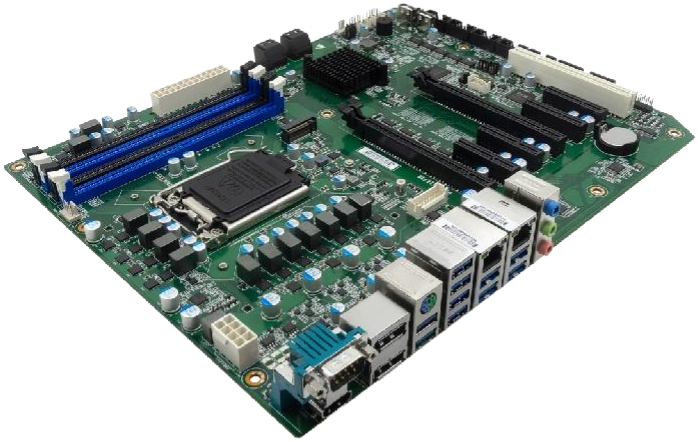
AIOT0-Q570

User manual



Version 1.0

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Notice
This device has undergone conformity assessment for use in a business environment, and there is a risk of radio wave interference when used in a home environment.

Directory

Chapter 1 Summary

1.1 Packing list

Thank you for choosing our products.

Please confirm whether the package of the motherboard you purchased is complete. If the package is damaged or there is any shortage of accessories, please contact your distributor as soon as possible.

★ Motherboard X 1
★ Drive CD X 1 (industrial packaging: 1PCS/box)
★ SATA hard drive adapter X 1
★ Special I/O Baffle X 1

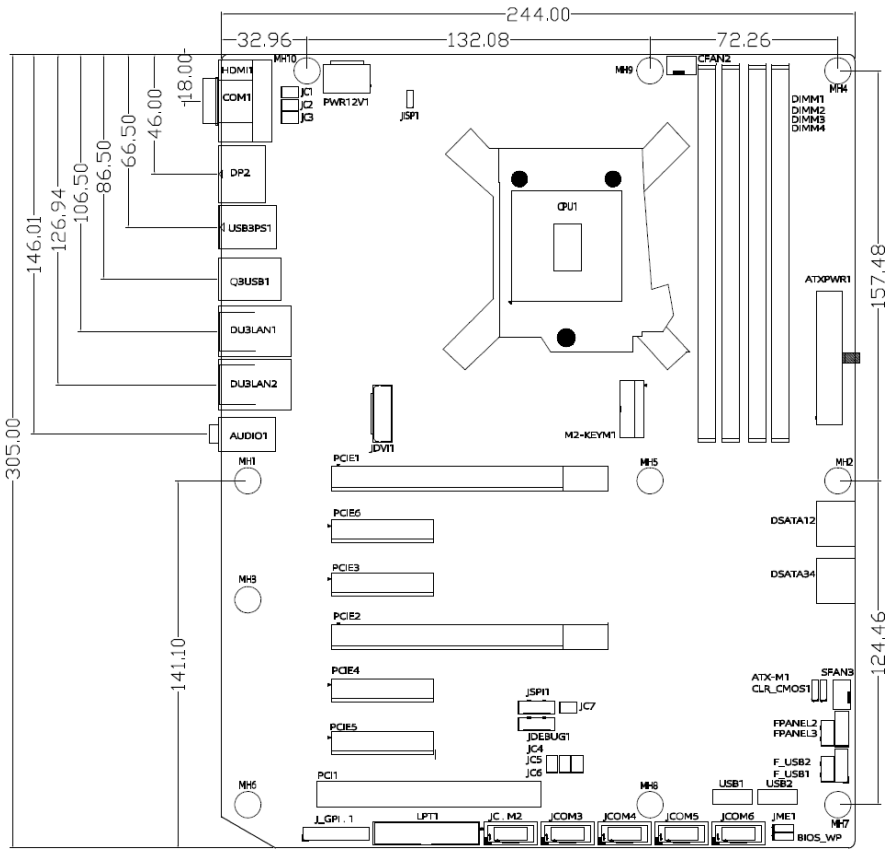
The specifications of the above-mentioned accessories are for reference only, and the actual specifications are subject to the physical objects. The Company reserves the right to modify them.

1.2 Motherboard specification

Processor	-Gen10 & 11 i9/i7/i5/i3/G full-line CPU support Intel LGA1200 package TDP up to 125W optional W580 chipset, support Xeon W-1200 series server CPU
Chipset	-Intel ® Q570 chipset, optional W580 chipset
Memory	-4 × 288PIN DDR4 UDIMM memory slot, single 32GB support up to 128GB depending on CPU support memory specification DDR4-2133/2400/2666/2933/3200 optional W580 chipset support ECC memory
Display controller	-Intel CPU integrated display controller (depending on CPU)
Display interface	-Four-display output DP + DP + HDMI + DVI-D, support independent three-display
Storage	-4 SATA 3.0 supports SATA RAID 0/1/5 (SATA 1 does not when SATA SSD is inserted on M.2 Signal) 1 M.2 2242/2280 Key-M SSD socket supports SATA bus or Nvme x4 (only Gen11 Support)
Audio	-Post-IO supports MIC-In, Speaker-Out and Line-In three-hole audio
Network	-2 Intel Fast Ethernet ports: LAN1: i225 2.5 Gb; LAN2: i219V
USB	-10 USB3.2 Type A rear IO is directly led out (including 2 Gen2 and 8 Gen1) and 2 USB2.0 are vertically inserted in the board, which is preset for USB Dongle; 2 USB2.0 pins (2 of which are extended on the front panel of the reserved installed customer chassis at the back panel edge)
LPT print port	-1 LPT print port (programmable for GPIO)
Serial port	-6 serial ports (COM1-2 supports RS232/422/485, COM3-6 supports RS232)
Keyboard and mouse interface	-1 PS/2 2-in-1 interface and 2 USB 3-in-1 connectors
Digital I/O	-1 16-bit digital I/O with isolation, supply and ground, + 5V level
ESPI bus interface	-1 eSPI bus interface (2x6Pin wafer expandable with four more RS232/422/485 serial ports)
TPM/TCM interface	-SPI interface supports secure cryptographic modules
Power supply	-ATX power supply with ATX/AT on/off mode
Extended bus	- 2 x16 slots (2 x16 slots are automatically configured for x8 signals when the remote x16 slot is inserted; Proximal PCIe x16 without card insertion) 4 PCIe x4 expansion slots (3 x4, 1 x1), 1 PCI (32bit)
Atmospheric conditions of working environment	-Temperature range-10 ℃ ~ 60 ℃, relative degree 10% ~ 85%, atmospheric pressure 85 ~ 105kPa
Atmospheric conditions of storage environment	-Temperature-40 ℃ ~ 85 ℃; The relative degree is 5% ~ 95% (40 ℃) and the atmospheric pressure is 85 ~ 105kPa
Watch Dog	-255 programmable sec/min, supports timeout interrupt or system reset

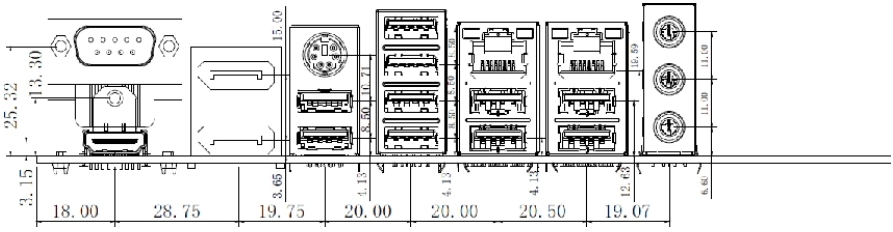
BIOS	-AMI UEFI BIOS
Operating system	-Win10 x64, Win11 x64, Linux Ubuntu 18.04, CentOS 8
PCB Appearance Color Matching	-Green oil for PCB
PCB Size (LxWxH)	-305mm x 244mm

