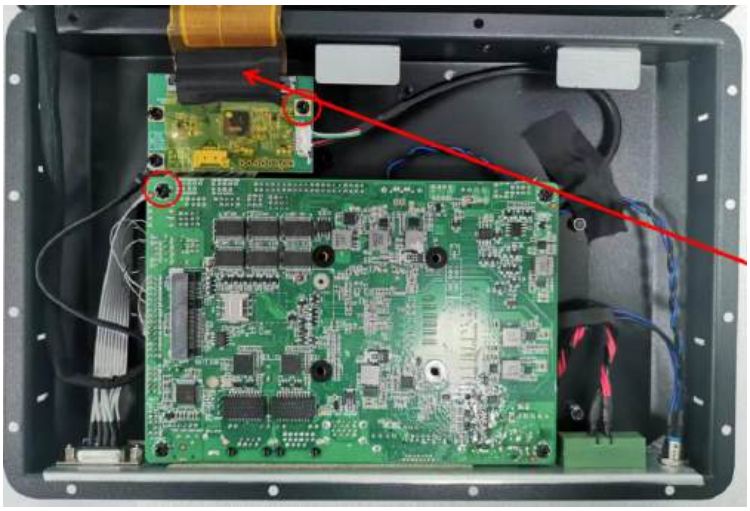
6.1.2 Assemble the Rear housing

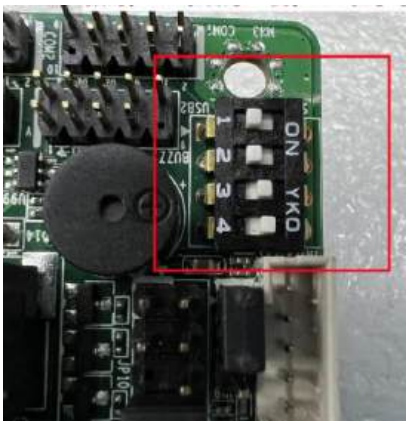
6.2 Assemble the M/B

6.2.1 LCD voltage and display settings



6.2.2 Assembly extension interface



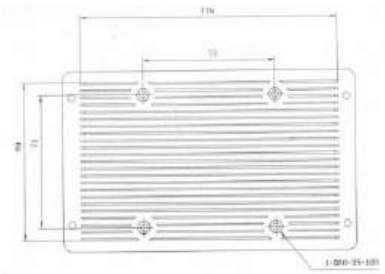
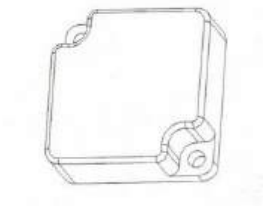
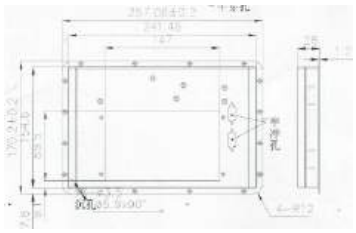


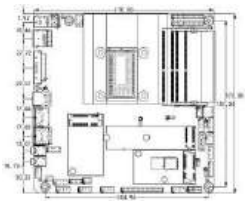
6.2.3 Assembly Heat dissipation aluminum profiles

Chapter 7. Appendix

7. Appendix

7.1 Material List

CATEGORY	PARTNAME	PART NO.
Structure		
	Heatsink, Aluminum	A.03.002.000540
		A.03.002.000541
	DPC-9100-HK	A.03.001.001246

CATEGORY	PARTNAME	ACER PART NO.
Structure		
	DPC-9100-LCD	A.03.007.000102
	DPC-9100C_R-QK	A.03.002.000423
MAINBOARD		
	M/B (J6412)2.0GHz.	A.03.008.000396

Darveen Co., Ltd.
Email: sales@darveen.com
www.darveen.com