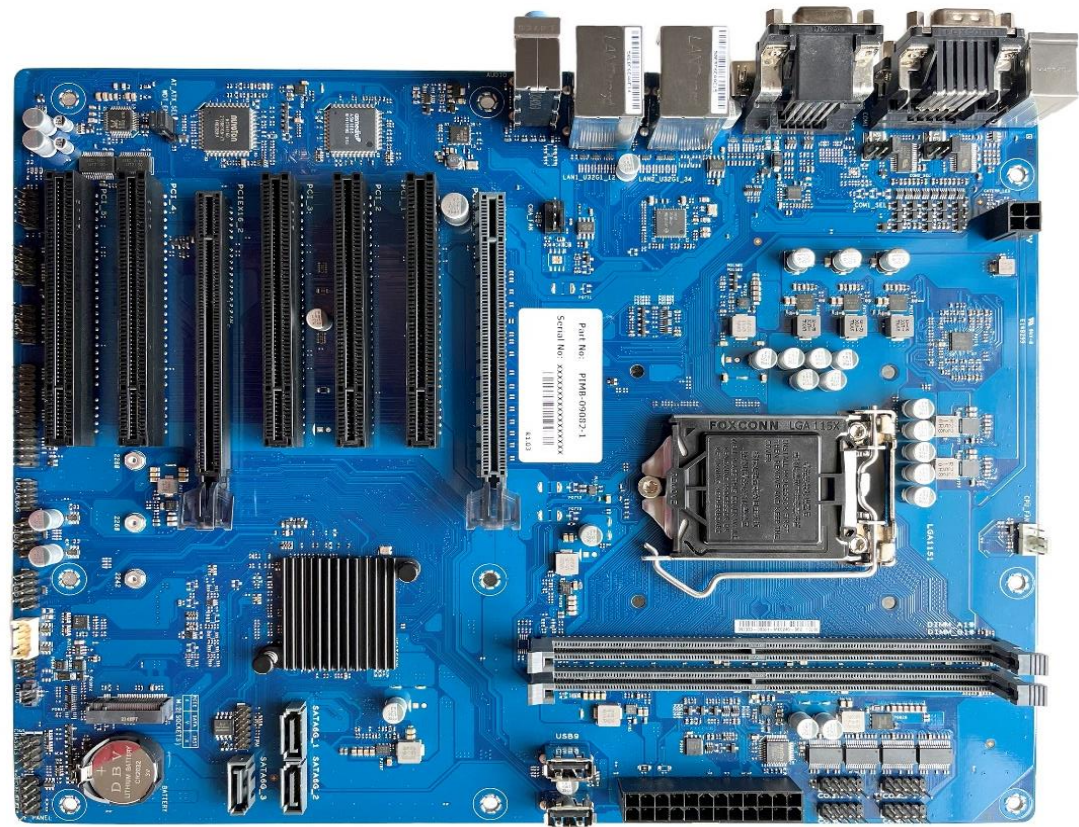# PIMB-09082

Portwell India

PIMB-09082 (ATX Size motherboard)

Version 1.1

Published date: July 2016

Color of board image is for representation purpose only.

Table of Contents

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1. Introduction

PIMB-09082 is based on Intel® H110 chipset which supports Core i3/i5/i7 6th and 7th gen processor. PIMB-09082 adopts Two DDR4 U-DIMMs sockets and supports up to 32GB Memory.

Desktop solution is still popular in the market of DVR and Factory Automation which can fulfill most of these applications; therefore, with high performance and high-end specifications, PIMB-09082 is generation Skylake / Kabylake -S chip architecture on ATX product line.

2. Specification

| CPU	Intel® socket 1151 for 7th / 6th Gen Intel® Core™ i7/ i5/ i3,Pentium®, and Celeron® Processors
	Supports Intel® 14nm CPUSupports up to 65W
Chipset	Intel® H110 Chipset
Memory	2 x U-DIMM, max.32GB, DDR4 2400/2133 MHz SDRAM
Graphics	Integrated graphics processor - Intel® HD Graphics support multi-VGA output support: VGA/HDMI ports
	- Supports VGA output with a maximum resolution of 1920 x 1200 @ 60Hz
	- Supports HDMI output with a maximum resolution of 4096 x 2160 @ 30 Hz (co-lay with optional DisplayPort 4096 x 2304 @ 60Hz)
Expansion slots	1 x PCIe 3.0/2.0 x16 slot (x16 mode)
	1 x PCIe 2.0 x16 slot (x4 mode, x4 pin)5 x PCI slots
	1 x M.2 Socket 3 with M key, type 2242/2260/2280 (SATA mode)
Storage	3 x SATA Gen 3.0, up to 6.0 Gb/s ports
LAN	Dual Intel® Lan: 1 x Intel® i219V, 1 x Intel® I211AT
Audio	Realtek ALC887-VD2 / ALC 897 High-Definition Audio*
	Line-Out, Line-In, Mic in
	* The audio codec may vary between motherboards, please consult your sales window for the motherboards' exact codec type.
Rear I/O ports	1 x VGA port
	1 x HDMI port (Colay with optional DisplayPort)4 x USB 3.2 Gen 1 ports
	2 x LAN (RJ45) ports
	2 x COM ports (RS232/422/485)1 x P/S2 keyboard port
	1 x P/S2 mouse port
	3 x Audio jacks
Internal I/O connectors	6 x COM headers (RS232)
	2 x USB 2.0 headers support additional 4 USB 2.0 ports
	2 x USB 2.0 connectors
	1 x CPU Fan header (PWM mode)
	1 x Chassis Fan header (PWM mode)1 x Chassis intrusion header
	1 x Front Panel Audio header (AAFP)1 x System Panel header
	1 x Clear CMOS header
	1 x Speaker header
	1 x LPC Debug header 1 x I2C header
	1 x LPT header
	1 x GPIO header (8-bit)
	1 x AT/ATX mode selection jumper 1 x 24-pin ATX power connector
	1 x 4-pin ATX power connector

GPIO	1 x 8-bit GPIO header
Manageability	WfM 2.0, DMI 2.0, WOL by PME
Watch dog timer	Yes
Power requirement	AT/ATX mode
Operation Temperature	0~60°C
Non-Operation Temperature	-40~85°C
Relative Humidity	0%~85%
OS support	Windows® 7 (32/64bit) Windows® 10 (64bit) Windows® 10 IoT Enterprise Ubuntu, RedHat Enterprise Fedora Workstation OpenSUSE
Form Factor	ATX Form Factor, 12"x 9.6" (30.5cm x 24.4cm)

2.1.   Supported Operating Systems

- ✧ Windows® 7 (32/64bit)

- ✧ Windows® 10 (64bit)

- ✧ Windows® 10 IoT Enterprise

- ✧ Ubuntu,

- ✧ RedHat Enterprise

- ✧ Fedora Workstation OpenSUSE

3. Mechanical Dimension & Hardware Configuration

3.1.   Mechanical Diagram
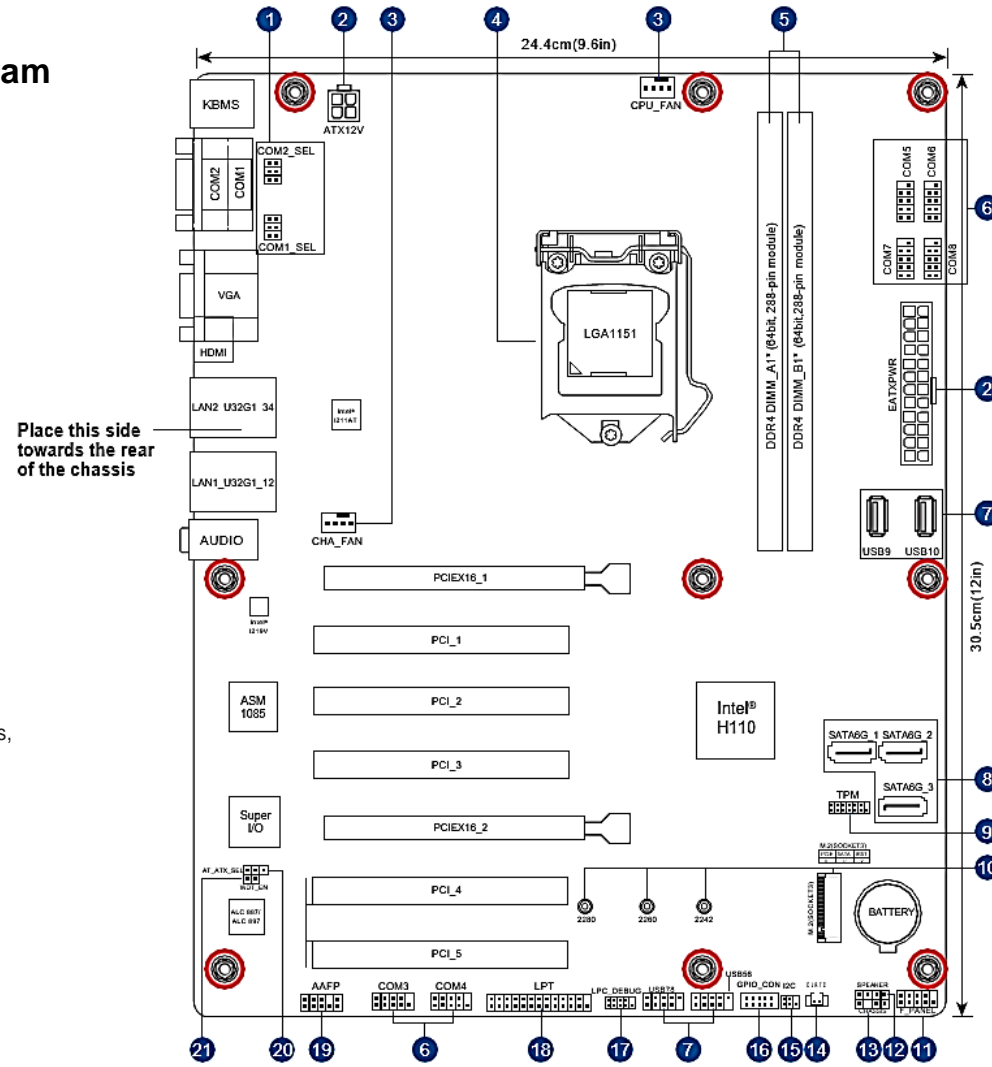
NOTE: The audio codec may vary between motherboards, please consult your sales window for the motherboard's exact codec type.

## 3.2.   Hardware Configuration

Connectors/Jumpers/Slots
1.   COM RING/+5V/+12V selection (COM1/2_SEL)
2.   ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)
3.   CPU and chassis fan headers (4-pin CPU_FAN, 4-pin CHA_FAN)
4.   Intel® LGA1151 CPU socket
5.   DDR4 U-DIMM slots
6.   COM Port headers (10-1 pin COM3 - COM8)
7.   USB 2.0 headers / connectors (10-1pin USB56, USB78 / USB9, USB10)
8.   SATA 6.0 Gb/s ports (7-pin SATA6G_1-3)
9.   TPM header (14-1 pin TPM)
10.   M.2 slot (SOCKET 3)
11.   System Panel header (10-1 pin F_PANEL)
12.   Speaker header (4-1 pin SPEAKER)
13.   Chassis Intrusion header (4-1 pin CHASSIS)
14.   Clear RTC RAM (2-pin CLRTC)
15.   I²C header (6-1 pin I²C)
16.   General purpose input/output header (GPIO_CON)
17.   LPC Debug header (10-1 LPC_DEBUG)
18.   LPT header (26-1 pin LPT)
19.   Front Panel Audio header (10-1 pin AAFP)
20.   AT/ATX mode selection (3-pin AT_ATX_SEL)
21.   WDT Enbale jumper (2-pin WDT_EN)

3.2.1 Environmental Specifications

o   Storage Temperature: -20~80°C

o   Operation Temperature: 0~60°C

3.2.2 System memory

This motherboard comes with two Double Data Rate 4 (DDR4) Dual Inline Memory Module (DIMM) sockets. The figure below illustrates the location of the DDR4 DIMM sockets:
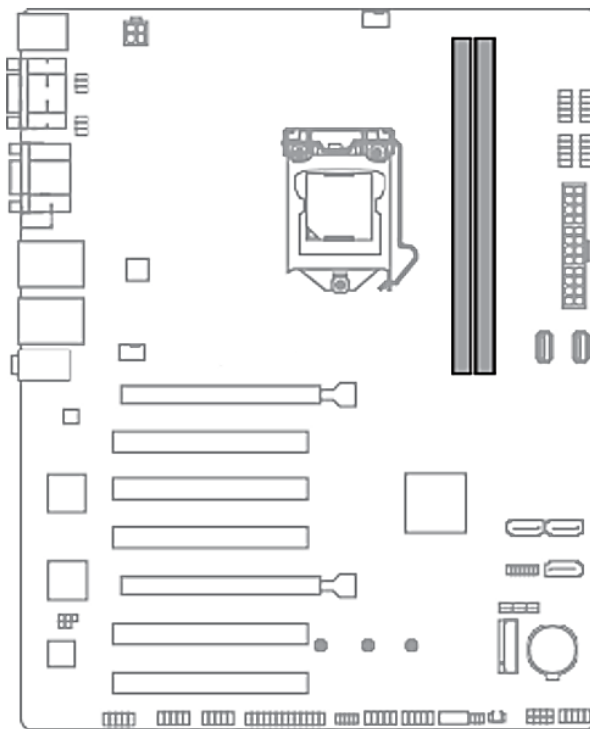
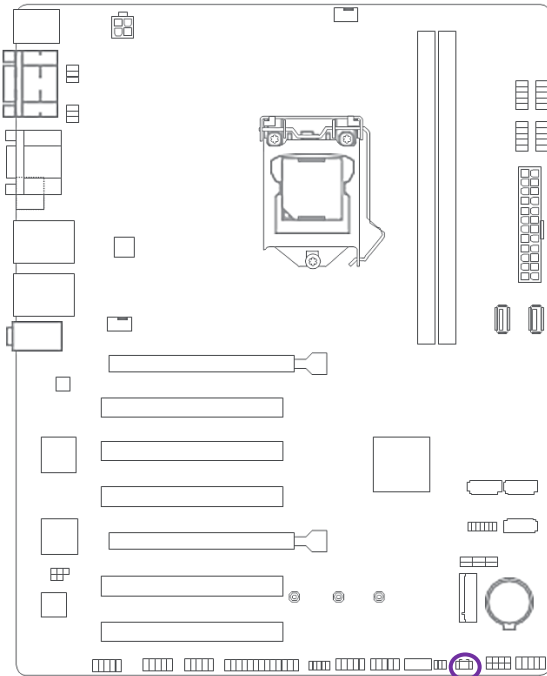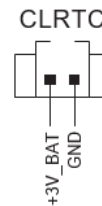| Channel	Sockets
Channel A	U-DIMM_A1*
Channel B	U-DIMM_B1*

4. Jumpers & Connectors

4.1. Jumpers

4.1.1. Clear RTC RAM (2-pin CLRTC)

This header allows you to clear the CMOS RTC RAM data of the system setup information such as date, time, and system passwords.

| Connector type	Header 1x2p, 2.54mm pitch, S/T

To erase the RTC RAM

- Turn OFF the computer and unplug the power cord.
- Use a metal object such as a screwdriver to short the two pins.
- Plug the power cord and turn ON the computer.
- Hold down the **<Del>** key during the boot process and enter BIOS setup to re-enter data.
- If the steps above do not help, remove the onboard battery, and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.