1.3 Main board structure diagram

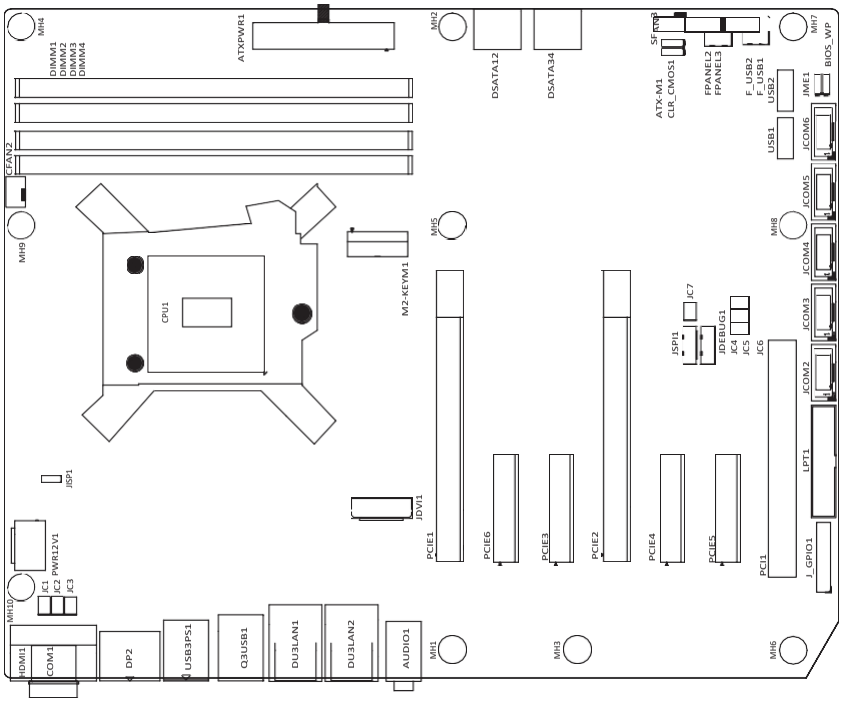


(This picture is for reference only, please refer to the real object)

1.4 主板IO接口结构图

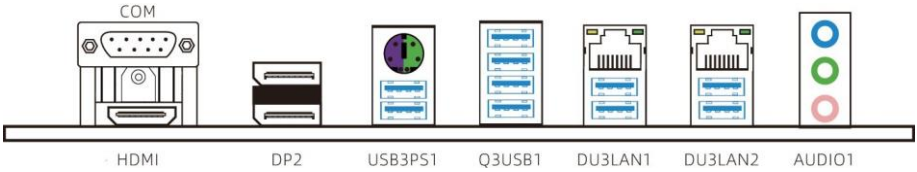


1.5 主板布局图



(此图片仅供参考，请以实物为准)

1.6 IO Panel Interface



(This picture is for reference only, please refer to the real object)

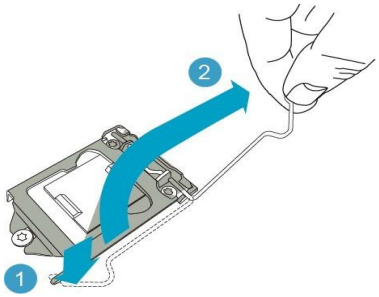
- COM: Serial port
- HDMI: HDMI Display Interface
- DP: DP Display Interface
- PS2: Keyboard and mouse interface
- USB3.0: USB3.0 Interface
- LAN: RJ45 Ethernet Interface
- AUDIO1: MIC-In, Speaker-Out, Line-In three-hole audio

Chapter 2 Hardware Installation

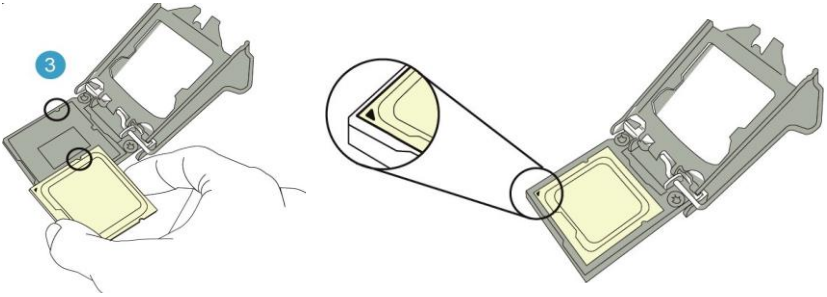
2.1 Install CPU

Please observe the following warning messages before starting to install CPU: 1. Please confirm that the CPU you purchased is suitable for the specifications supported by this motherboard.
2. Before installing or removing the CPU, please make sure that the power of the computer is turned off to avoid damage.
3. The CPU is designed with anti-dull signs. If you insert in the wrong direction, the CPU cannot be inserted. Do not install it forcibly to prevent the pins from being broken or deformed.

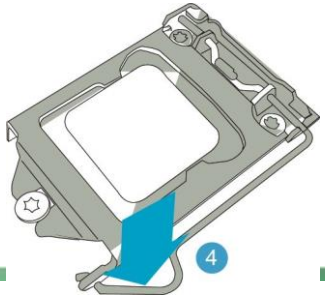
Install CPU: 1. When installing CPU, pull up the pull rod at the edge of CPU socket first, and show 90 degrees.



2. In the lower left corner of the front of the CPU, there will be an arrow corresponding to the missing pin position on the CPU socket.



3. After confirming that the CPU has been completely plugged into the CPU socket, put down the pull rod until you hear a light sound of "Ka".



4. Apply a proper amount of thermal conductive silicone grease on the surface of CPU core to prevent excessive silicone grease from overflowing on the socket.

2.2 Install memory

Before starting to install memory, please observe the following warning messages: 1. Please make sure that the memory you purchased is suitable for the specifications supported by this motherboard.

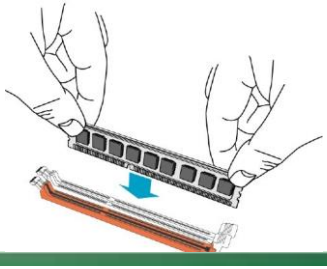
2. Before installing or removing memory, please make sure that the power of your computer is turned off to avoid damage.

3. The memory is designed with anti-foolish marks. If you insert in the wrong direction, the memory cannot be inserted. Please change the insertion direction immediately.

Install memory:

1. Please turn off the power and unplug the AC power cord before installing or removing the memory.
2. Hold the two ends of the memory chip carefully and don't touch the metal contacts on it.
3. Align the gold finger of the memory chip with the memory chip slot, and pay attention to the convex point of the gold finger concave hole on the slot in the direction;
4. Insert the memory chip into the memory slot at an oblique 30 degrees, and then press the memory chip down until you can hear the sound of "click", indicating that the memory has been installed successfully and can be used. (Note: The force of pressing down the memory module should not be too large, so as not to damage the memory)
5. To remove the memory module, push the tenons at both ends of the DIMM slot outward at the same time, and then take out the memory module.

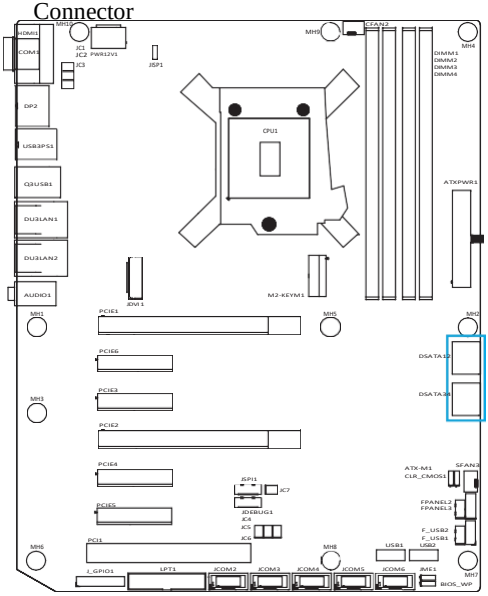
Memory installation diagram (for reference only):



⚠ Note: Static electricity can damage the electronic components of the computer or memory, so please contact the grounded metal object for a short time before performing the above steps to remove static electricity from your body.

