

MX4305UE

8th Gen Intel® Whiskey Lake 4305UE Processor Onboard

User's Manual

Ver. 0.1

Contents

Safety Information	5
About this guide	7
Typography	8
Packing List	9
Revision History	10
Specifications Summary	11
Chapter 1 - Product Introduction	14
1.1 Before you Proceed	15
1.2 Motherboard Overview	15
1.2.1 Placement Direction	15
1.2.2 Screw Holes	15
1.2.3 Motherboard Layout	16
1.2.4 Layout Content List	17
1.3 System Memory	18
1.3.1 Overview	18
1.3.2 Installing a DIMM	19
1.3.3 Removing a DDR4 DIMM	20
1.4 Expansion Card	21
1.4.1 Installing an Expansion Card	21
1.4.2 Configuring an Expansion Card	21
1.4.3 PCI Express x1 slot	21
1.4.4 M.2 connector	22
1.5 Jumpers	23
1.5.1 Clear CMOS (JCMOS1)	23
1.5.2 AT/ATX Power Mode Select (JPSON1)	24
1.5.3 COM POWER SETTING (JCOMPWR1~2)	24
1.5.4 LVDS panel voltage Selection (JBKLVOL1)	25
1.5.5 Brightness control mode Selection: (JLVDS_BKL1)	25
1.6 Connectors	26
1.6.1 Rear panel connectors	26
1.6.2 CPU and System fan connectors (CPU_FAN1, SYS_FAN1)	27
1.6.3 System Panel (F_PANEL1)	28
1.6.4 ATX power connectors (ATX12V1, 4pin)	29
1.6.5 Serial Port connectors (COM1~4)	29
1.6.6 Serial ATA Connector (SATA1)	30
1.6.7 USB connectors (USB78)	30
1.6.8 USB connectors (USB56)	31
1.6.9 SATA power connector (SATAPW1)	32

1.6.10 LVDS panel connector (LVDS1).....	32
1.6.11 8 bit GPIO header (JDIO1).....	33
1.6.12 Front Audio connector (AAFP1).....	33
1.6.13 Amplifier Connector (JAMP1).....	34
1.6.14 SM bus connector (JSMB1).....	34
1.6.15 LVDS panel backlight connector (JBKL1).....	35
1.6.16 Chassis Intrusion Connector (JCASE1).....	35
1.6.17 I2C connector (I2C1).....	36
Chapter 2 - BIOS Setup.....	38
2.1 BIOS Setup Program.....	38
2.1.1 Legend Box.....	39
2.1.2 List Box.....	39
2.1.3 Sub-menu.....	39
2.2 BIOS Menu Screen.....	40
2.3 Main Setup.....	41
2.4 Advanced BIOS Setup.....	42
2.4.1 CPU configuration.....	43
2.4.2 PCH-FW Configuration.....	45
2.4.3 Trusted Computing.....	45
2.4.4 ACPI Settings.....	47
2.4.5 NCT6106D Super IO configuration.....	48
2.4.5.1 Serial Port 1 Configuration.....	49
2.4.5.2 Serial Port 2 Configuration.....	50
2.4.5.3 Serial Port 3 Configuration.....	50
2.4.5.4 Serial Port 4 Configuration.....	51
2.4.6 NCT6106D HW monitor.....	52
2.4.6.1 Smart FAN.....	52
2.4.6.1.1 Smart FAN mode Configuration.....	53
2.4.7 S5 RTC wake settings.....	56
2.4.8 Serial Port Console Redirection.....	57
2.4.9 Intel TXT information.....	57
2.4.10 USB Configuration.....	59
2.4.11 Compatibility Support Module Configuration.....	60
2.4.12 NVMe Configuration.....	61
2.4.13 SDIO Configuration.....	61
2.4.14 Network Stack Configuration.....	63
2.5 Chipset.....	64
2.5.1 System Agent (SA) Configuration.....	65
2.5.1.1 Memory configuration.....	65
2.5.1.2 Graphic Configuration.....	66