### 4.1.2. COM Ring/+5V/+12V selection jumper (6-pin COM1/2_SEL)
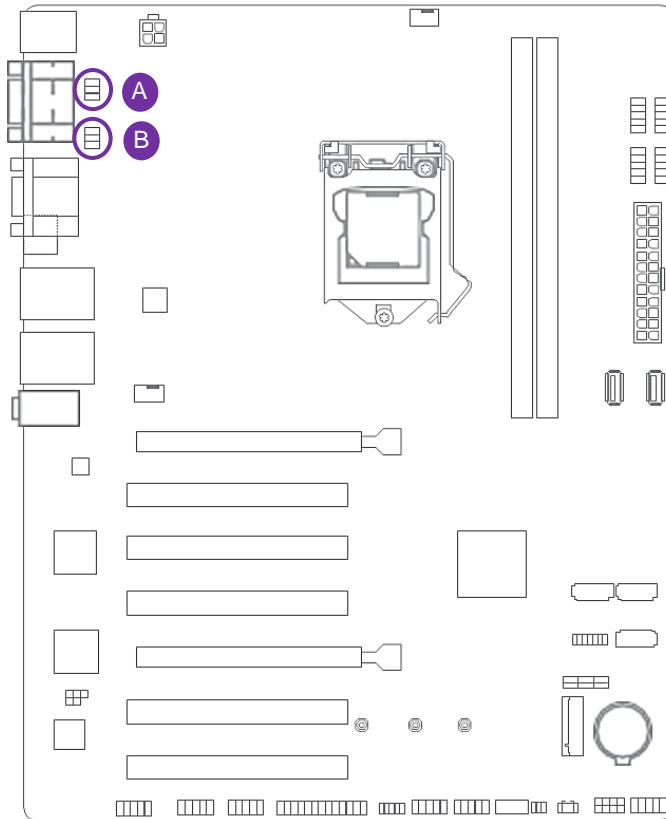
A	B
COM2_SEL	COM1_SEL

+12V   +5V   RI
(Default)
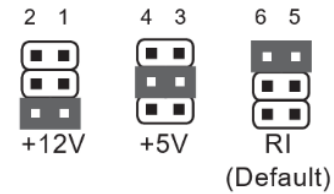
Pins	Setting
1-2	+12V
3-4	+5V
5-6	Ring (Default)

### 4.1.3. Chassis intrusion header (4-1 pin_CHASSIS)

This header is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a low-level signal to this connector when a chassis component is installed. The signal is then generated as a chassis intrusion event.
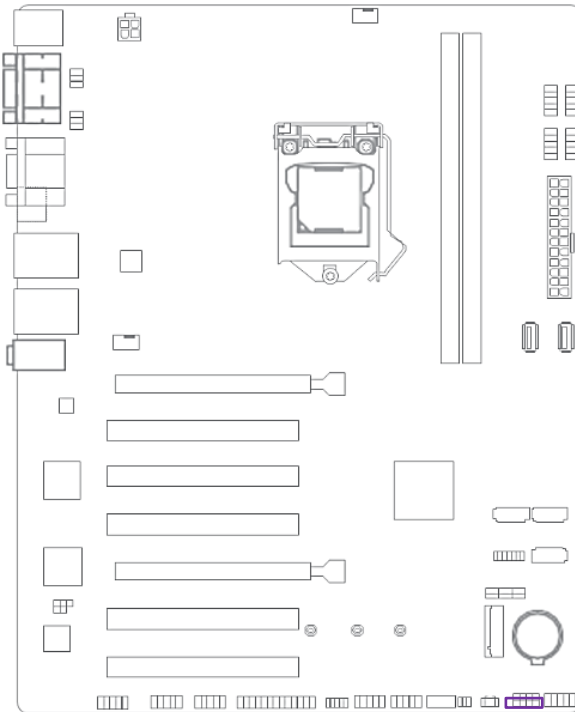
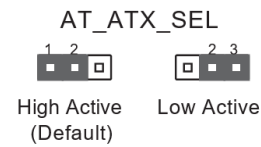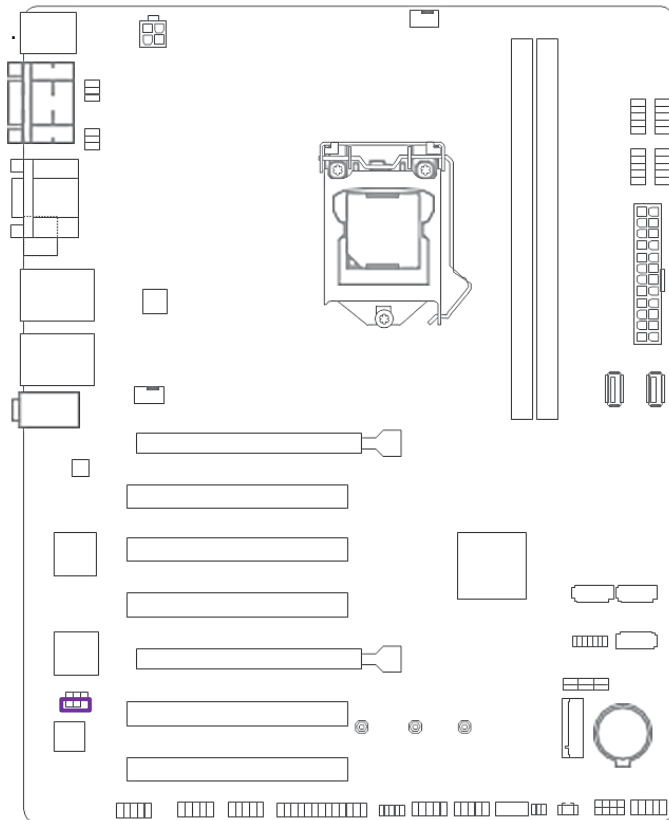| Connector type	Header 4p, K2, 2.54mm pitch

4.1.4. AT/ATX mode selection (3-pin AT_ATX_SEL)
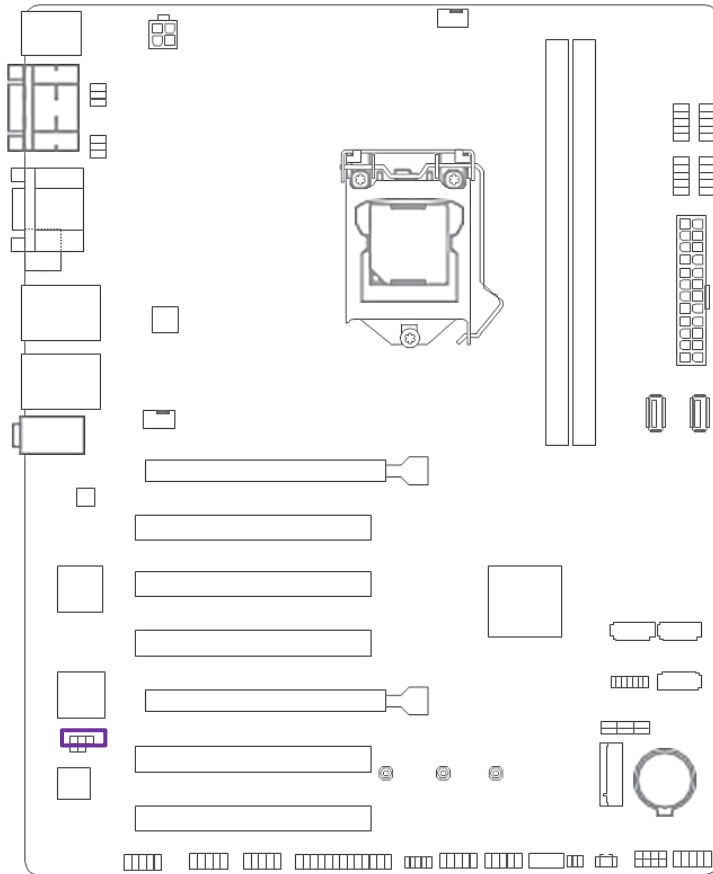
Connector type	Header 1x3p, 2.54mm pitch

Pins	Setting
1-2 (Default)	ATX Mode
2-3	AT Mode

AT_ATX_SEL

High Active   Low Active
(Default)

4.1.5. WDT Enable jumper (2-pin WDT_EN)

A watchdog timer is an electronic timer that is used to detect and recover from computer malfunctions. The HW WDT (watchdog timer) Enable jumper allows the HW watchdog resets the system automatically even when the system crashes.

Connector type	Header 1x2p, 2.54mm pitch, S/T

WDT_EN

4.2.   Rear Panel Connectors

PS/2	This Port is for PS/2 Mouse & keyboards
COM 2 & COM 1	RS232/RS422/RS485 ports connect modems, or other devices that conform serial specification
VGA	This 15-Pin port for VGA monitor or other VGA compatible devices
LAN (RJ45)	These ports allow gigabit connection to Local Area Network through network hub
LAN LEDs	**Activity/ Link LED: Off=**no link**, Orange=**Linked**, orange blink=**data activity**, orange blink then steady=**Ready to wake up from S3 mode
	Speed LED: Off=10Mbps connection**, Orange=**100Mbps connection**, Green=**1Gbps connection
Line In	This port connects to the tape CD/DVD or other audio sources
Line Out	This port connects headphone or speaker. In the 4.1 & 5.1 channels config, the function of this port becomes front speaker out
Mic	This connects to microphone
USB 3.2 Gen 1	These 9-pin USB up to 5Gbps ports are for USB 3.2 gen 1 devices
HDMI	This port is for a High-Definition Multimedia Interface (HDMITM) connector, and is HDCP compliant allowing playback of HD DVD, Blu-ray, and other protected content
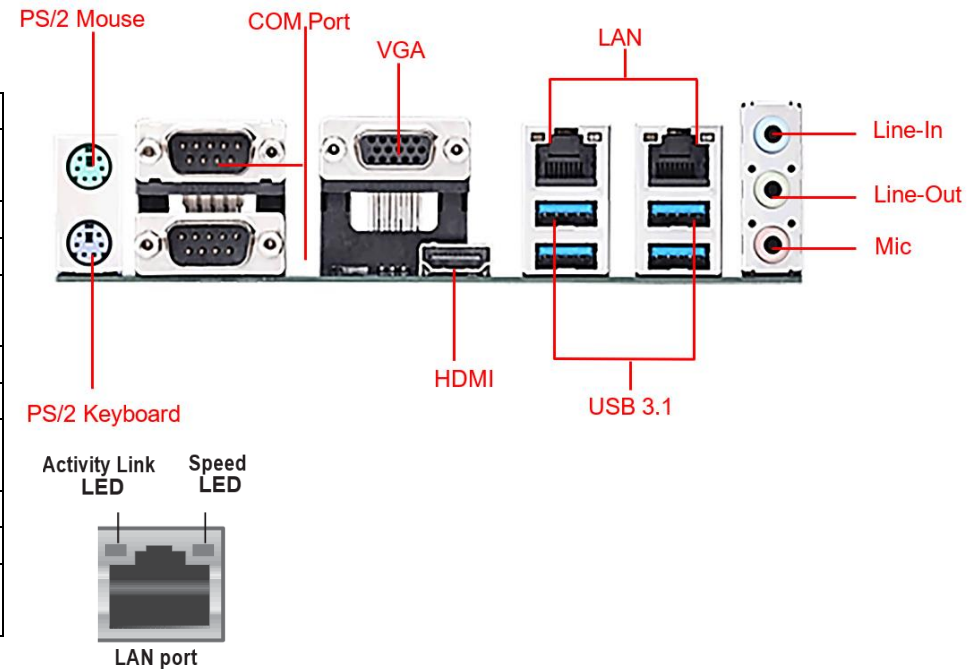
### Audio 2, 4, 5.1 or 7.1-channel configuration

Port	Headset-2 Channel	4-Channel	5.1-Channel	7.1 Channel
Light Blue (Rear panel)	Line In	Rear Speaker Out	Rear Speaker out	Rear Speaker Out
Lime (Rear panel)	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink (Rear panel)	Mic In	Mic-In	Bass/Center	Bass/Center
Lime (Front panel)	-			Side Speaker Out

Note: Use a chassis with HD audio module in the front panel to support a 7.1-channel audio output

4.3.   Internal Connectors

4.3.1.ATX Power Connectors (24-pin EATXPWR, 4-pin ATX12V) :
   Correctly orient the ATX power supply plugs into these connectors and push down
   firmly until the connectors completely fit.