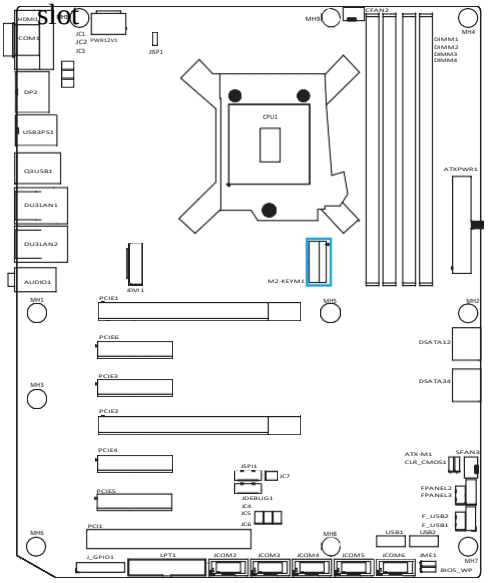
2.3 Connect external devices

2.3.1 Serial ATA Connector



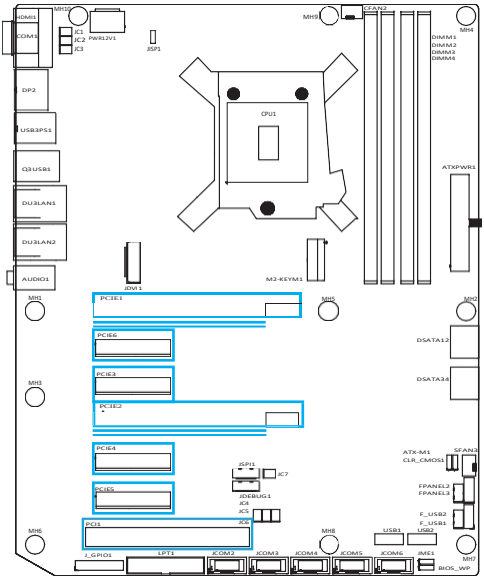
This interface supports the use of Serial ATA cable to connect Serial ATA hard drives or other Serial ATA compliant devices.

2.3.2 M2-KEYM1 slot



M2-KEYM1 slot, support SSD solid state drive;
To install this card, insert the card at an angle of 30 degrees, press it down to the stud, and then fix it with screws.

2.3.3 PCIE/PCI slot



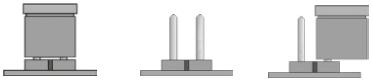
2 x16 slots (2 x16 slots are automatically configured for x8 signals when the remote x16 slot is inserted; Proximal PCIe x16 without card insertion) 4 PCIe x4 expansion slots (3 x4, 1 x1), 1 PCI (32bit)

Chapter 3 Jumper-Connector Installation and Setting

3.1 Instructions for setting of each jumper

2-pin connector: Inserting jumper cap into two pins will close it (short circuit). Remove the jumper cap or insert other pins

(Reserved for future expansion) will make it open. 3-pin connector: The jumper cap can be inserted into pins 1 ~ 2 or pins 2 ~ 3 to close it (short circuit).



SHORTOPENOPENPin1

~ 2 SHORTPin2 ~ 3 SHORT

How to identify the position of the first leg of jumper? 1. Please check the motherboard carefully. Any pin marked with "1" or thick white line is the pin position.

2. Look at the pad of the backplane. Usually, the square pad is the first pin.

3.2 Jumper setting

JME1 jumper setting (disable ME, short 1-2 if ME needs to be updated)

Pin	Definition
1-2	Disable ME
2-3	NORMAL

BIOS_WP jumper setting (shorted 2-3, BIOS write-protected)

Pin	Definition
1-2	NORMAL
2-3	BOIS_WP

JCOM2 Jumper Setup

RS232	RS485	RS422
JC4(1-2)	JC4(3-4)	JC4(5-6)
JC5(1-3)	JC5(3-5)	JC25(3-5)
JC5(2-4)	JC5(4-6)	JC5(4-6)
JC6(1-3)		JC6(3-5)
JC6(2-4)		JC6(4-6)

CLR_COMS1 Jumper Settings (Short 2-3, Clear BIOS Settings, Restore Default Factory Settings)

Pin	Definition
1-2	NORMAL
2-3	CLEAR_COMS

ATX-M1 jumper setting (1-2: normal mode, power-on according to power switch; 2-3: power-on automatically)

Pin	Definition
1-2	ATX Mode
2-3	AT Mode

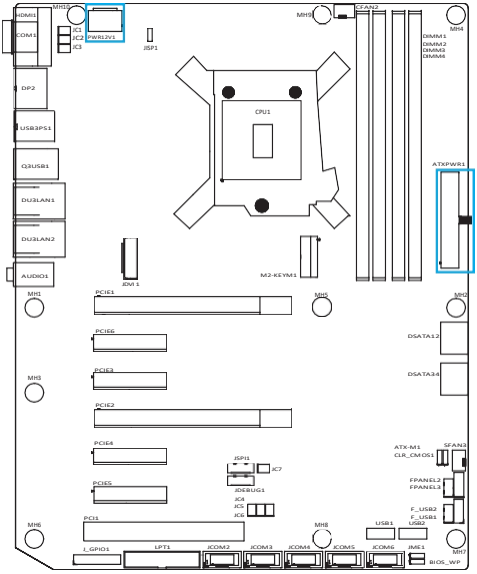
COM1 Jumper Settings

RS232	RS485	RS422
JC1(1-2)	JC1(3-4)	JC1(5-6)
JC2(1-3)	JC2(3-5)	JC2(3-5)
JC2(2-4)	JC2(4-6)	JC2(4-6)
JC3(1-3)		JC3(3-5)
JC3(2-4)		JC3(4-6)

RS-232/422/485 mode is supported, and the switching of these three modes is realized through the

selection of the above hops

3.3 PWR12V1/ATXPWR1 Pin Interface (Standard ATX 8pin + 24pin Power Interface)



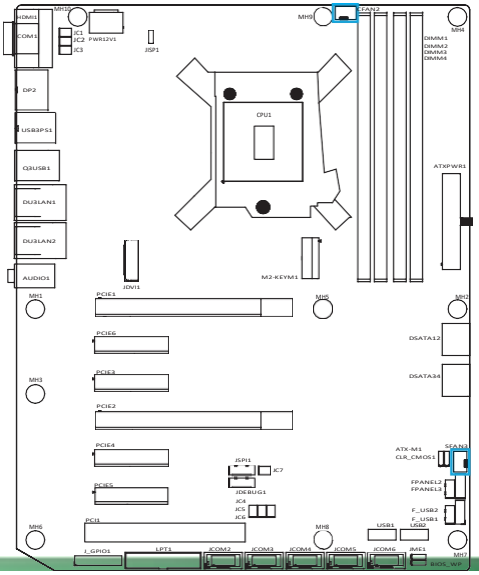
PWR12V1:

Pin	Pin definition	Pin	Pin definition
1	GND	5	+ 12V
2	GND	6	+ 12V
3	GND	7	+ 12V
4	GND	8	+ 12V

ATXPWR1:

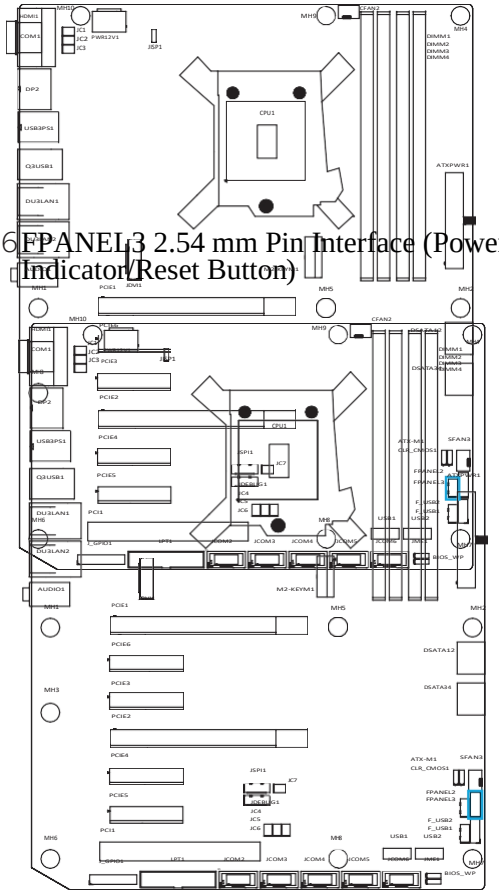
Pin	Pin definition	Pin	Pin definition
1	+3.3 V	13	+3.3 V
2	+3.3 V	14	-12V
3	GND	15	GND
4	+ 5V	16	PSON #
5	GND	17	GND
6	+ 5V	18	GND
7	GND	19	GND
8	POK	20	NC
9	5VSB	21	+ 5V
10	+ 12V	22	+ 5V
11	+ 12V	23	+ 5V
12	+3.3 V	24	GND