MX4305UE User's Manual

2.5.1.3 LCD Control.....	68
2.5.2 PCH-IO configuration	70
2.5.2.1 PCI Express configuration	71
2.5.2.1.1 PCI Express Root Port 8 (Slot).....	71
2.5.2.1.2 PCI Express Root Port 9(M.2)(Key M)	72
2.5.2.1.3 PCI Express Root Port 14(M.2)(Key E).....	73
2.5.2.2 SATA and RST configuration	74
2.5.2.3 USB configuration	75
2.5.2.4 HD Audio Configuration.....	76
2.5.2.5 Serial IO Configuration	76
2.5.2.5.1 Serial IO I2C0 Settings.....	77
2.6 Security.....	78
2.6.1 Secure boot.....	79
2.6.1.1 Key management.....	80
2.7 Boot	81
2.8 Save & Exit.....	82

Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.



The symbol of the crossed out wheeled bin indicates that the product (Electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

Safety Declaration

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This manual contains the following parts:

- **Chapter 1: Product introduction**

This chapter describes the features of the motherboard and the new technology it supports. This chapter also lists the hardware setup procedures that you have to perform when installing system components. It includes description of the jumpers and connectors on the motherboard.

- **Chapter 2: BIOS setup**

This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **Technical Support**

If a problem arises with your system and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor.

2. **Optional documentation**

Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.



DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Instructions that you **MUST** follow to complete a task.



NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select
Italics	Used to emphasize a word or a phrase
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key Example: <Enter> means that you must press the Enter or Return key
<Key1>+<Key2>+<Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+) Example: <Ctrl>+<Alt>+<D>
Command	Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets Example: At the DOS prompt, type the command line: afudos /i[filename] afudos /iP5P800VM.ROM

Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 x MX4305UE Mini-ITX Main board
- 1x SATA power cable
- 1 x I/O Shield (high profile)
- 1 x I/O Shield (low profile)



If any of the above items is damaged or missing, please contact your retailer.