A
ATX 12V

B
EATXPWR
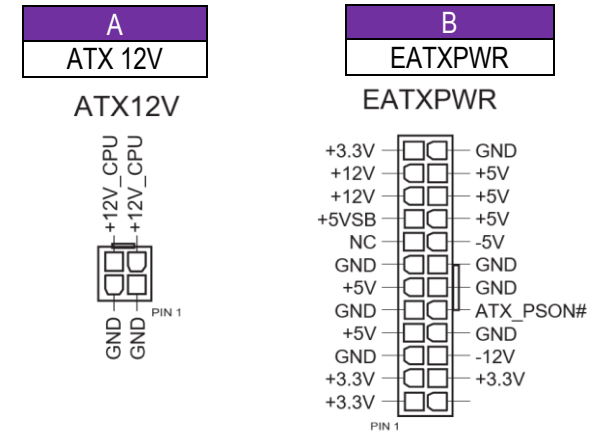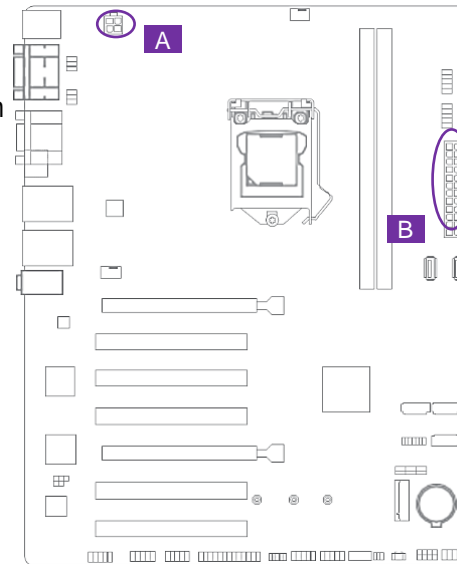
4.3.2.CPU and chassis fan headers (4-pin CPU_FAN, 4-pin CHA_FAN):
   Connect the fan cables to the fan headers on the motherboard, ensuring that the
   black wire of each cable matches the ground pin of the header.
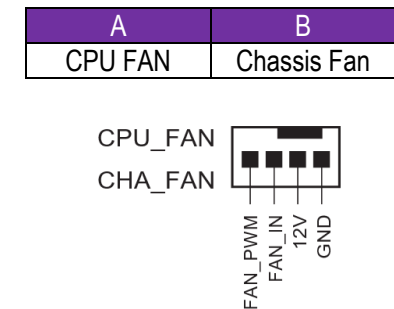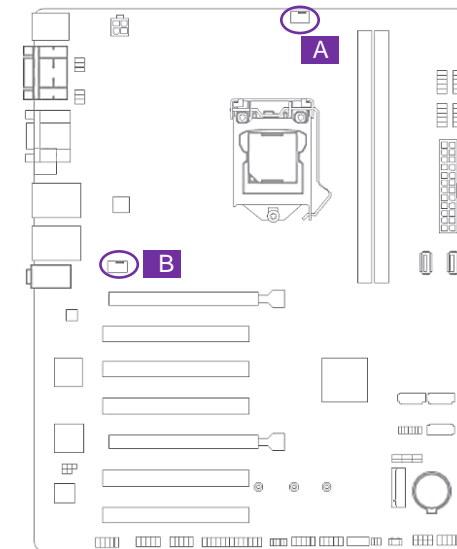
Connector Type	WAFER HD 4p, 2.54mm pitch, S/T

Note: Do not forget to connect the fan cables to the fan headers.
Insufficient air flow inside the system may damage the motherboard components.
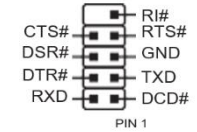These are not jumpers! Do not place jumper caps on the fan headers!

A	B
CPU FAN	Chassis Fan

4.3.3. COM Port headers (10-pin COM3 - COM8)

These headers are for serial (COM) ports. Connect the serial port cables to these headers, then install the module to a slot opening at the back of the system chassis
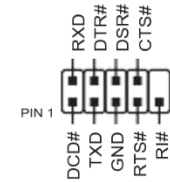
Connector Type	Header 2x5p, K10, 2.54mm pitch
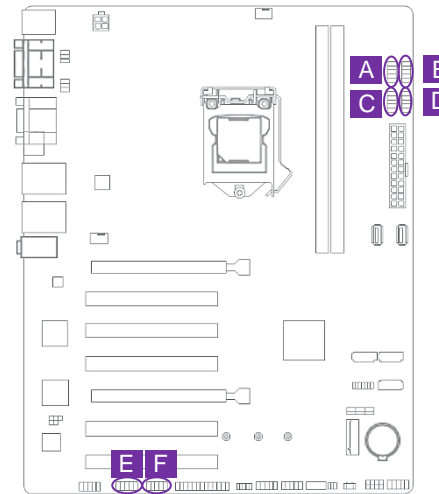
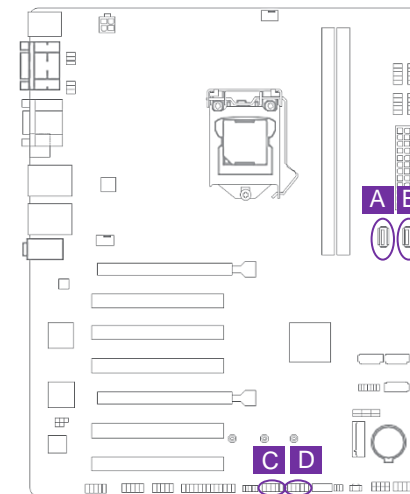| A	COM 5
B	COM 6
C	COM 7
D	COM 8

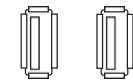| E	COM 3
F	COM 4

4.3.4. USB 2.0 headers/connectors (10-pin USB56, USB78 / USB9, USB10)

These connectors are for USB 2.0 ports. Connect the USB cables to the connectors. The USB connector complies with USB 2.0 specification that supports up to 480 Mbps connection speed.
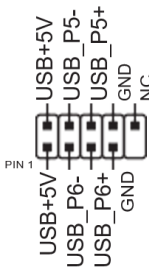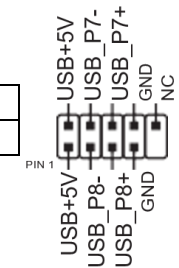
Connector Type	Header 2x5p, K9, 2.54mm pitch

A	USB 9
B	USB 10

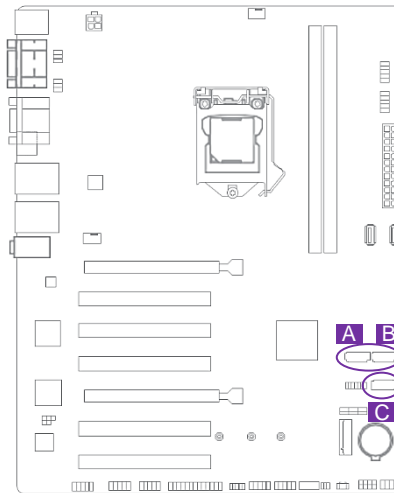| C	USB 7 8
D	USB 5 6

4.3.5. SATA 6.0Gb/s ports (7-pin SATA6G_1/2/3)

These ports connect to SATA 6.0 Gb/s hard disk drives or an optical drive via SATA 6.0 Gb/s signal cables.

A	SATA6G_1
B	SATA6G_2
C	SATA6G_3
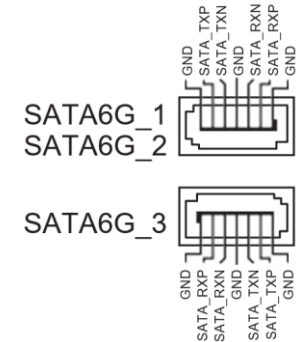
4.3.6. TPM Header (14-1 pin TPM)

This header supports a Trusted Platform Module (TPM) system with a Serial Peripheral Interface (SPI), allowing you to securely store keys, digital certificates, passwords, and data. A TPM system also enhances network security, protects digital identities, and ensures platform integrity.

Connector Type	Header 2x7p, K14, 2.0mm pitch
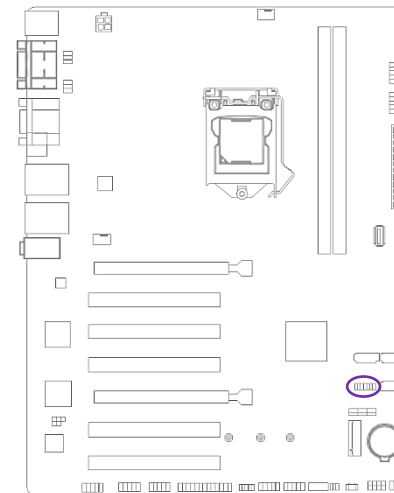
4.3.7. M.2 Slot (Socket 3)

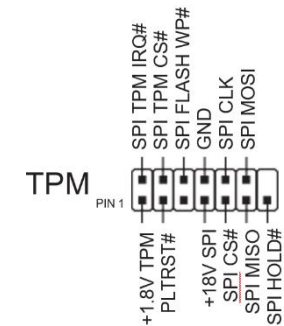This slot allows you to install an M.2 SSD module.
This slot supports M Key and 2242/2260/2280 storage devices
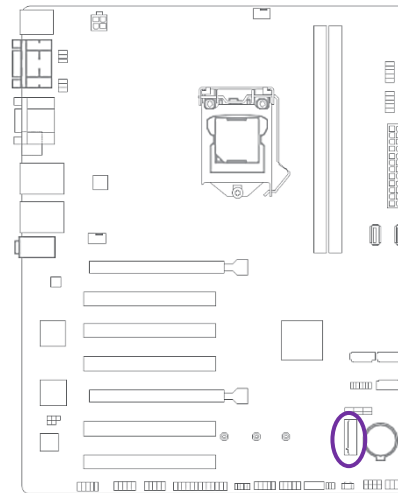
M.2(SOCKET3)
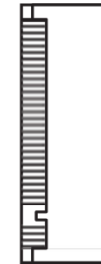
4.3.8. Front panel system panel connector (10-1 pin F_PANEL)

Connector Type	Header 2x5p, K10, 2.54mm pitch

F_PANEL

+PWR_LED   PWR_BTN

PLED+
PLED-
PWRBTN#
GND

PIN 1

HDD_LED+
HDD_LED-
GND
RSTCON#
NC

+HDD_LED   RESET
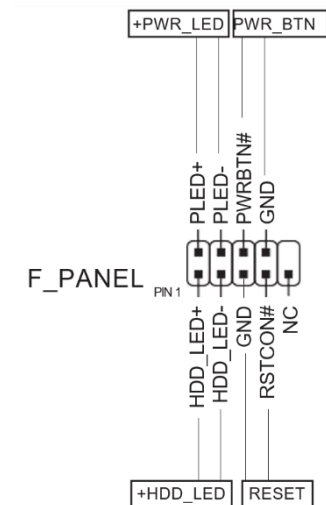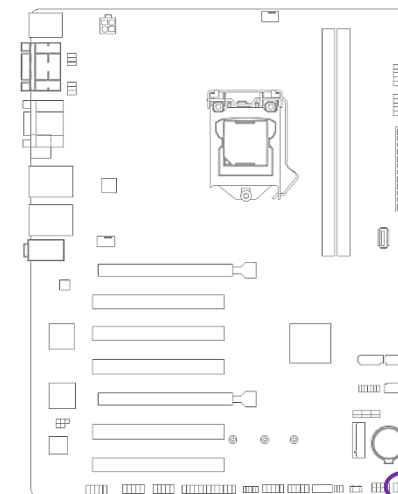
4.3.9. Speaker header (4-pin SPEAKER)

The 4-pin header is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings.

Connector Type	HEADER 1x4p, 2.54mm pitch, S/T
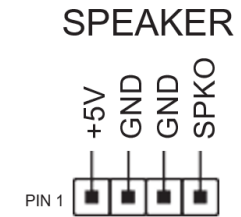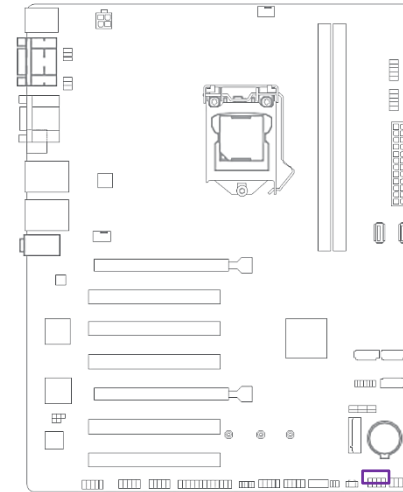
4.3.10.   I2C Header

The I2C (Inter-Integrated Circuit) header allows you to connect an I2C compatible IoT security module

Connector Type	Header 2x3p, K6, 2.0mm pitch
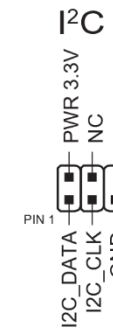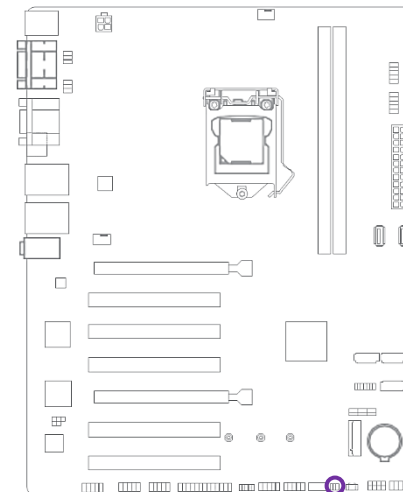
4.3.11.　　General purpose input/output header (GPIO_CON)

This header is for a general-purpose input/output module which allows you to customize the digital signal input/output.

Connector Type	WAFER HD 2x5p, 2.0mm pitch, S/T

GPIO_CON
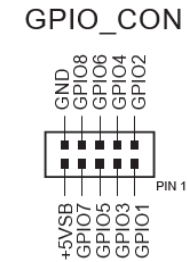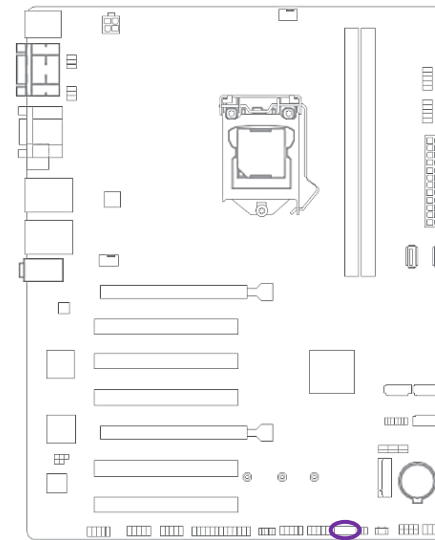
4.3.12.　　LPC Debug header

This header allows connection to a LPC Debug card.