3.4 CFAN2/SFAN3 Pin Interface (CPU and System Fan Interface)



接脚	接脚定义
1	GND
2	+12V
3	FAN_TAC
4	FAN_CTL

3.5 FPANEL2 2.0 mm Pin Interface (Power Button/Boot, Hard Disk Indicator/Reset Button)

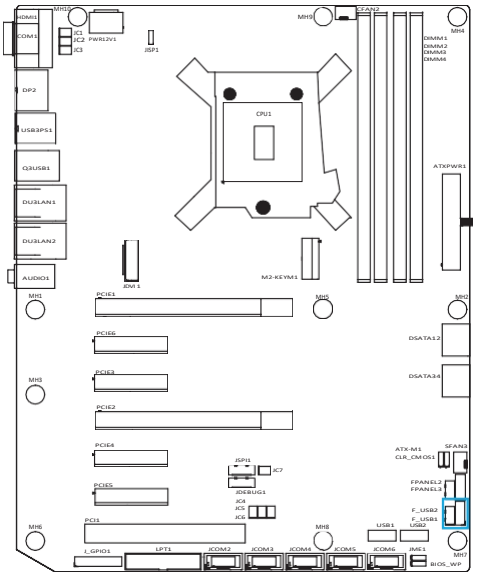


接脚	接脚定义	接脚	接脚定义
1	PWR_SW	2	GND
3	GND	4	SYSY_RST
5	HDD_LED-	6	HDD_LED+
7	PWRLED-	8	PWRLED+

3.6 FPANEL3 2.54 mm Pin Interface (Power Button/Boot, Hard Disk Indicator/Reset Button)

接脚	接脚定义	接脚	接脚定义
1	HDD_LED+	2	PWRLED+
3	HDD_LED-	4	PWRLED-
5	GND	6	PWR_SW
7	SYSY_RST	8	GND
9	NC		

3.7 F_USB2/F_USB1 Pin Interface



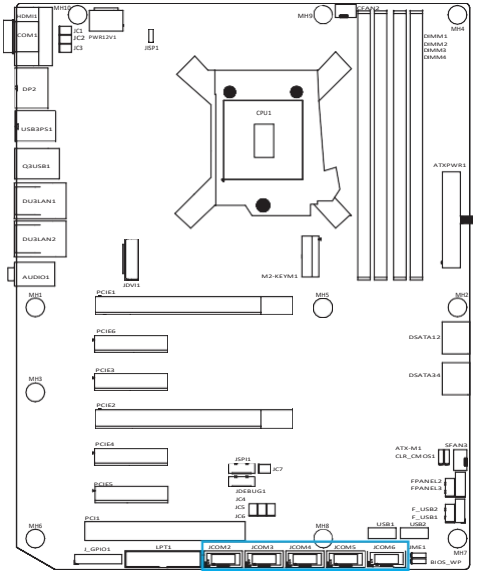
F_USB2 2.0 mm Pin Interface

Pin	Pin definition	Pin	Pin definition
1	5V	2	5V
3	D-	4	D-
5	D +	6	D +
7	GND	8	GND

F_USB1 2.54 mm Pin Interface

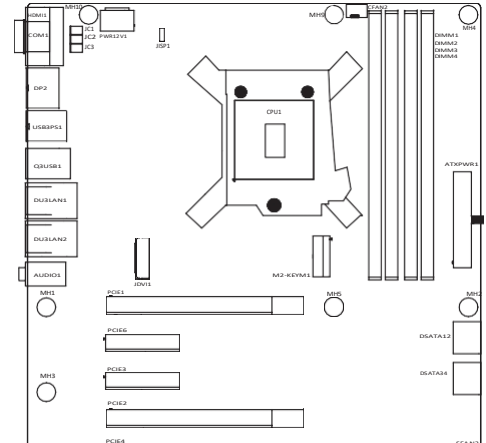
Pin	Pin definition	Pin	Pin definition
1	5V	2	5V
3	D-	4	D-
5	D +	6	D +
7	GND	8	GND
		10	GND

3.8JCOM2/3/4/5/6 2.54 mm Pin Interface (RS-232 Serial Pin)



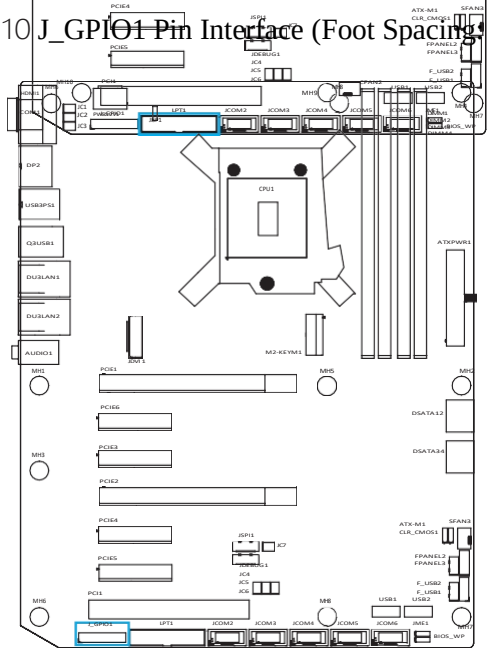
接脚	接脚定义	接脚	接脚定义
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

3.9 LPT1 2.0 mm Pin Interface (Printer Parallel Port)



接脚	接脚定义	接脚	接脚定义
1	LPT_STB	2	LPT_AFD
3	LPT_PD0	4	LPT_ERR
5	LPT_PD1	6	LPT_INIT
7	LPT_PD2	8	LPT_SLIN
9	LPT_PD3	10	GND
11	LPT_PD4	12	GND
13	LPT_PD5	14	GND
15	LPT_PD6	16	GND
17	LPT_PD7	18	GND
19	LPT_ACK	20	GND
21	LPT_BUSY	22	GND
23	LPT_PE	24	GND
25	LPT_SLCT	26	NC

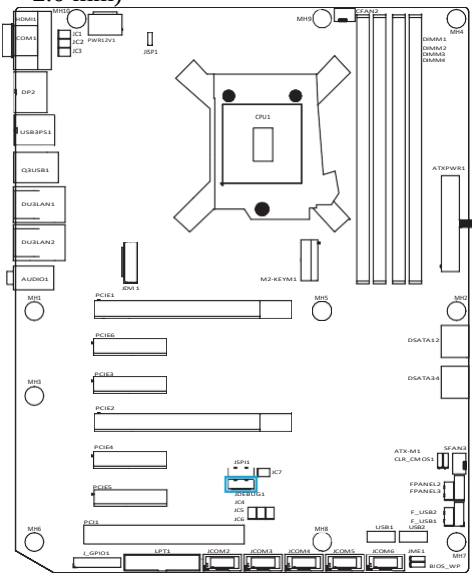
3.10 J_GPIO1 Pin Interface (Foot Spacing: 2.0 mm)



Pin	Pin definition	Pin	Pin definition
1	5V	2	GND
3	GPIO1	4	GPIO2
5	GPIO3	6	GPIO4
7	GPIO5	8	GPIO6
9	GPIO7	10	GPIO8
11	GPIO9	12	GPIO10
13	GPIO11	14	GPIO12
15	GPIO13	16	GPIO14
17	GPIO15	18	GPIO16
19	GND	20	5V

Note: The voltage range of input and output signals is 0-5V.