Revision History

Revision	Revision History	Date
V 0.1	First release version	Nov. 2019

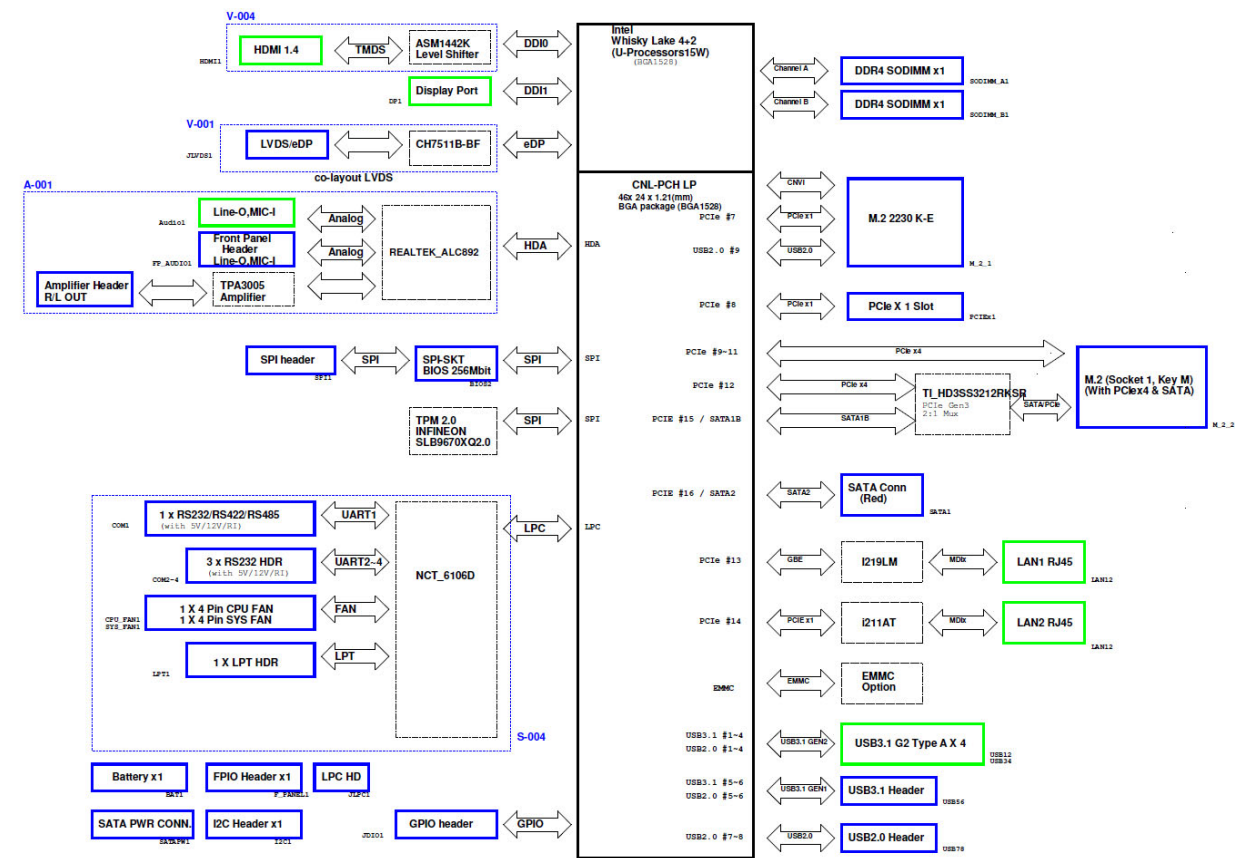
Specifications Summary

Specifications	
System	
Processor	Intel® Whiskey Lake; Scalable across i7, i5, i3, Pentium Gold, and Celeron
Memory	Two 260-pin So-DIMM DDR4 2400Mhz, up to 32GB Max (Horizontal Type)
PCI-E	Up to 16 PCIe x1 Gen3 Lanes Available
USB	Up to 6 x USB 3.1 Gen 2 Port Available
SATA	Up to 3 x SATA III Ports Available
CEC	Yes
Display	
Integrated Graphics	Intel® UHD Graphics 610
Display Interface	1 x DP1.2 @60Hz (4096x2160)
	1 x HDMI 2.0 @60Hz (4096x2160)
	18/24 bits Dual Channel LVDS Co-Lay eDP (BOM Option)
LVDS	Chrontel® CH7511B (eDP to LVDS Bridge Controller)
Embedded Controller	
Chipset	NCT 6106D
COM Ports	1 x RS232/422/485 Port (with 5V/12V/RI)
	3 x RS232 Port (with 5V/12V/RI)
WatchDog Timer	1 Sec ~ 255 Sec
H/W Monitor	Yes
TPM	
Chipset	Infineon® SLB9670XQ2.0
Type	TPM2.0
Ethernet	
LAN1	Intel® i219-LM Giga LAN Controller
LAN2	Intel® i211-AT PCIe LAN Controller
Audio	
Chipset	Realtek® ALC892
Type	HD Audio Codec
Amplifier	3W Per Channel Amplifier
BIOS	
Type	256Mb SPI BIOS
Expansion	
M.2	1 x 2230 M.2 E Key (with PCIe x1 Channel & USB Signal)
	1 x 2280 & 2242 M.2 M Key NVMe (with PCIe x4 & SATA III Signal)
PCIe	1 x PCIe x1 (Open Ended)