Connector Type	HEADER 2x5p, K10, 2.0mm pitch
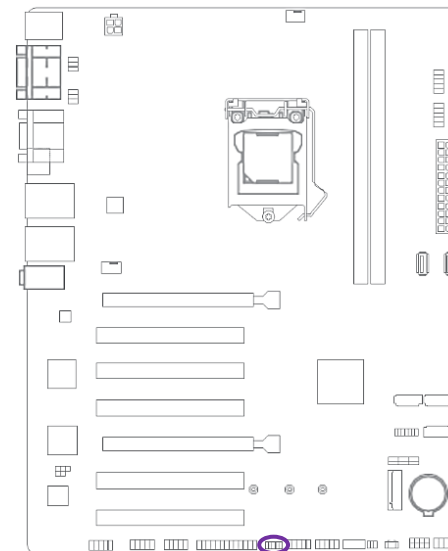
4.3.13. LPT header (26-1 pin LPT) Sd

The LPT (Line Printing Terminal) header supports devices such as a printer. LPT is standardized as IEEE 1284, which is the parallel port interface on IBM PC-compatible computers.
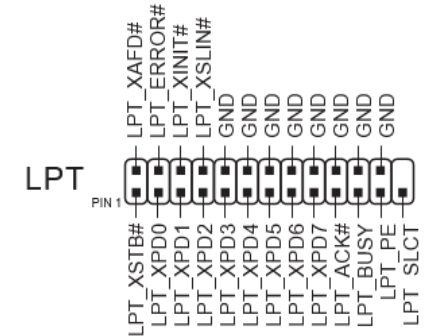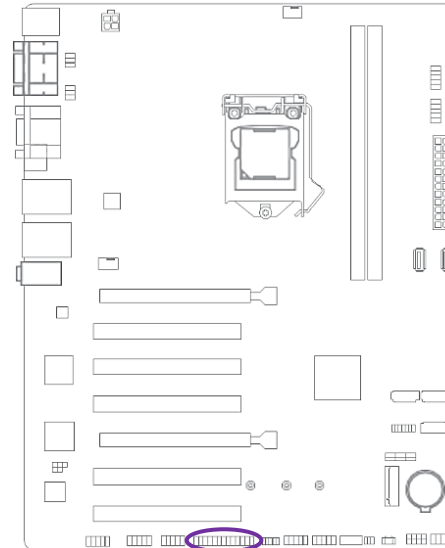
4.3.14. Front Panel Audio header (10-1 pin AAFP)

This header is for a chassis-mounted front panel audio I/O module that supports HD Audio standard. Connect one end of the front panel audio I/O module cable to this header.

We recommend that you connect a high-definition front panel audio module to this header to avail of the motherboard's high-definition audio capability

If you want to connect a high-definition front panel audio module to this header, set the HD Audio Controller item in the BIOS setup to [Enabled]
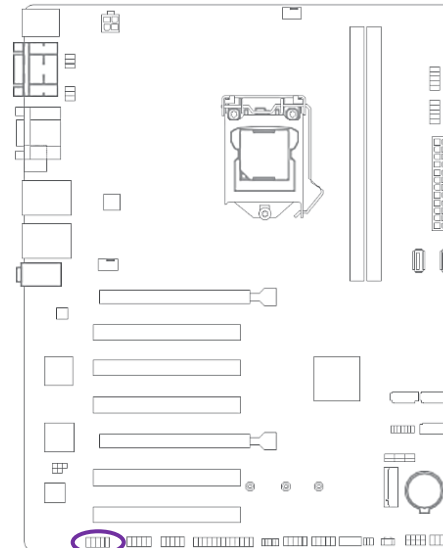
Connector Type	HEADER 2x5p, K8, 2.54mm pitch

5. BIOS
5.1.   BIOS Setup program

Use the BIOS Setup program to update the BIOS or configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program

Press **<Delete>** or **<F2>** during the Power-On Self-Test (POST). If you do not press **<Delete>** or **<F2>**, POST continues with its routines.

If the message disappears before responding and still wish to enter Setup, please restart the system by turning it OFF and On or pressing the RESET button. It can be also restarted by pressing <Ctrl>, <Alt>, and <Delete> keys on keyboard simultaneously.

Note: Using the power button, reset button, or the <Ctrl>+<Alt>+<Del> keys to reboot a running operating system can cause damage to your data or system. Always shut down the system properly from the operating system.