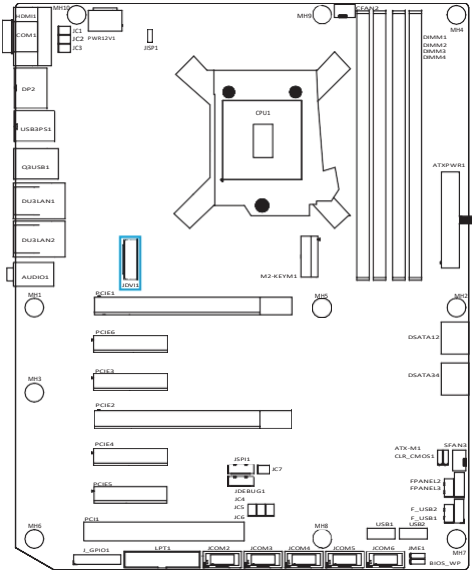
3.11 JDEBUG1 Pin Interface (Foot Spacing: 2.0 mm)



Pin	Pin definition	Pin	Pin definition
1	+3.3 V	2	GND
3	ESPI_IO0	4	ESPI_CS
5	ESPI_IO1	6	ESPI_CLK
7	ESPI_IO2	8	ESPI_RST
9	ESPI_IO3	10	PLTRST
11	ESPI_ALERT	12	+ 5V

Provide ESPI signal, which can expand serial port module through this interface

3.12 JDVI 1 2.0 mm Pin Interface (1 DVI-D interface available)



接脚	接脚定义	接脚	接脚定义
1	D2-	2	D2+
3	GND	4	GND
5	D1-	6	D1+
7	GND	8	GND
9	D0-	10	D0+
11	GND	12	GND
13	CLK+	14	CLK-
15	5V	16	HDP
17	DDC SDA	18	DDC CLK
19	GND	20	GND

Chapter 4 BIOS Settings

4.1 BIOS explanation

This motherboard uses AMI BIOS. BIOS is called Basic Input Output System (Basic Input Output System), which is stored in a ROM (Read-Only Memory) chip on the computer motherboard. When you turn on your computer, BIOS is the first program to run. It mainly has the following functions:

A. Initialize your computer and test the hardware. This process is called POST (Power On Self Test). B. Load and run your operating system.
C. Provides the lowest, most basic control of your computer hardware. D. Manage your computer through SETUP.

The modified BIOS will be stored in a battery-maintained CMOS RAM, and the stored reference room will not be lost when the power is cut off. Under normal circumstances, when the system runs normally, there is no need to modify the BIOS. If CMOS is lost due to other reasons, the BIOS value must be reset.

4.2 BIOS settings

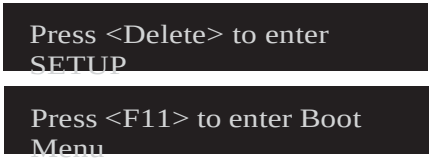
This chapter provides information about the BIOS Setup program, allowing users to configure their own optimized system settings. Some items in BIOS that have not been explained too much belong to non-use items. It is recommended to keep the default settings and not change them at will before fully understanding their functions.

You need to run SETUP program in the following situations: a. Error message appears on the screen when the system self-tests, and it is required to enter SETUP program; B. You want to change the factory default settings based on customer characteristics.

Note: As the BIOS version of the motherboard is constantly being upgraded, the description of BIOS in this manual is for reference only. We do not guarantee that the relevant contents in this manual are consistent with the information you have obtained.

421 Enter the BIOS setup program

Turn on the power or restart the system, in the self-test screen can see the following information, press < DEL > key to enter the BIOS setup program.



422 Control key

You can use the Arrow keys to move the Highlight option, press < Enter > to select, press < F1 > for help, and press < Esc > to exit. The following table will list in detail how to use the keyboard to guide the system program settings.

Control key	Functional description
←/→	Move the left and right arrows to select the screen
↑/↓	Move the up and down arrow to select the up and down item
+/-	Increase/decrease values or change options
< Enter >	Select this option to enter the submenu
< ESC >	Return to the main screen, or end the CMOS SETUP program from the main screen
< F1 >	Display related auxiliary instructions

< F7 >	Previous set value
< F9 >	Setting of loading optimization value
< F10 >	Save the changed CMOS settings and restart

4.3 Main

· BIOS Information (BIOS-related information)

· System Date (System Date Setting)

Set the date of the computer in the format of "week, month/day/year".

· System Time (System Time Settings)

The time format is < hours > < minutes > < seconds >.

4.4 Advanced

► CPU Configuration Press < Enter > to enter the submenu

· C states
Enable/disable CPU power management. Options: Enabled, Disabled.

· Press < Esc > to return to the "Advanced" main menu

► Onboard Devices Configuration Press < Enter > to enter the submenu

Onboard Audio
Enable or disable motherboard audio. Options: Enabled, Disabled.

· PCH LAN Controller (I219) This item is set for PCH LAN controller. Options: Enabled, Disabled.

Onboard LAN (I225)
Enable or disable the onboard network controller. Options: Enabled, Disabled.

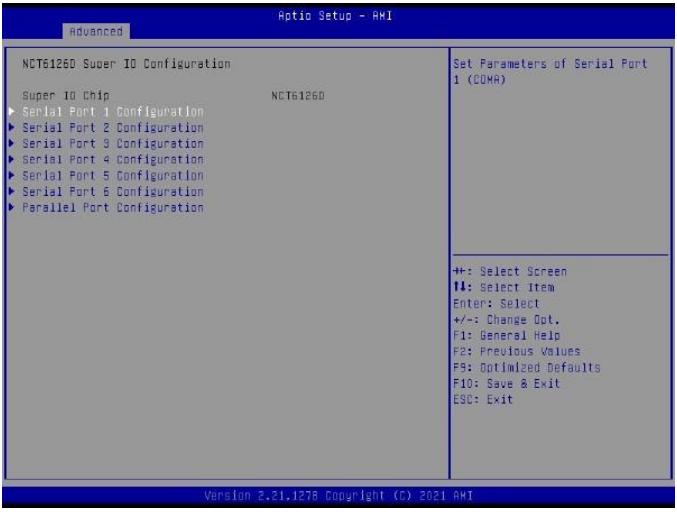
· PS/2 Port Setting
This item is set for keyboard and mouse. Options: Auto, KeyBoard, Mouse.

· BIOS Write Protect
This entry is BIOS write-protected.
Options: Enabled, Disabled.

· Me Lock
This item is to lock ME access rights. Options: Enabled, Disabled.

· Press < Esc > to return to the "Advanced" main menu

► NCT61260 Super IO Configuration Press < Enter > to enter the submenu.



· Super IO Configuration
This item is set for serial port.

► NCT5114DSEC Super IO Configuration Press < Enter > to enter the submenu

· Super IO Configuration
This item is set for serial port.

► CSM Configuration

· CSM Support
Enable or disable CSM support. Options: Enabled, Disabled.

· Press < Esc > to return to the "Advanced" main menu

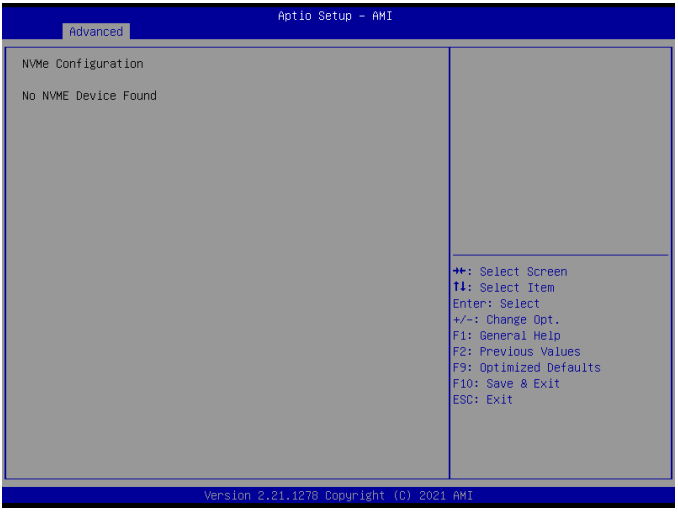
► SATA Configuration Press < Enter > to enter the submenu

· SATA Controller
This entry disables or enables the SATA controller. Options: Enabled, Disabled.

The SATA Mode Selection option is the SATA Mode selection. Options: AHCI, Raid.