MX4305UE User's Manual

Storage	eMMC (Optional)
Back I/O Port	
Back Panel	1 x DisplayPort Connector 1 x HDMI (1.4) Connectors 2 x RJ45 Connectors 4 x USB 3.1 Connectors 1 x 2 Jacks Audio Connector (Line Out + Mic In) 1 x Barrel Type DC-In Connector (ID 2.5mm/OD 5.5mm)
Internal I/O Connector	
Internal I/O	1 x RS-232/422/485 Header (2.0mm Header) 3 x RS-232 Header (2.0mm Header) 1 x LPT Header (2.0mm Header) 1 x LPC Header (2.0mm Header) 1 x I ² C Header 1 x USB 3.1 Header (2 x USB 3.1 Ports) 1 x USB 2.0 Header (2 x USB 2.0 Ports) 1 x LVDS/eDP Header 1 x Backlight Header 1 x 4 Pin CPU Fan Header 1 x 4 Pin System Fan Header 1 x 8 bits GPIO Headers (4 In/ 4 Out) 1 x SATA III Connectors (Red) 1 x 15 pin SATA Power Connector 1 x Front Audio Header (2.54mm Pitch) 1 x Front Panel Header with Shroud (2.54mm Pitch) 1 x Amplifier Locking Type Header (2.00mm Pitch) 1 x Onboard Buzzer 1 x Horizontal Socket Type Battery 1 x Mini-Fit Jr 4 Pin DC-In Connector
Power	
Power & Connector	12V~24V DC-In
Mechanical & Environmental	
Operating Temperature	0~60°C (32~140°F)
Operating Humidity	5% to 85% non-condensing
Size (L x W)	6.7 inch x 6.7 inch

Block Diagram



This chapter describes the motherboard features and the new technologies it supports.

1

Product Introduction

Chapter 1 - Product Introduction

1.1 Before you Proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.



- Unplug the power cord from the wall socket before touching any component.
- Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that came with the component.
- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1.2 Motherboard Overview

Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it. Refer to the chassis documentation before installing the motherboard.



Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so can cause you physical injury and damage motherboard components.

1.2.1 Placement Direction

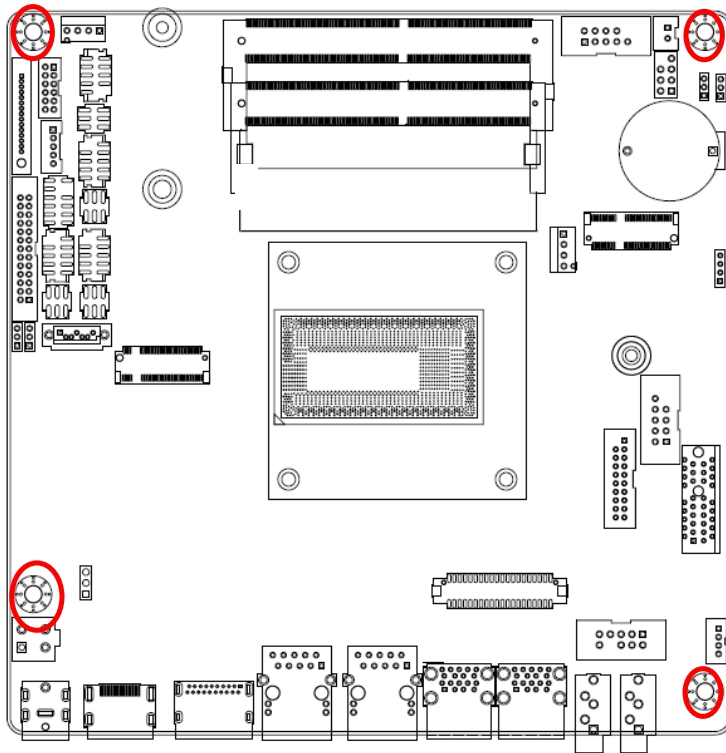
When installing the motherboard, make sure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below.

1.2.2 Screw Holes

Place eight (8) screws into the holes indicated by circles to secure the motherboard to the chassis.