5.2.   Menu bar


```
                    Aptio Setup Utility - Copyright (C) 2022 American Megatrends, Inc.
   Main  Advanced  Hardware Monitor  Security  Boot  Exit

   BIOS Information                                              Set the Date. Use Tab to
   BIOS Vendor                    American Megatrends            switch between Date elements.
   BIOS Version                   1.06.00.Portwell01
   Build Date                     01/20/2022
   MRC Version                    2.0.0.6
   VBIOS Version                  1062
   ME Firmware Version            11.8.77.3664

   System Information
   Project Name                   PIMB-09082
   CPU Brand String               Intel(R) Celeron(R) CPU
                                  G3900TE @ 2.30GHz
   CPU Frequency                  2300 MHz
   Total Memory                   8192 MB                        →←: Select Screen
   Memory Frequency               2133 MHz                       ↑↓: Select Item
   PCH SKU                        H110                           Enter: Select
                                                                 +/-: Change Opt.
   System Date                    [Wed 03/09/2022]               F1: General Help
   System Time                    [22:19:56]                     F2: Previous Values
                                                                 F3: Optimized Defaults
   Access Level                   Administrator                  F4: Save & Exit
                                                                 ESC: Exit


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```

The menu bar on top of the screen has the following main items
Main   For changing the basic system configuration
Advanced   For changing the advanced system settings
Hardware Monitor   For displaying the system temperature and changing the fan settings
Security   For configuring the system security settings
Boot   For changing the system boot configuration.
Exit   For selecting the save options and default options.

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

5.3.   Main Menu

The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings.

System Date [Day MM/DD/YYYY] : Allows you to set the system date

System Time [HH:MM:SS] : Allows you to set the system time

5.4.   Advanced Menu
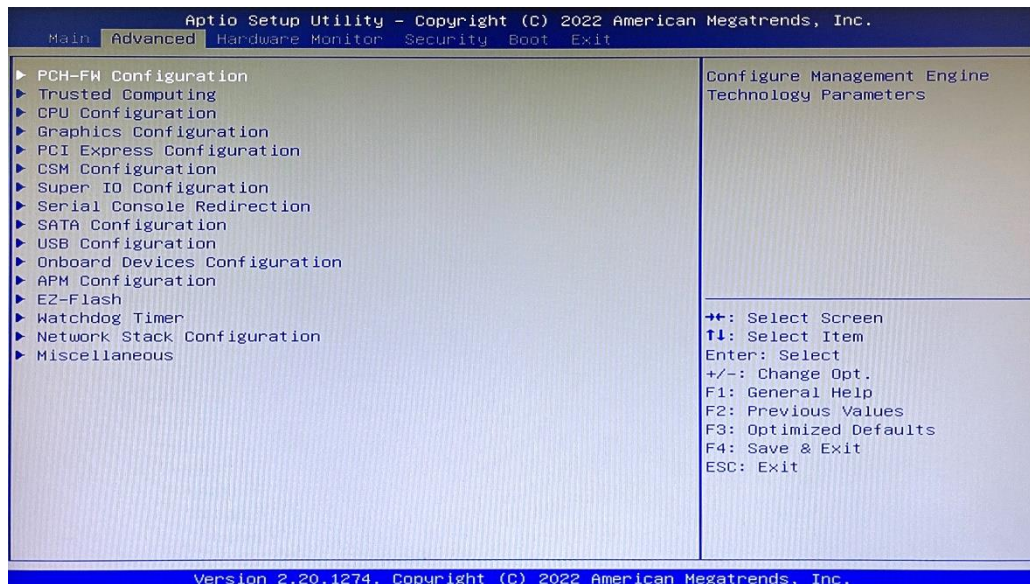
The Advanced menu items allow you to change the settings for the CPU and other system devices.

Note: Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

5.4.1. PCH-FW Configuration

TPM Device Selection: This item allows you to select the TPM device. Configuration options: [dTPM] [PTT]
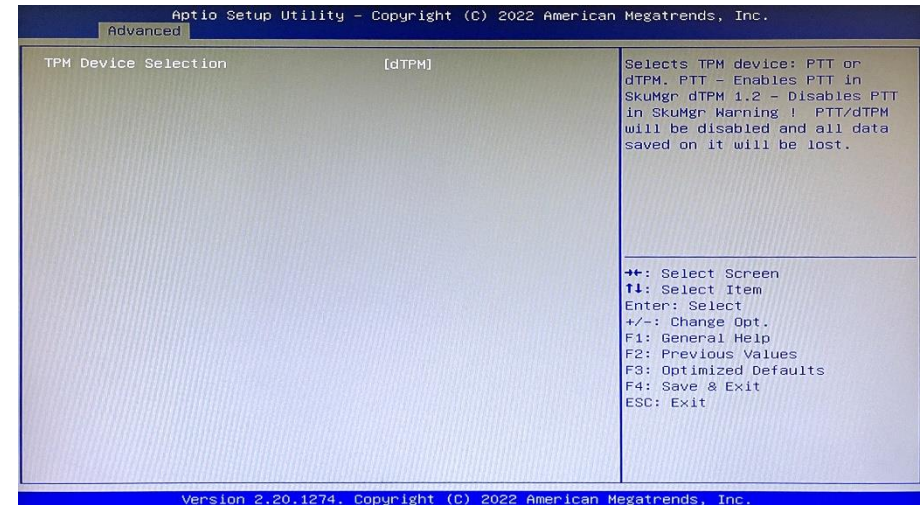
5.4.2. Trusted Computing

Security Device Support: This item allows you to enable or disable BIOS support for security devices. Configuration options: [Disabled] [Enabled]

5.4.3. CPU Configuration

The items in this menu show CPU-related information the BIOS automatically detects.

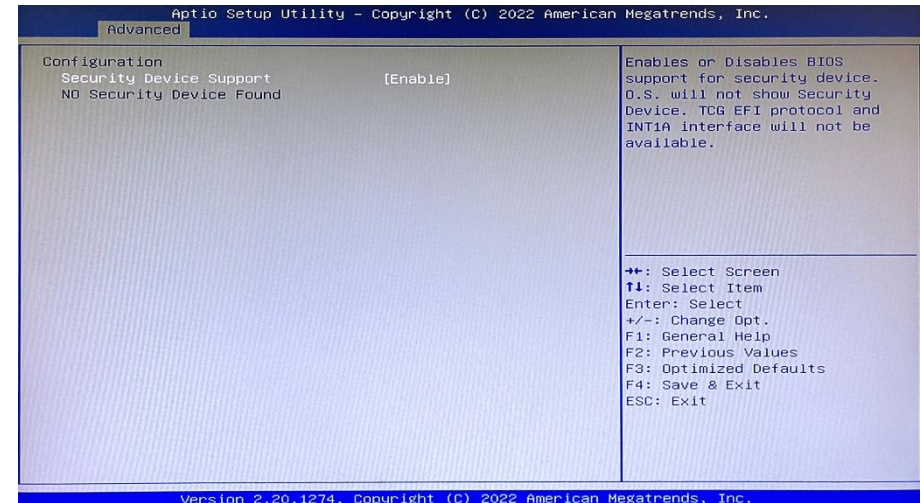Note: The items shown in the submenu may be different depending on the type of CPU installed

Intel (VMX) Virtualization Technology: Enabled: a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Intel Trusted Execution Technology: Enabled: allows you to enable the utilization of additional hardware capabilities provided by Intel® Trusted Execution Technology and requires a full power cycle

Hyper-Threading: The Intel Hyper-Threading Technology allows a hyper-threading processor to appear as two logical processors to the operating system, allowing the operating system to schedule two threads or processes simultaneously.
Enable: Two threads per activated core are enabled
Disabled: Only one thread per activated core is enabled

VT-d [Disabled]: Allows you to enable or disable VT-d function on MCH

CPU Power Management Control : This item allows you to manage and configure the CPU's power.
- **Intel(R) SpeedStep(tm)**: This item allows your system to support more than two frequency ranges.
- **Intel(R) Speed Shift Technology:** This item allows you to enable or disable Intel(R) Speed Shift Technology support. When enabled, CPPC v2 interface allows hardware controlled P-state.
- **Turbo Mode**: This item allows you to enable or disable Turbo Mode for your processor.
- **CPU C states:** Enables/Disables CPU C States
- **Enhanced C-states:** Enables / Disables enhanced C1 state
- **Package C State Limit**: Allows you to disable or enable the whole C-State package support. options: [C0/C1] [C2] [C3] [C6] [C7] [C7s] [C8] [Cpu Default] [Auto]
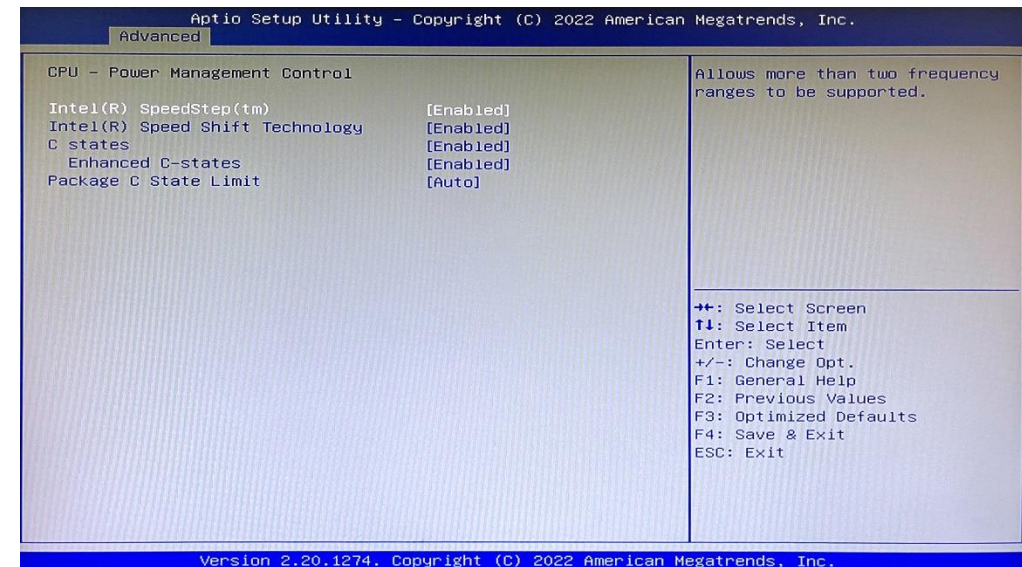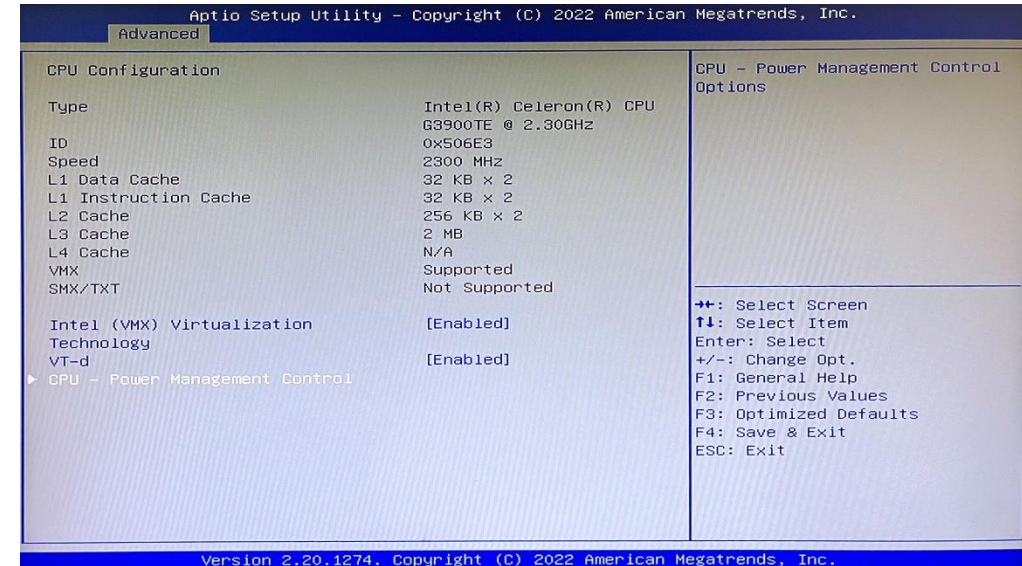
5.4.4. Graphics Configuration

Allows You To Select A Primary Display From Igfx, Peg And Pci Graphical Devices.

- **Primary Display**: Allows You To Select Which Of The Igfx/Peg/Pci Graphics Device Should Be The Primary Display. Options: [Auto] [Igfx] [Peg] [Pci]

- **Internal Graphics:**
    - [Auto]   : Keep Igfx Enabled Base On The Setup Options.
    - [Disabled]   : Disables Internal Graphics.
    - [Enabled]   : Enables Internal Graphics.
- **Rc6 (Render Standby):** Allows You To Enable Or Disable Render Standby Support. Options: [Disabled] [Enabled]
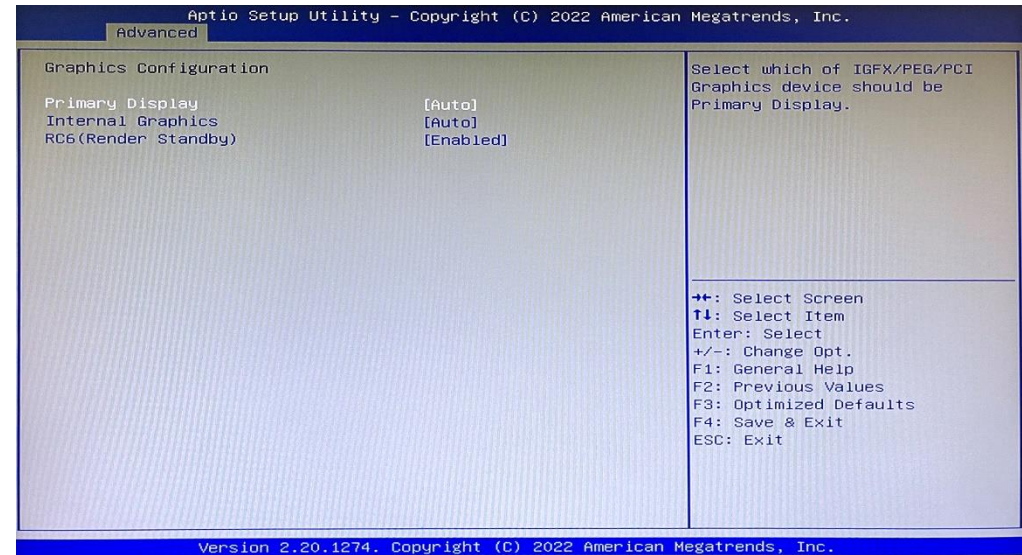
5.4.5. PCI Express Configuration

Allows You To Select A Peg Or Pci Graphical Device