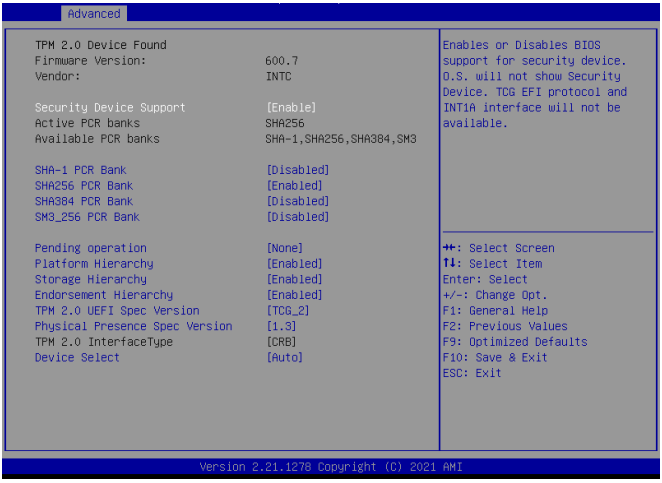
· Press < Esc > to return to the "Advanced" main menu

► NVMe Configuration Press < Enter > to enter the submenu



· Press < Esc > to return to the "Advanced" main menu

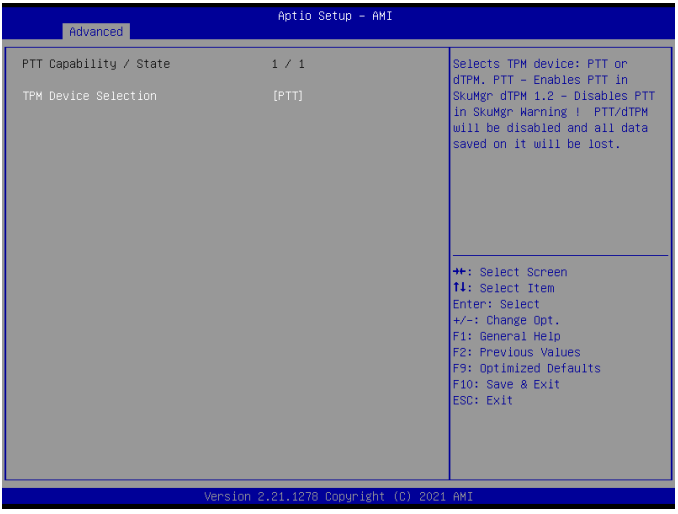
► Trusted Computing Press < Enter > to enter the submenu



· Security Device Support sets BIOS support for security devices. Options: Enabled, Disabled.
· SHA-1 PCR Bank Enable or disable the SHA-1 PCR Bank. Options: Enabled, Disabled.
· SHA256 PCR Bank Enable or disable the SHA256 PCR Bank. Options: Enabled, Disabled.
· SHA384 PCR Bank Enable or disable the SHA384 PCR Bank. Options: Enabled, Disabled.
SM3_256 PCR Bank Enable or disable the SM3_256 PCR Bank. Options: Enabled, Disabled.
The Pending operation item is set for the wait operation. Options: None, TPM Clear.
· Storage Hierarchy Enables or disables the storage hierarchy. Options: Enabled, Disabled.
· Endorsement Hierarchy Enable or disable hierarchies. Options: Enabled, Disabled.
· TPM 2.0 UEFI Spec Vesion This item is set for the physical presence specification version. Options: TCG_1_2, TCG_2.
· Physical Presence Spec Version This item is set for the physical presence specification version. Options: 1.2, 1.3.
· Device Select This item selects the setting for the device. Options: TPM 1.2, TPM 2.0, Auto.

· Press < Esc > to return to the "Advanced" main menu

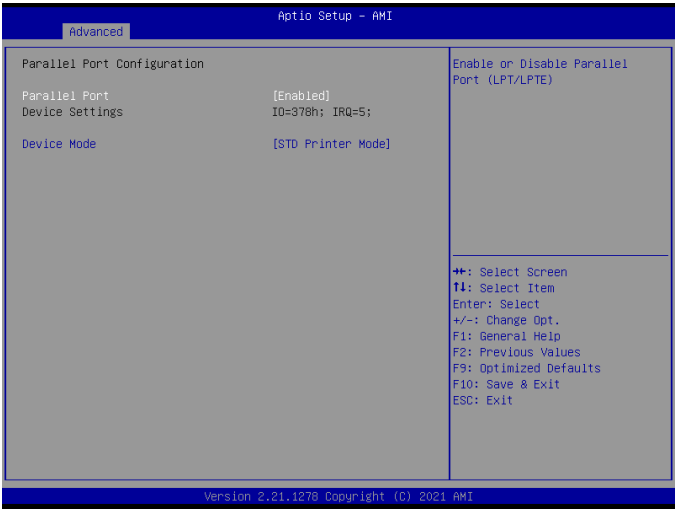
► PTT Configuration



· TPM Device Selection
This item is selected for TPM devices. Options: dTPM, PTT.

· Press < Esc > to return to the "Advanced" main menu

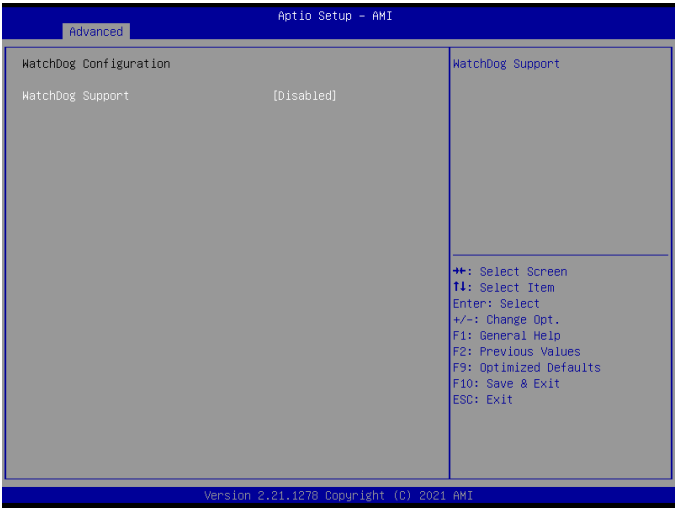
► PowerManagement Configuration Press < Enter > to enter the submenu



· Parallel Port
Enable or disable parallel ports. Options: Enabled, Disabled.
· Device Mode
This item is set for device mode.
Options: STD Printer Mode, SPP Mode, EPP-1. 9 and SPP Mode, EPP-1. 7 and SPP Mode, ECP Mode, ECP and EPP 1.9 Mode, ECP and EPP 1.7 Mode.

· Press < Esc > to return to the "Advanced" main menu

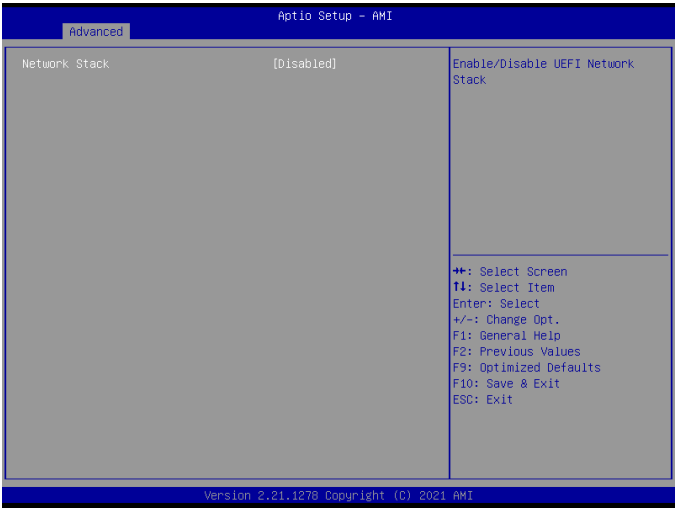
► WatchDog Configuration Press < Enter > to enter the submenu



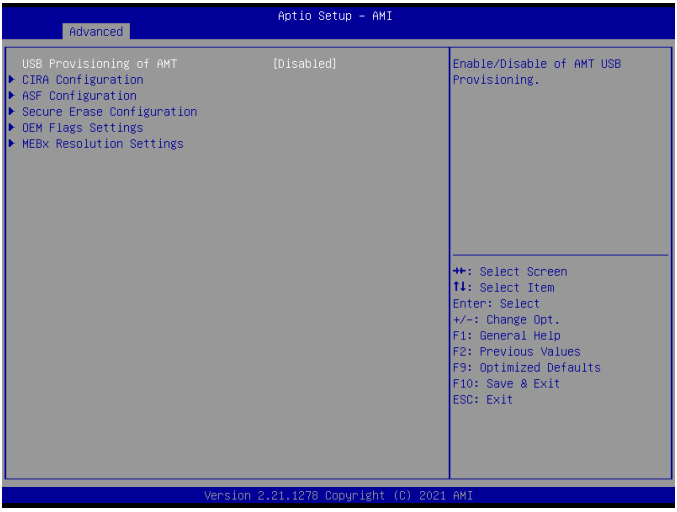
· WatchDog Support
Turn watchdog on or off.
Options: Enabled, Disabled.