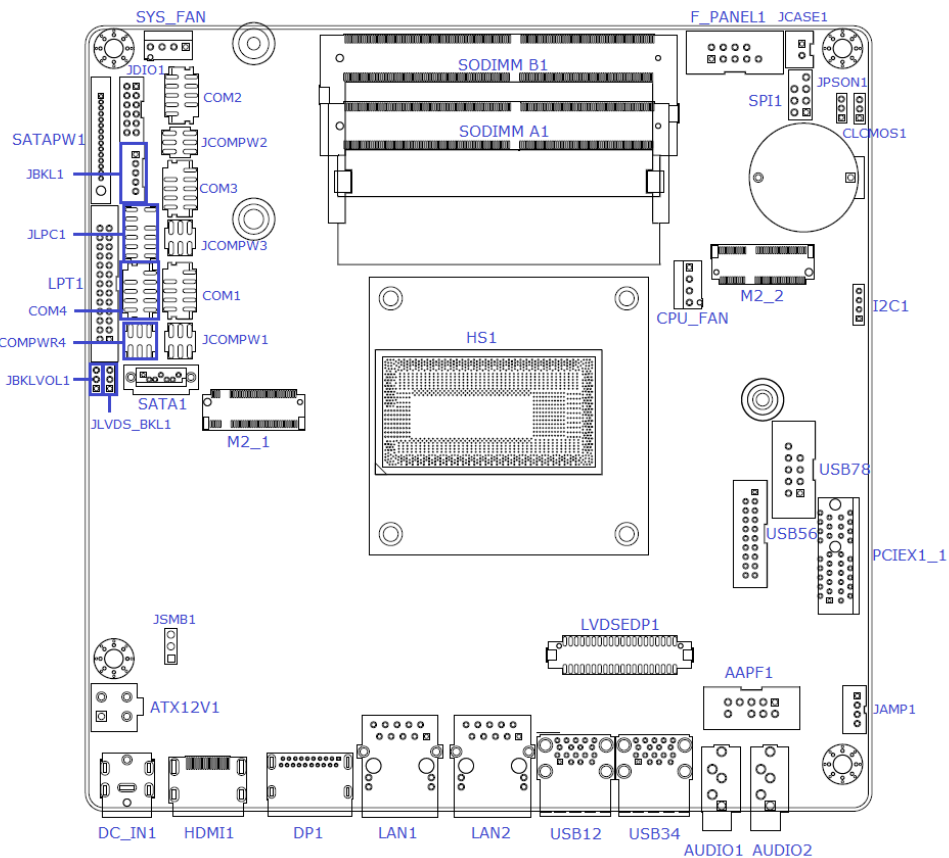


Do not over tighten the screws! Doing so can damage the motherboard.



Place this side towards the rear of the chassis.

1.2.3 Motherboard Layout



1.2.4 Layout Content List

Slots & socket			
Label	Function	Note	
U1	CPU		
SODIMMA1~B1	DDR4 SODIMM Slot A1~B1		
PCIEX1_1	PCI Express x1 Slot		
M2_1	M.2 Type M 2242, 2280 Slot		
M2_2	M.2 Type A/E 2230 slot		

Jumpers			
Label	Function	Note	
CLCMOS1	Clear CMOS	3 x 1 header, pitch 2.00mm	
JPSON1	AT/ATX Mode Select	3 x 1 header, pitch 2.00mm	
JBKLVOL1	LVDS panel voltage Selection	3 x 1 header, pitch 2.00mm	
JLVDS_BKL1	LVDS brightness control mode Selection	3 x 1 header, pitch 2.00mm	
JCOMPWR1~4	COM1~4 POWER SETTING	3 x 2 header, pitch 2.00mm	

Rear Panel Connector			
Label	Function	Note	
DCIN_1	DC-in connector	12V~24V	
HDMI1	HDMI port		
DP1	Display port		
LAN1	Gigabit LAN (RJ-45) Connectors		
LAN2	Gigabit LAN (RJ-45) Connectors		
USB1,2	USB 3.1 Gen1 Connector		
USB3,4	USB 3.1 Gen1 Connector		
AUDIO1	Line-out port (Lime)		
AUDIO2	Microphone port (Pink)		