- **Pcie X16_2 Slot:** This Item Allows You To Enable Or Disable The Pcie X16_2 Slot

- **Pcie X16_1 Slot**
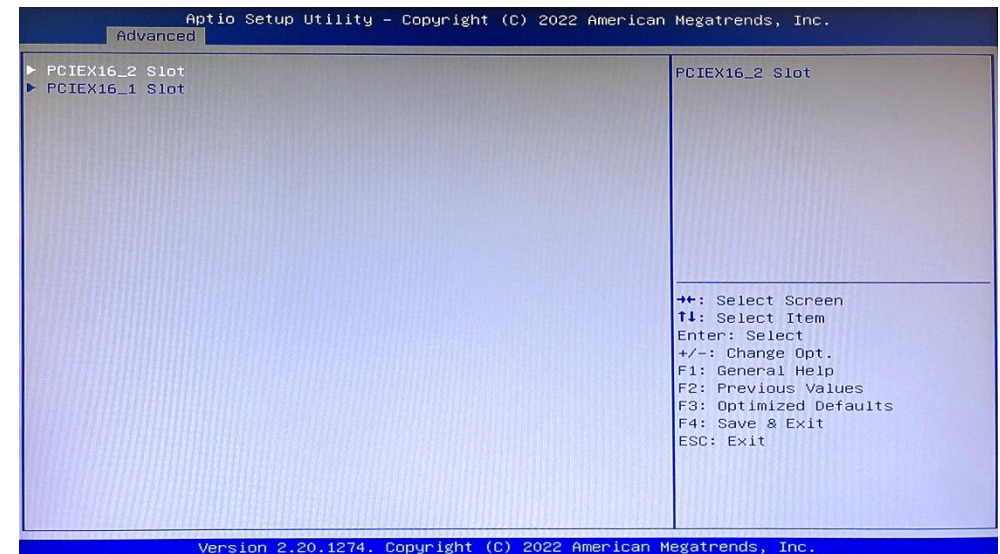
Pcie X16_2 Slot: This Item Allows You To Enable Or Disable The Pcie X16_2 Slot

o **Aspm**: This Item Allows You To Control The Active State Power Management On Both Nb (North Bridge) Side And Sb (South Bridge) Side Of The Dmi Link. Options: [Disabled] [Enabled]

o **L1 Substates:** This Item Allows You To Select The Pci Express L1 Substates Settings. Options: [Disabled] [L1.1] [L1.1 & L1.2]

o **Pcie Speed**: Configures The Speed Of Pcie X16_2 Slot. Options: [Auto] [Gen1] [Gen2]

o **Detect Timeout:** Allows You To Set The Time (Milliseconds) Of Waiting For Link To Exit Detect State For Enabled Ports Before Assuming There Is No Device And Potentially Disabling The Port. Use The <+> And <-> Keys To Adjust The Value Or Input The Desired Value.

o **Hot Plug:** These Items Allow You To Enable/Disable Pciex16_2 Slot Hot Plug Support. Options: [Disabled] [Enabled]

o **Detect Non-Compliance Device:** Allows You To Enable Or Disable The Detection Function Of Non-Compliance Pci Express Device. Options: [Disabled] [Enabled]
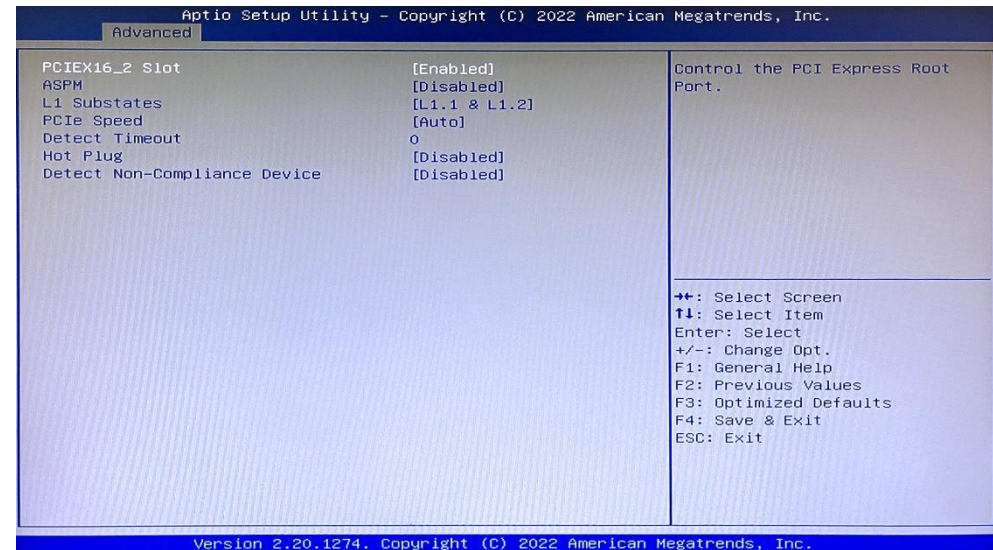
Pcie X16_1 Slot:

o **Enable Root Port:** Enables Or Disables The Root Port. Options: [Disabled] [Enabled] [Auto]

o **Max Link Speed**: Allows You To Configure Peg 0:1:0. Options: [Auto] [Gen1] [Gen2] [Gen 3]

o **Max Link Width**: Allows You To Force The Peg Link To X1, X2, X4 Or X8.

o **Aspm:** This Item Allows You To Control The Aspm (Active State Power Management) For Peg 0. It Does Not Work If Peg Is Not The Current Active Device. Options: [Disabled] [Auto] [Aspm L0s] [Aspm L1] [Aspm L0sl1]

o **Detect Non-Compliance Device**: Allows You To Enable Or Disable The Detection Function Of Non-Compliance Pci Express Device. Options: [Disabled] [Enabled]
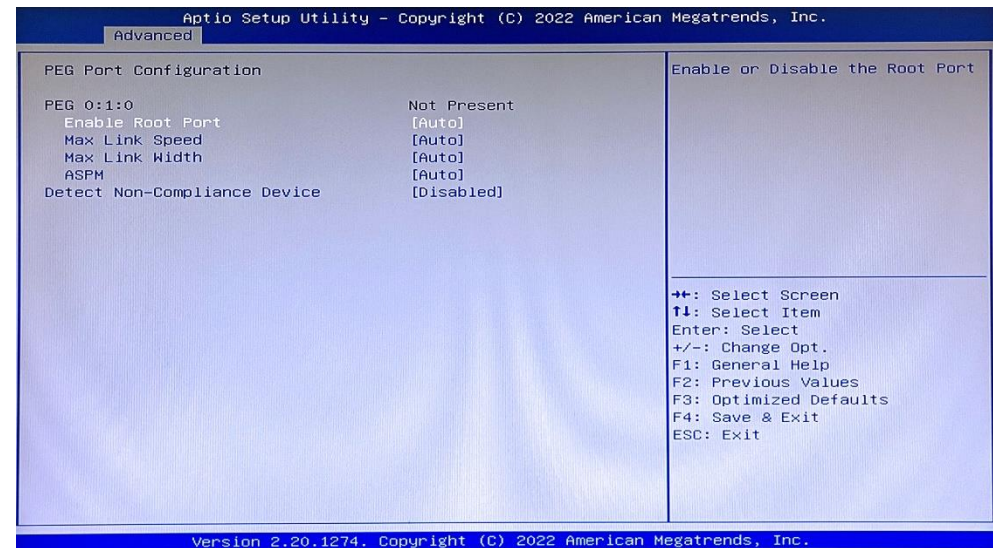
5.4.6. CSM Configuration: Compatibility Support Module Configuration

- **CSM Support:** Allow you to enable/disable the CSM support.

- **Network:** Controls the execution of UEFI and Legacy PXE OpROM. options: [Do not launch] [UEFI] [Legacy]

- **Storage:** Controls the execution of UEFI and Legacy Storage OpROM. options: [Do not launch] [UEFI] [Legacy]

- **Video:** Controls the execution of UEFI and Legacy Video OpROM. options: [Do not launch] [UEFI] [Legacy]

- **Other PCI devices:** Determines OpROM execution policy for devices other than Network, Storage, or Video. options: [Do not launch] [UEFI] [Legacy]
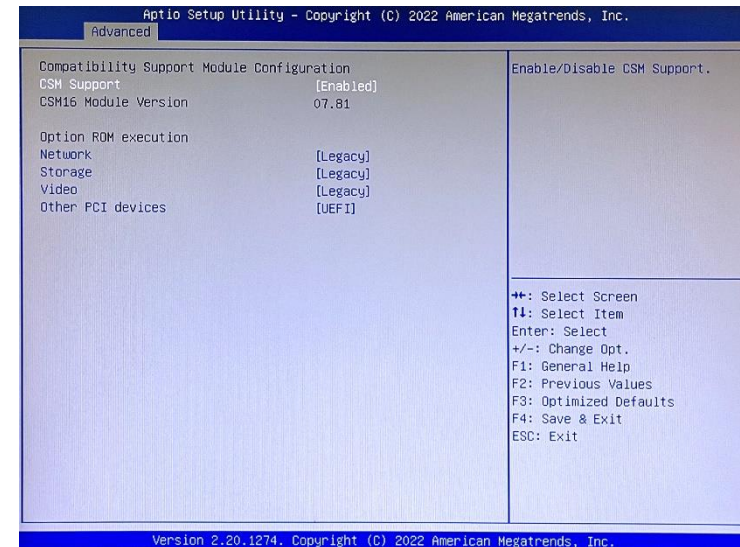
5.4.7. Super IO Configuration

- **NCT6116D Super IO Configuration**
  - **Serial Port 1 Configuration:** Allows you to enable or disable the serial port (COM).
  - **Serial Port 2 Configuration**: Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled].
  - **Serial Port 3 Configuration**: Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]
  - **Serial Port 4 Configuration**: Allows you to enable or disable the serial port (COM). Configuration options: [Disabled] [Enabled]
  - **Parallel Port Configuration**

- **NCT5104DSEC Super IO Configuration**
  - Serial Port 5/6/7/8 Configuration
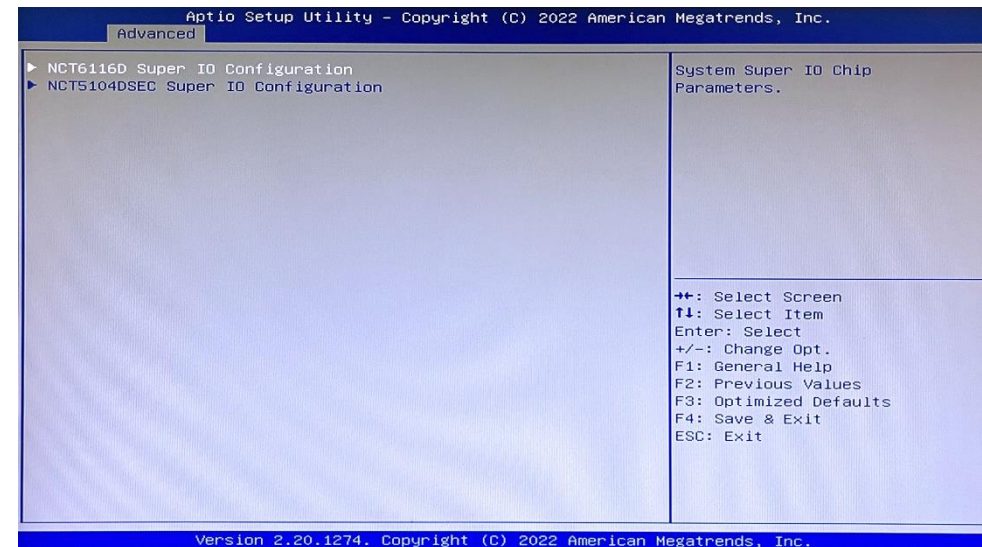
Nct6116d Super Io Configuration

- **Serial Port 1 Configuration:**

  o **Com1 Control:** Allows You To Select The Com1 Mode. Configuration Options: [Rs232] [Rs422] [Rs485]

- **Serial Port 2 Configuration**

  o **Com2 Control:** Allows You To Select The Com2 Mode. Configuration Options: [Rs232] [Rs422] [Rs485]

- **Serial Port 3 Configuration**

  o **Serial Port:** Allows You To Enable Or Disable The Serial Port (Com). Configuration Options: [Disabled] [Enabled]

- **Serial Port 4 Configuration**

  o **Serial Port:** Allows You To Enable Or Disable The Serial Port (Com). Configuration Options: [Disabled] [Enabled]
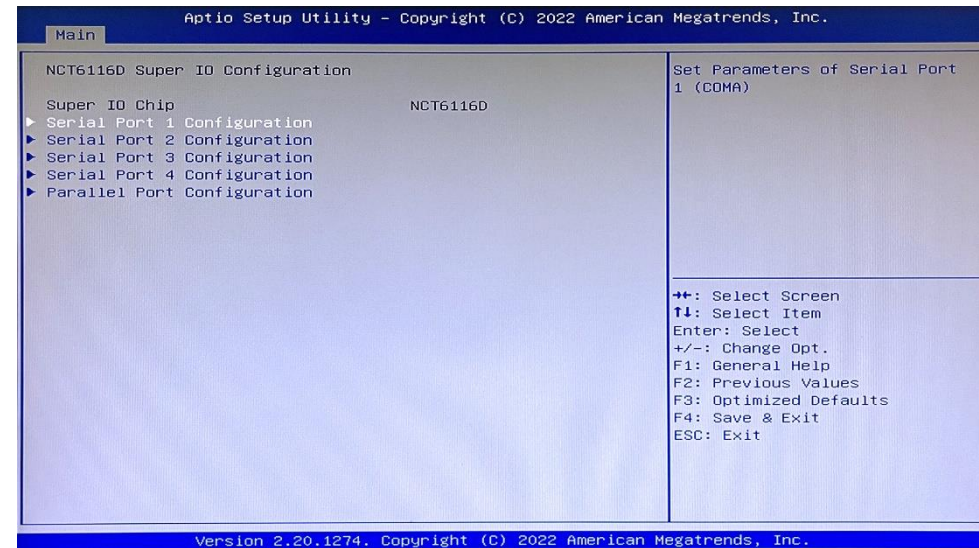
Nct5104dsec Super Io Configuration

- **Serial Port 5/6/7/8 Configuration**

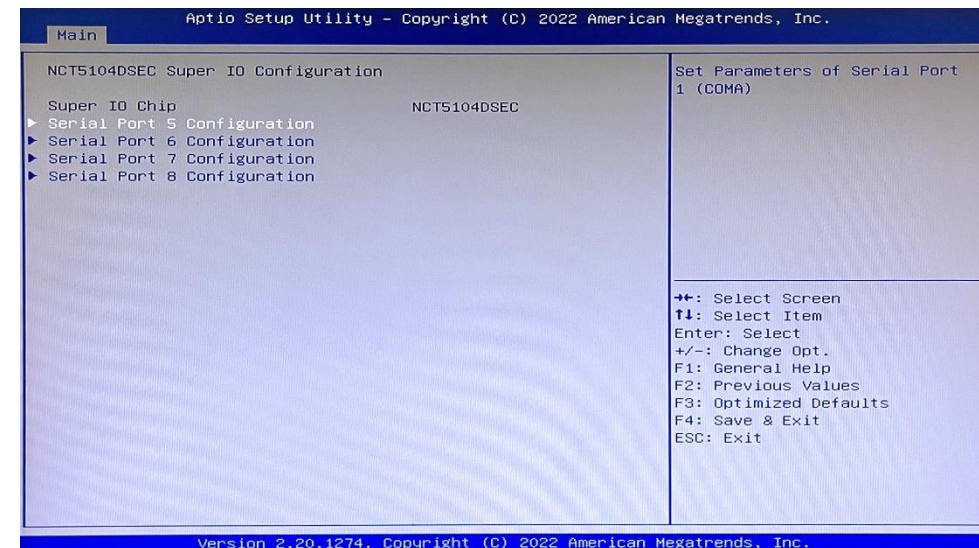 o **Serial Port:** Allows You To Enable Or Disable The Serial Port (Com). Configuration Options: [Disabled] [Enabled]

5.4.8. Serial Console Configuration

Com1~Com8

- **Console Redirection:** Allows You Enable Or Disable The Console Redirection Feature. Configuration Options: [Enabled] [Disabled]
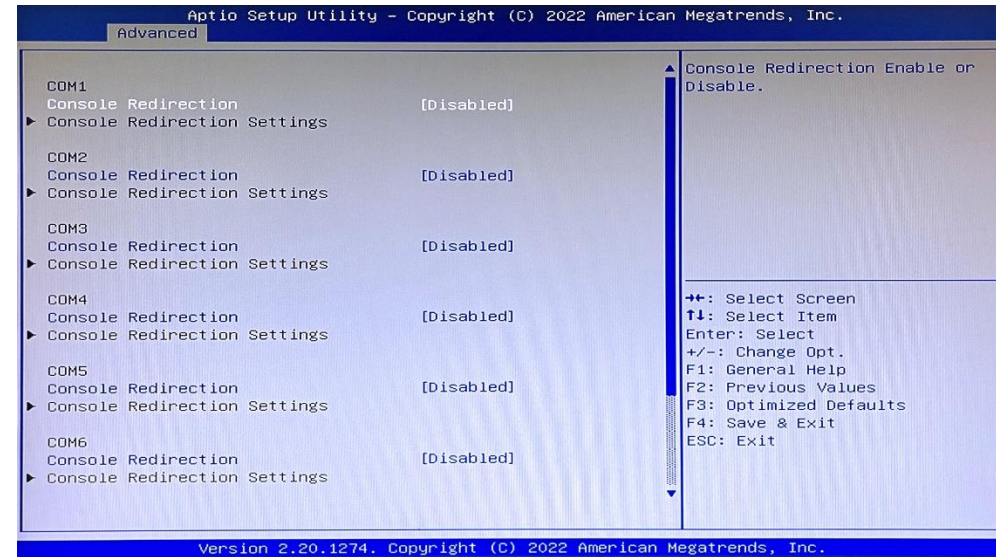
5.4.9. SATA Configuration

Sata6g_1/2/3: Allow You To Enable/Disable The Sata6g_1/2/3 Port. Configuration Options: [Disabled] [Enabled]

Hot Plug: These Items Allow You To Enable/Disable Sata Hot Plug Support. Configuration Options: [Disabled] [Enabled]

M.2: Allow You To Enable/Disable The M.2 (Socket3). Configuration Options: [Disabled] [Enabled]

5.4.10.   USB Configuration

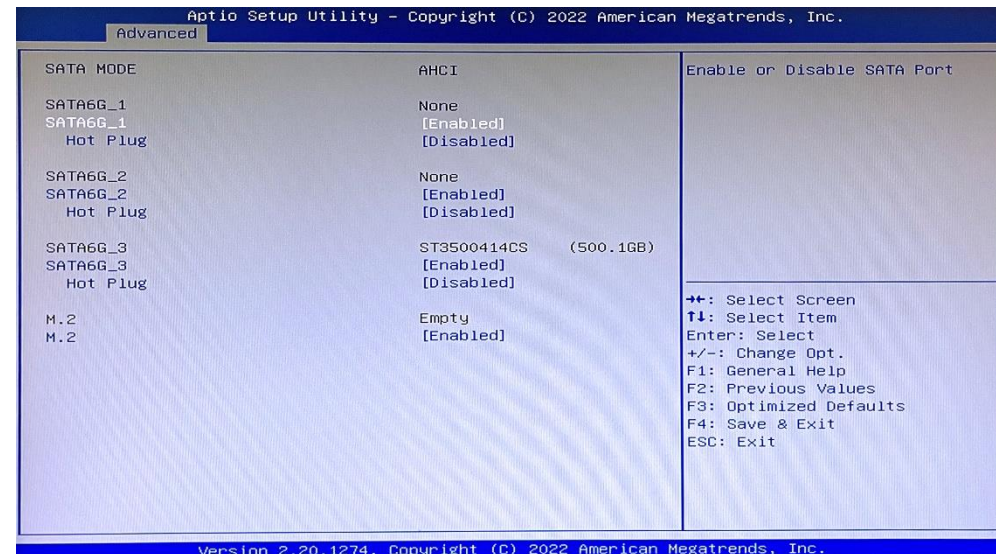**Lan1_U32g1_1/2, Lan2_U32g1_3/4:** Allows You To Enable Or Disable Usb Port. Once Set To [Disabled], Any Usb Devices Plugged Into The Connector Will Not Be Detected By Bios Or Os. Configuration Options: [Disabled] [Enabled]

Usb5-10: Allows You To Enable Or Disable Usb Port. Once Set To [Disabled], Any Usb Devices Plugged Into The Connector Will Not Be Detected By Bios Or Os. Configuration Options: [Disabled] [Enabled]

5.4.11.   Onboard Devices Configuration

I2c1 Controller: This Item Allows You To Enable Or Disable The Serial Io Controller. Configuration Options: [Enabled] [Disabled]