· Press < Esc > to return to the "Advanced" main menu

► Network Stack Configuration Press < Enter > to enter the submenu



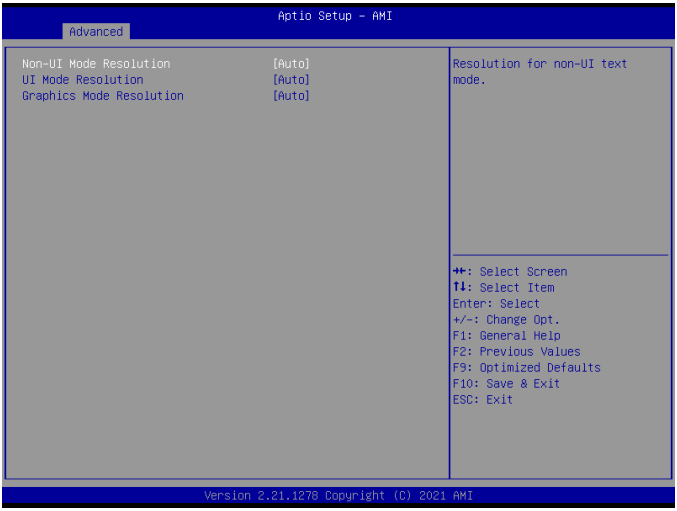
► AMT Configuration Press < Enter > to enter the submenu



· USB Provisioning of AMT turns on or disables AMT USB configuration. Options: Enabled, Disabled.

· Press < Esc > to return to the "Advanced" main menu

► Hardware Monitor Press < Enter > to enter the submenu



The Non-UI Mode Resolution option is set for non-UI mode resolution. Options: Auto, 80x25, 100x31.

· UI Mode Resolution

This item is set for UI mode resolution. Options: Auto, 80x25, 100x31.

· Graphics Mode Resolution

This item is set for resolution mode. Options: Auto, 600x480, 800x600, 1024x768.

· Press < Esc > to return to the "Advanced" main menu

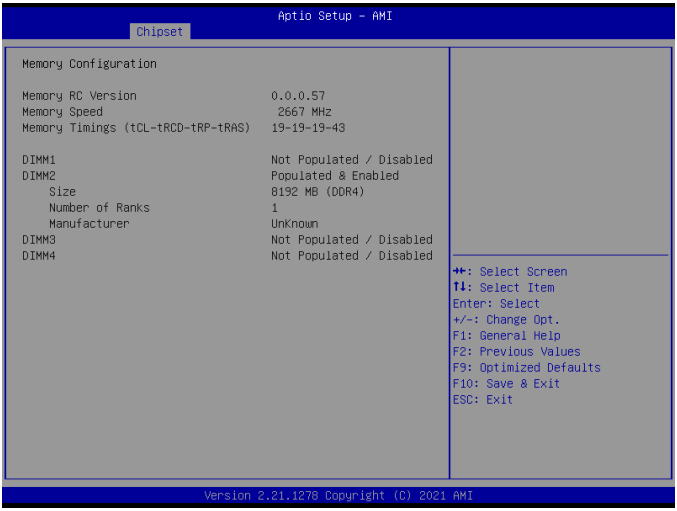
4.5 Chipset

· Above 4GB MMID BIOS assignmet
enables or disables 4GB MMID BIOS configuration. Optional: Enabled, Disabled.

DVNT Total Gfx Mem
This item can set the video memory size of DVMT. Optional: 256M, 128M, MAX.

· Press < Esc > to return to the "Chipset" main menu

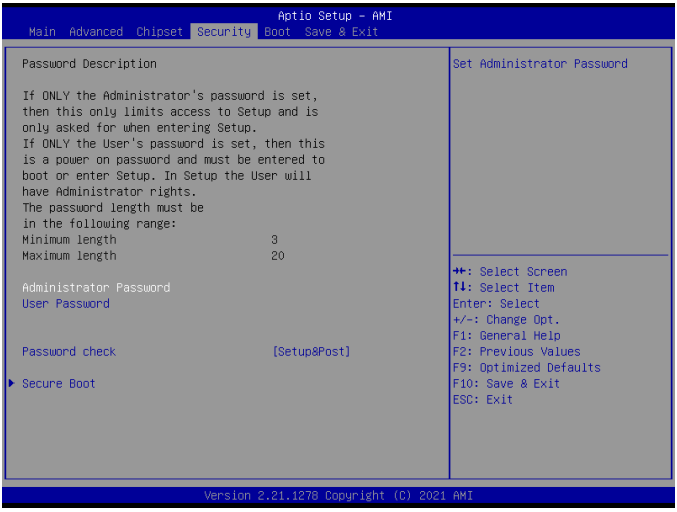
► MEMory Configuration



· MEMory Configuration
This is a memory setting.

· Press < Esc > to return to the "Chipset" main menu

4.6 Security



· Administrator Password

Set this option to be used to set the system administrator password, with the following steps:

1. Select the Administrator Password settings and press < Enter >.
2. In the "Create New Password" dialog box, enter 3 ~ 20 characters or numbers to be set, and press

After the < Enter > key, the "Confirm Password" dialog box appears, and enter the password again to confirm that it is correct. If prompted "Invalid Password!" Indicates that the password entered twice does not match. Please enter it again. To clear the system administrator password, select Administrator Password, and when the Enter Current Password dialog box appears, the Create New Password < Enter > password appears after entering the old password.

User Password

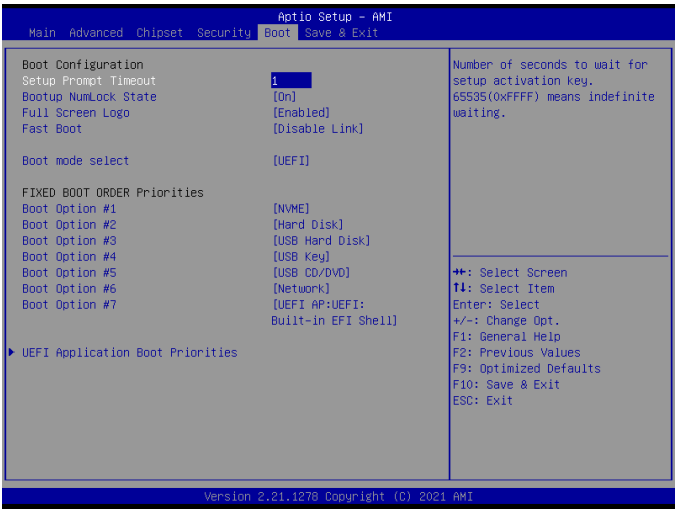
This item is the user password setting, and the setting steps are the same as the setting method of "Administrator Password".

· Password check

This is the password checking setting.

Optional: Setup, Srtup & Post.

4.7 Boot



· Setup Prompt Timeout

Set the time for the startup interface to stay.

Bootup NumLock State

Sets the status of Numlock after the system starts. When it is set to On, NumLock will be turned on after the system starts, and the numeric keys of the keypad will be valid. When it is set to Off, Numlock is closed after the system starts, and the keypad direction keys are effective.

Options: On, Off.

Full Screen Logo

This is a full-screen Logo display switch. Options: Enabled, Disabled.

Fast Boot

Set up the quick start function.

Options: Enabled, Disabled Link.

Boot mode select

This allows you to select the preferred boot device, and the type of device displayed on the screen depends on the type of device installed on the system. Options: LEGACY, UEFI.

Boot Option # 1-7

This item sets the system startup sequence.