Internal Connector			
Label	Function	Note	
CPU_FAN1	CPU Fan Connector	4 x 1 wafer, pitch 2.54mm	
SYS_FAN1	Chassis FAN connector	4 x 1 wafer, pitch 2.54mm	
F_PANEL1	Intel Front Panel connector	5 x 2 header, pitch 2.54mm	
ATX12V1	12V ATX power connectors	2 x 2 wafer	
COM1 ~ 4	Serial Port Connector	5 x 2 header, pitch 2.00mm	

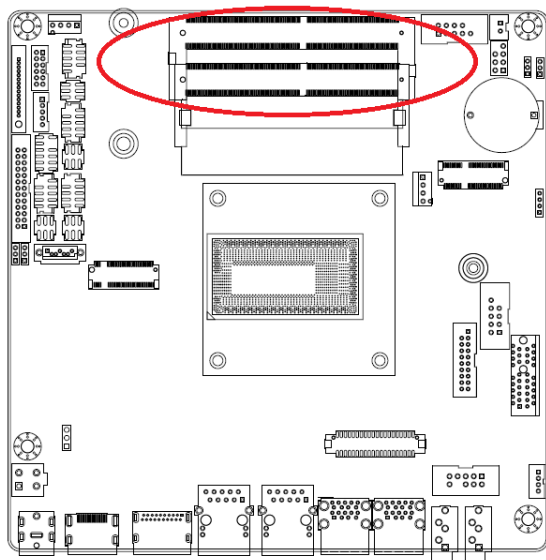
SATA1	SATA Data Connector	7 Pin Male connector
USB78	USB Connector	5 x 2 header, pitch 2.54mm
SATAPW1	SATA power connector	
USB56	USB 3.0 header	10 x 2 wafer, pitch 2.00mm
JDIO1	8bit GPIO connector	2 x 6 wafer, pitch 2.00mm
JLPC1	LPC connector	2 x 6 header, pitch 2.00mm
JBKL1	LVDS panel backlight connector	1 x 5 wafer, pitch 2.00mm
JSMB1	SM bus connector	3 x 1 header, pitch 2.00mm
AAFP1	Audio connector	5 x 2 wafer, pitch 2.54mm
LVDSBDP1	LVDS panel connector	2 x 20 wafer 2.00mm
JCASE1	Chassis intrusion connector	2 x 1 wafer, pitch 2.5mm
JAMP1	Amplifier Locking Type connector	1 x 4 wafer, pitch 2.00mm
I2C1	I2C header	1 x 4 header, pitch 2.00mm

1.3 System Memory

1.3.1 Overview

The motherboard comes with two Double Data Rate 4 (DDR4) Small outline Dual Inline Memory Modules (SODIMM) sockets.

DDR4 SDRAM, an abbreviation for double data rate fourth generation synchronous dynamic random-access memory, is a type of synchronous dynamic random-access memory (SDRAM) with a high bandwidth ("double data rate") interface. The primary advantages of DDR4 over its predecessor, DDR3, include higher module density and lower voltage requirements, coupled with higher data rate transfer speeds.