Audio Controller: [**Enabled**]: Enables The Hd Audio Device. [**Disabled**]: Disables The Hd Audio Device.

Intel Lan1 Controller: [**Enabled**]: Enables The Intel Lan1 Controller. [**Disabled**]: Disables The Controller

Intel Lan Pxe Oprom: This Item Allows You To Enable Or Disable The Pxe Option Rom Of The Intel Lan1 Controller. Configuration Options: [Disabled] [Enabled]

Intel Lan2 Controller: [Enabled]   Enables The Intel Lan2 Controller. [Disabled]Disables The Controller.

Intel Lan2 Pxe Oprom: This Item Allows You To Enable Or Disable The Pxe Option Rom Of The Intel Lan2 Controller. Configuration Options: [Disabled] [Enabled]
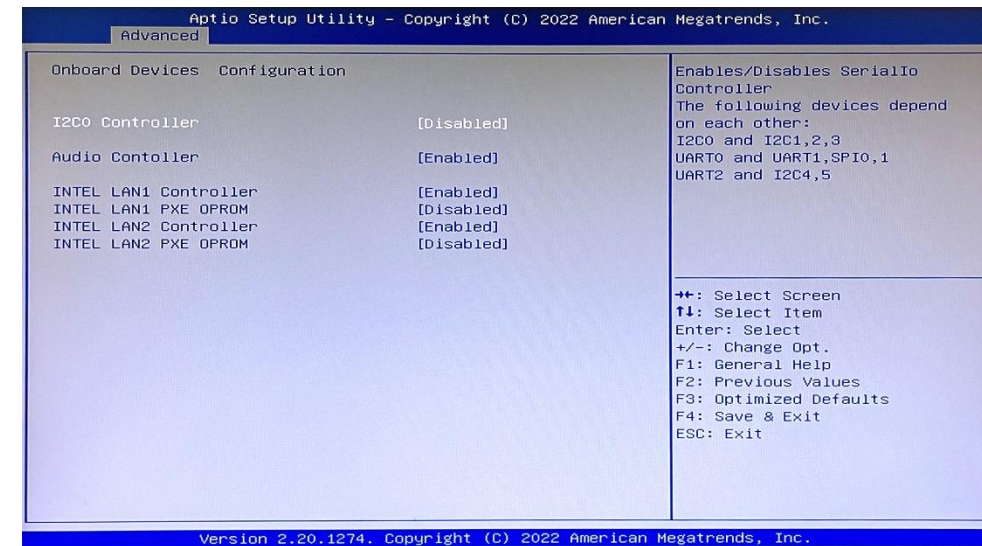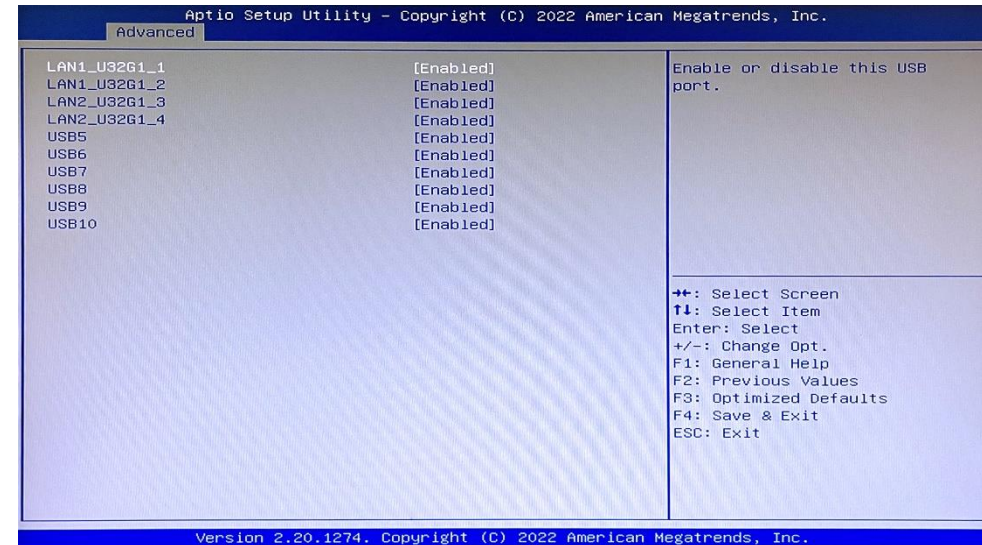
5.4.12.   APM Configuration

Erp Ready: Allows You To Switch Off Some Power At S5 To Get The System Ready For Erp Requirement. When Set To [Enabled], All Other Pme Options Will Be Switched Off. Configuration Options: [Disabled] [Enabled]

Restore Ac Power Loss:

[S5 State]   The System Goes Into Off State After An Ac Power Loss.

[S0 State]   The System Goes Into On State After An Ac Power Loss.

Power On By Pci-E: This Item Allows You To Enable Or Disable The Wake-On-Lan Function Of The Onboard Lan Controller Or Other Installed Pcie Lan Cards. Configuration Options: [Disabled] [Enabled]
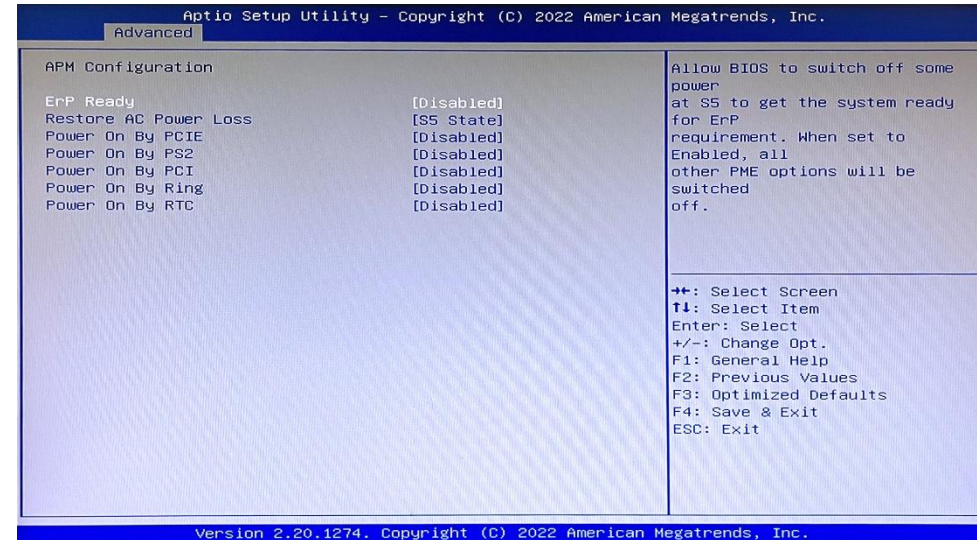

Power On By Pci: This Item Allows You To Enable Or Disable The Wake-On-Lan Function Of The Onboard Lan Controller Or Other Installed Pci Lan Cards. Configuration Options: [Disabled] [Enabled]

Power On By Ring:

[Enabled]   Enables The Ring Devices To Generate A Wake Event.

[Disabled]   Disables The Ring Devices To Generate A Wake Event.

5.4.13.   EzFlash

Enter Ez-Flash Mode: This Item Allows You To Run Ezflash Utility. When You Press <Enter>, A Confirmation Message Appears. Use The Left/Right Arrow Key To Select Between [Yes] Or [No], Then Press <Enter> To Confirm Your Choice.
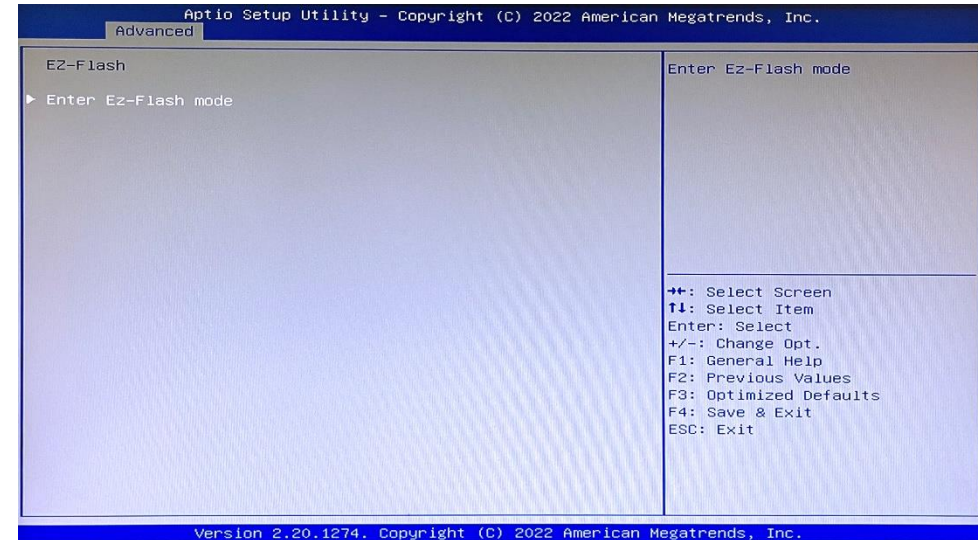
5.4.14.   Watchdog Timer

Watchdog Support: This Item Allows You To Enable Or Disable Watchdog Timer. Configuration Options: [Enabled] [Disabled]

Watchdog Timer: Use The <+> And <-> Keys To Adjust The Value Or Input The Desired Value Directly. The Value Ranges From 1 To 255.
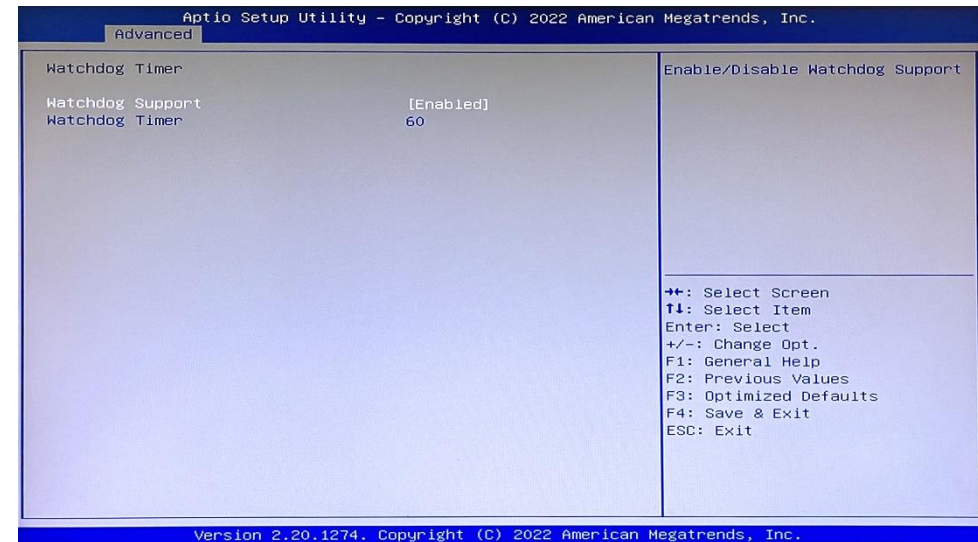
5.4.15.   Network Stack Configuration

Network Stack: This Item Allows User To Disable Or Enable The Uefi Network Stack.
Configuration Options: [Disabled] [Enabled]

Ipv4 Pxe Support: This Item Allows User To Disable Or Enable The Ipv4 Pxe Boot Support.
Configuration Options: [Disabled] [Enabled]

Ipv6 Pxe Support: This Item Allows User To Disable Or Enable The Ipv6 Pxe Boot Support.
Configuration Options: [Disabled] [Enabled]
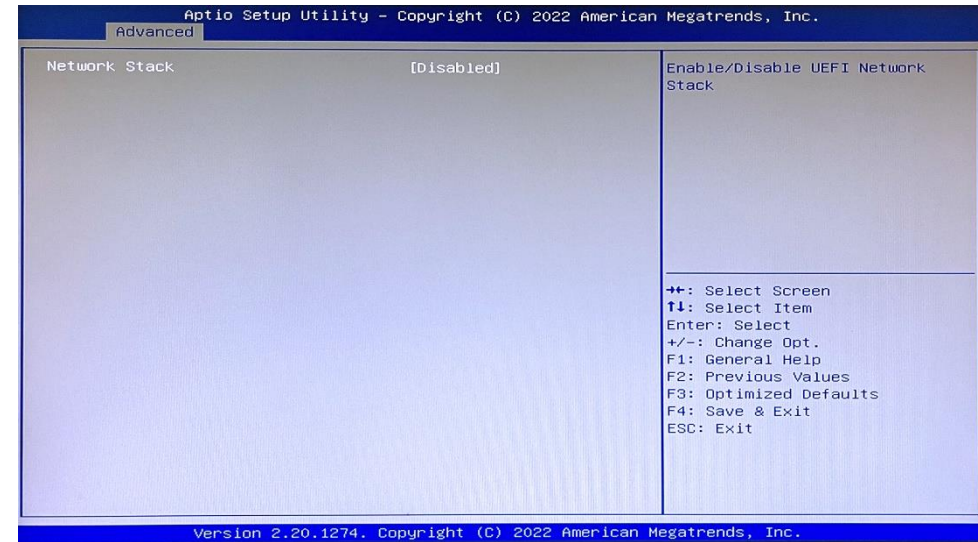
5.4.16.   Miscellaneous

Dmi/Opi Configuration

Dmi Link Aspm Control: This Item Allows You To Control The Active State Power Management
On Sa Side Of The Dmi Link. Configuration Options: [Disabled][L1]

Pci Express Configuration

Dmi Link Aspm Control: This Item Allows You To Control The Active State Power Management
Of The Dmi Link. Configuration Options: [Disabled] [Enabled]

Ipv6 Pxe Support: This Item Allows User To Disable Or Enable The Ipv6 Pxe Boot Support.
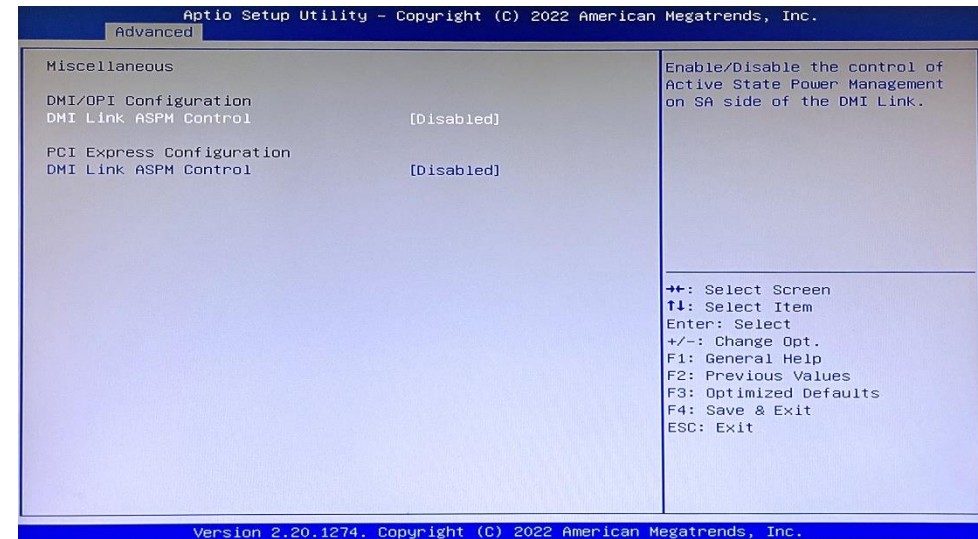Configuration Options: [Disabled] [Enabled]

5.5.   Hardware Monitor menu

The Items In This Menu Provide You An Overview Of System Status Including Temperature, Fan Speed And Voltage, And Allow You To Configure The Smart Fan.

Smart Fan Mode: Allows You To Select The Smart Fan Mode. Configuration Options: [Disabled] [Normal] [Manual Mode]

Smart Fan Function
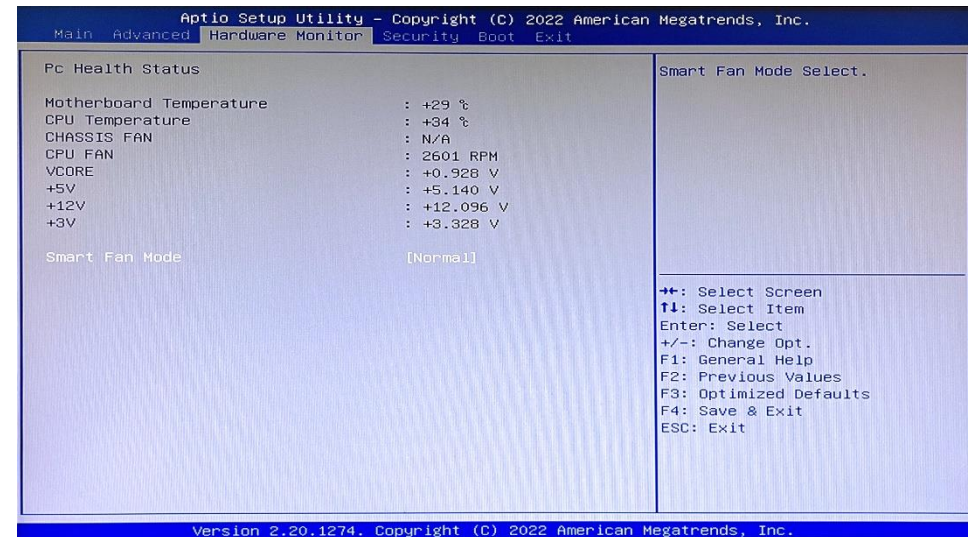
Chassis Fan Setting: Temperature 1/2/3/4: Input Value Range: [0~255]

Fd/Rpm 1/2/3/4: Input Value Range: [0~255]

Cpu Fan Setting

Temperature 1/2/3/4: Input Value Range: [0~255]

Fd/Rpm 1/2/3/4: Input Value Range: [0~255]

5.6.   Security menu

This Menu Allows A New Password To Be Created Or A Current Password To Be Changed. The Menu Also Enables Or Disables The Secure Boot State And Lets The User Configure The System Mode State.

Administrator Password: If You Have Set An Administrator Password, We Recommend That You Enter The Administrator Password For Accessing The System.

To Set An Administrator Password:
1.   Select The Administrator Password Item And Press <Enter>.
2.   From The Create New Password Box, Key In A Password, Then Press <Enter>.
3.   Confirm The Password When Prompted.
4.
To Change An Administrator Password:
1.   Select The Administrator Password Item And Press <Enter>.
2.   From The Enter Current Password Box, Key In The Current Password, Then Press<Enter>.
3.   From The Create New Password Box, Key In A New Password, Then Press <Enter>.
4.   Confirm The Password When Prompted

User Password: If You Have Set A User Password, You Must Enter The User Password For Accessing The System. The User Password Item On Top Of The Screen Shows The Default Not Installed. After You Set A Password, This Item Shows Installed.

To Set A User Password:
1.   Select The User Password Item And Press <Enter>.
2.   From The Create New Password Box, Key In A Password, Then Press <Enter>.
3.   Confirm The Password When Prompted.

To Change A User Password:
1.   Select The User Password Item And Press <Enter>.
2.   From The Enter Current Password Box, Key In The Current Password, Then Press<Enter>.
3.   From The Create New Password Box, Key In A New Password, Then Press <Enter>.
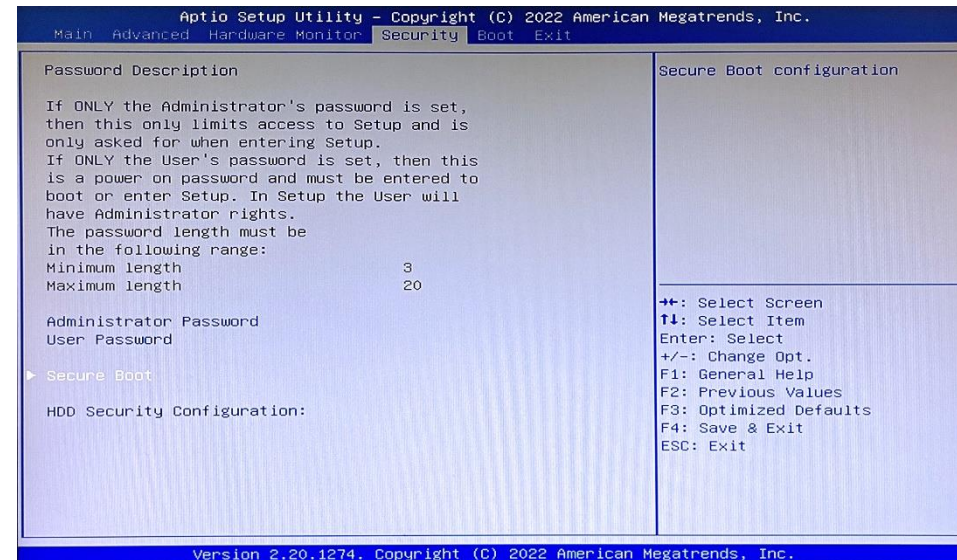4.   Confirm The Password When Prompted.

To Clear A User Password:

1. Select The Clear User Password Item And Press <Enter>.

2. Select Yes From The Warning Message Window Then Press <Enter>.

Secure Boot

Secure Boot: Secure Boot Can Be Enabled If The System Is Running In User Mode With Enrolled Platform Key (Epk) Or If The Csm Function Is Disabled. Configuration Options: [Disabled] [Enabled]

Secure Boot Mode: In Custom Mode, Secure Boot Policy Variables Can Be Configured By A Physically Present User Without Full Authentication. Configuration Options: [Standard] [Custom]

Key Management: The Key Management Item Allows You To Modify Secure Boot Variables And Set Key Management Page

Platform Key (Pk) / Key Exchange Keys / Authorized Signatures / Forbidden Signatures

Configuration Options: [Details] [Export] [Update] [Delete]
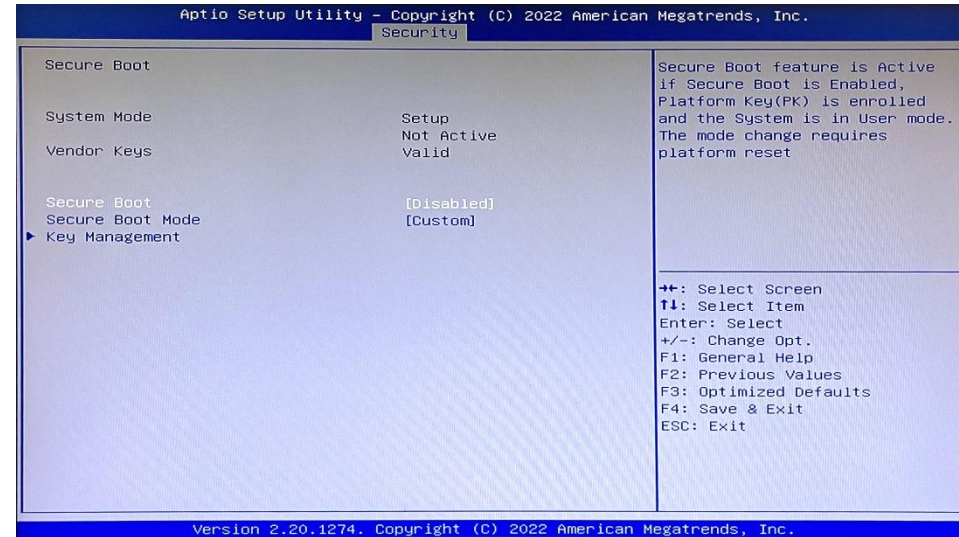
5.7.   Boot Menu

The Boot Menu Items Allow You To Change The System Boot Options.

Boot Configuration:
Chassis Intrude: Allows You To Enable Or Disable The Chassis Intrusion Detection Function.
Configuration Options: [Disabled] [Enabled]

Setup Prompt Timeout: Allows You To Set The Number Of Seconds To Wait For Setup Activation
Key. 65535(0xffff) Means Indefinite Waiting. Configuration Options: [1] - [65535]

Boot Up Numlock State
[On]   Set The Power-On State Of The Numlock To [On].
[Off]   Set The Power-On State Of The Numlock To [Off].

Quiet Boot: Allows You To Enable Or Disable The Quiet Boot Option. Configuration Options:
[Disabled] [Enabled]

Fast Boot [Enabled]:
[**Enabled**]: Select To Accelerate The Boot Speed. [**Disabled**]: Select To Go Back To Normal Boot.

Sata Support:
[**All Devices**]: All Devices Connected To Sata Ports Will Be Available During Post. This Process Will Extend The Post Time.
[**Last Boot Sata Devices Only**]: Only The Last Boot Sata Devices Connected To Sata Ports Will Be Detected During Post. Any Hardware Change Will Disable Fast Boot.

Nvme Support:
[**Disabled**] Nvme Device Will Be Skipped In Fast Boot Mode. [**Enabled**]: Nvme Device Will Be Enabled In Fast Boot Mode.

Vga Support:
[**Auto**] Only Installing Legacy Oprom With Legacy Os And Logo Will Not Display During Post. [**Efi Driver**]: Only Efi Driver Will Be Installed With Efi Os.
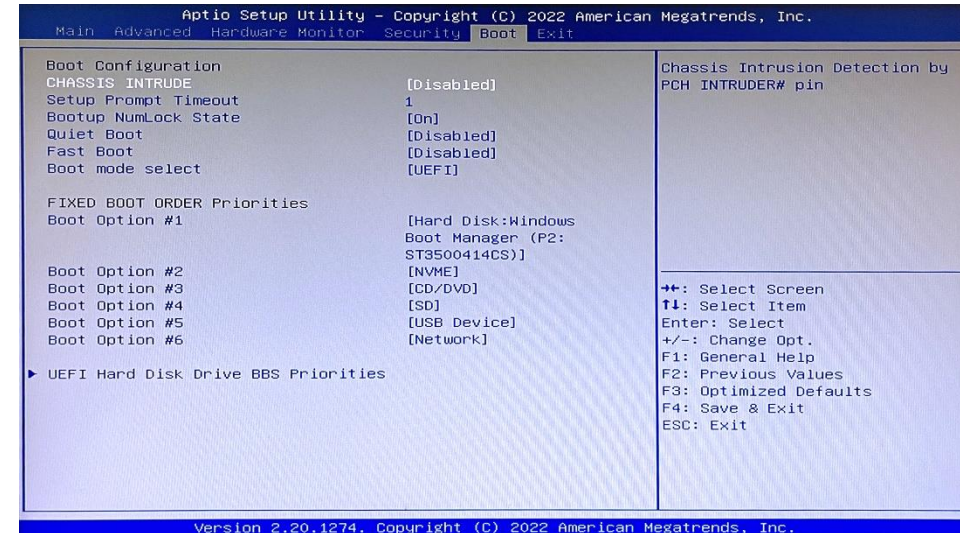
Usb Support
[**Disabled**]: All Usb Devices Will Not Be Available Until Os Boot Up For A Fastest Post Time
[**Full Initial**]: All Usb Devices Will Be Available During Post. This Process Will Extend The Post Time.
[**Partial Initial**]: For A Faster Post Time, Only The Usb Ports With Keyboard And Mouse Connections Will Be Detected.

Ps/2 Devices Support: Select Any Of These Settings When Ps/2 Devices Are Installed. These Settings Only Apply When Fast Boot Is Enabled.
[**Enabled**]: Ps/2 Devices Will Be Available During Post At Any Circumstances. This Process Will Extend Post Time.
[**Disabled**]: For The Fastest Post Time, All Ps/2 Devices Will Not Be Available Until Your Computer Enters The Operating System.

Network Stack Driver Support
[**Disabled**]: Select To Skip The Network Stack Driver From Loading During Post.
[**Enabled**]: Select To Load The Network Stack Driver During Post

Redirection Support
[**Disabled**]: Select To Skip The Redirection Function During Post.
[**Enabled**]: Select To Enable The Redirection Function Driver During Post.

Boot Mode Select: Allows You To Select The Boot Mode. Configuration Options: [Legacy] [Uefi]

Fixed Boot Order Priorities
Boot Option #1~#6: This Item Allows You To Set The System Boot Order. Configuration Options: [Hard Disk] [Nvme] [Cd/Dvd] [Sd] [Usb Device] [Network] [Disabled]

5.8.   Exit Menu

The Boot Menu Items Allow You To Change The System Boot Options.

Save Changes & Exit
This Option Allows You To Save Your Changes And Exit The Setup Program. When You Select This Option Or If You Press <Esc>, A Confirmation Window Appears. Select **Yes** To Save Changes And Exit.

Discard Changes & Exit
This Option Allows You To Exit The Setup Program Without Saving Your Changes. When You Select This Option Or If You Press <Esc>, A Confirmation Window Appears. Select Yes To Discard Changes And Exit.

Save Changes & Reset
This Option Allows You To Exit The Setup Program After Saving Changes

Discard Changes & Reset
This Option Allows You To Exit The Setup Program Without Saving Changes.

Save Changes & Reset: This Option Allows You To Exit The Setup Program After Saving Changes

Discard Changes & Reset: This Option Allows You To Exit The Setup Program Without Saving Changes.

Save Changes: This Option Allows You To Save Changes To Any Of The Setup Options You Have Made So Far.

Discard Changes: This Option Allows You To Discard Changes To Any Of The Setup Options You Have Made So Far

Restore Defaults: Restore/Load Default Values For All The Setup Options.

Save As User Defaults: This Option Allows You To Save The Changes You Have Made So Far As User Defaults.

Restore User Defaults: Restore The User Defaults With All The Setup Options.