Options: NVME, Hard Disk, USB Hard Disk, USB key, USB CD/DVD, Network, UEFI AP: Build-in EFI Shell.

4.8 Save & Exit

Save Changes and Reset

Save the changes and restart the system.

Discard Changes and Reset

Restart the system without saving the changes.

· Restore Defaults

Restore the default values of loading all options.

Chapter 5 Installing Drivers

Please put the motherboard drive CD into the CD drive, and the CD will run automatically, and the interface shown in the following figure will pop up. If this interface does not appear, double-click Run X:\AUTORUN.EXE (assuming the drive letter is X:).

(This picture is for reference only, please refer to the real object)

Please click on the drivers you need to install in the above interface in turn, and install them according to the prompts.

Chapter 6 WDT Programming Guidance

6.1 WDT control

The WDT control register is located on the SIO chip's LDN DEV8, where 0XF0 BIT3 is the second and minute control 0 is the second and 1 is the minute

0XF1 is the filling time, for example, 0XF0 BIT3 is 0, and 0XF1 filling 0X20 is the overflow time of 32 seconds.

6.1.1 Set the watchdog pseudo code as follows:

```
//Enter SIO control
      IoWrite8 (0x2E,
    0x87);
    IoWrite8 (0x2E,
    0x87);

    IoWrite8 (0x2E, 0x07);
    IoWrite8 (0x2F, 0x08); //Select Logic Device 8

    IoWrite8 (0x2E, 0x30);
    Data8 = IoRead8 (0x2F);
    Data8 = 0x1; IoWrite8
    (0x2F, Data8);

    IoWrite8 (0x2E,
    0xf1);
    IoWrite8 (0x2F,
    0x00);

    IoWrite8 (0x2E,
    0xf2);
    IoWrite8 (0x2F,
    0x00);

    IoWrite8 (0x2E, 0xF0);
    Data8 = IoRead8 (0x2F);
    //WdtCountMode = 1 Select minute units
    If (SetupData.WdtCountMode = = 1)
       {Data8 = Data8 0x08;
    }
    Else {
       Data8 = Data8 & (~ 0x08);
    }

    IoWrite8 (0x2F,
    Data8);
    IoWrite8 (0x2E,
    0xF1);
    //WDT overflow time IoWrite8 (0x2F,
    SetupData.WdtTimeOut);
```

```
//Exit SIO control
IoWrite8 (0x2E,
0xaa);
```

6.12 Clear the watchdog

```
//Enter SIO control
      IoWrite8 (0x2E,
0x87);
IoWrite8 (0x2E,
0x87);

IoWrite8 (0x2E, 0x07);
IoWrite8 (0x2F, 0x08); //Select Logic Device 8

IoWrite8 (0x2E, 0x30);
Data8 = IoRead8 (0x2F);
Data8 & = (~ 0x1);
IoWrite8 (0x2F, Data8);

IoWrite8 (0x2E,
0xf1);
IoWrite8 (0x2F,
0x00);

//Exit SIO control
IoWrite8 (0x2E,
0xaa);
```

CR F0h. Watchdog Timer I(WDT1) and KBC P20 Control Mode Register

Location: Address F0h
Attribute: Read/Write
Power Well: VSB
Reset by: LRESET# or PWROK
Default : 00h

Size: 8 bits

BIT	READ / WRITE	DESCRIPTION
7-4	Reserved.	
3	R / W	Select Watchdog Timer I count mode. 0: Second Mode. 1: Minute Mode.
2	R / W	Enable the rising edge of a KBC reset (P20) to issue a time-out event. 0: Disable. 1: Enable.
1	R / W	Disable / Enable the Watchdog Timer I output low pulse to the KBRST# pin (PIN15) 0: Disable. 1: Enable.
0	R / W	Watchdog Timer I Pulse or Level mode select 0: Pulse mode 1: Level mode

CR F1h. Watchdog Timer I(WDT1) Counter Register

Location: Address F1h
Attribute: Read/Write
Power Well: VSB
Reset by: LRESET# or PWROK
Default : 00h
Size: 8 bits

BIT	READ / WRITE	DESCRIPTION
7-0	R / W	Watch Dog Timer I Time-out value. Writing a non-zero value to the register causes the counter to load the value into the Watch Dog Counter and start counting down. The accuracy of watchdog timer I about one cycle deviation. If CR F2h, bits 7 and 6 are set, any Interrupt event comes from Mouse or Keyboard both cause the previously-loaded. Non-zero value will be reloaded to the Watch Dog Counter and the countdown resumes. Reading the register returns the current value in the Watch Dog Counter but not the Watch Dog Timer Time-out value. 00h: Time-out Disable 01h: Time-out occurs after one cycle time, the cycle time is based on LD8 CRF0, bit[3], by analogy.

Chapter 7 GPIO Programming Guidance

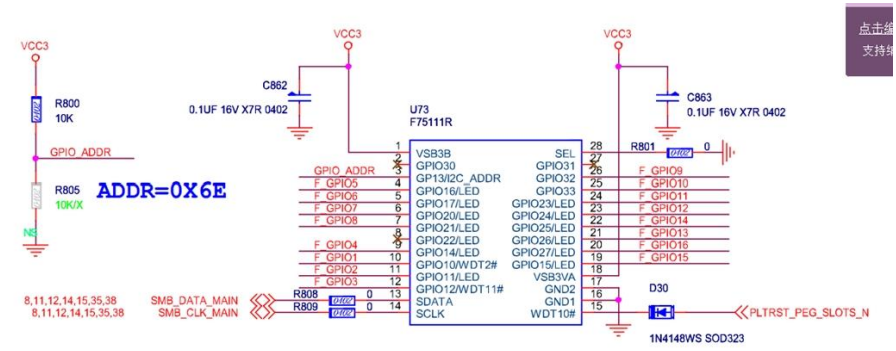
7.1 GPIO control

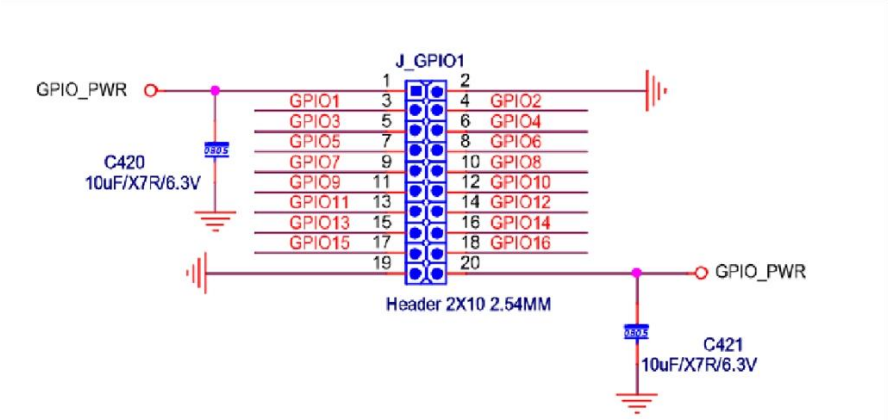
The hardware uses FINTEK 7511 to extend GPIO pins, the pins corresponding to 7511 are shown in the following figure, and the communication control mode is PCH

SMBUS controls FINTEK 7511.

7.11 FINTEK 7511 SPEC

7.12





Order information

Product model	Chipset	Memory	Display	Storage	USB3	USB2	COM	LAN	PCI	PCIe
AIoT0-Q570	Q570	4 DDR4	4 (3)	4SATA	10	4	6	2	1	6

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	Card (Pb)	(HG)	D. (Cd)	Cherry Cherry Cherry (Cr (Vl))	Quasi $(PBB)	$ (P BDE)
PCB	X	O	O	O	O	O
Tube	O	O	O	O	O	O
Pyridine	O	O	O	O	O	O
In fact, in fact, the	O	O	O	O	O	O
9 N.	X	O	O	O	O	O
Junior	X	O	O	O	O	O
In fact, in fact, the	O	O	O	O	O	O
Ran	O	O	O	O	O	O

O: Q-year-old Geng Geng GB/T 26572 Geng Geng GB/T 26572 Geng Geng GB/T 26572 Geng Geng GB/T 26572 Geng Geng GB/T 26572

: XTUO CHANGE ® GB/T 26572 CHANGE CHANGE, RoH $

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