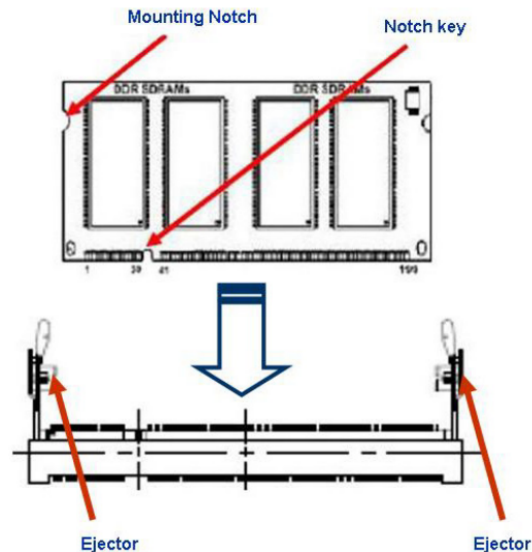
DDR4 SODIMM sockets

1.3.2 Installing a DIMM



Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

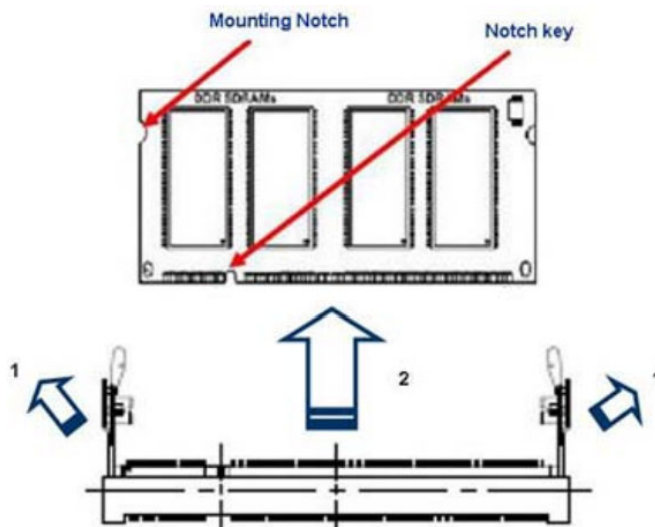
1. Locate the SODIMM socket on the board.
2. Hold two edges of the SODIMM module carefully, and keep away of touching its connectors.
3. Align the notch key on the module with the rib on the slot.
4. Firmly press the modules into the socket which will automatically snap into the mounting notch. Do not force the SODIMM module in with extra force as the DIMM module only fits in one direction.
5. Press down until SODIMM module Mounting Notch clicks in.



- A DDR4 SODIMM is keyed with a notch so that it fits in only one direction. DO NOT force a SODIMM into a socket to avoid damaging the DIMM. □
- The DDR4 SODIMM sockets do not support DDR3 SODIMMs. DO NOT install DDR3 SODIMMs to the DDR4 SODIMM socket.

1.3.3 Removing a DDR4 DIMM

1. Press the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.



Support the DIMM lightly with your fingers when pressing the ejector tabs. The DIMM might get damaged when it flips out with extra force.

1.4 Expansion Card

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.



Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

1.4.1 Installing an Expansion Card

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

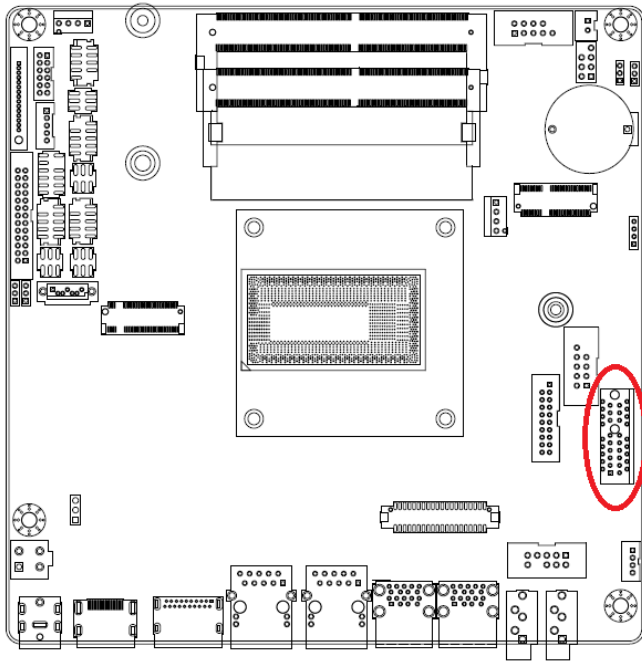
1.4.2 Configuring an Expansion Card

After installing the expansion card, configure it by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 2 for information on BIOS setup.
2. Assign an IRQ to the card if needed. Refer to the tables on the next page.
3. Install the software drivers for the expansion card.

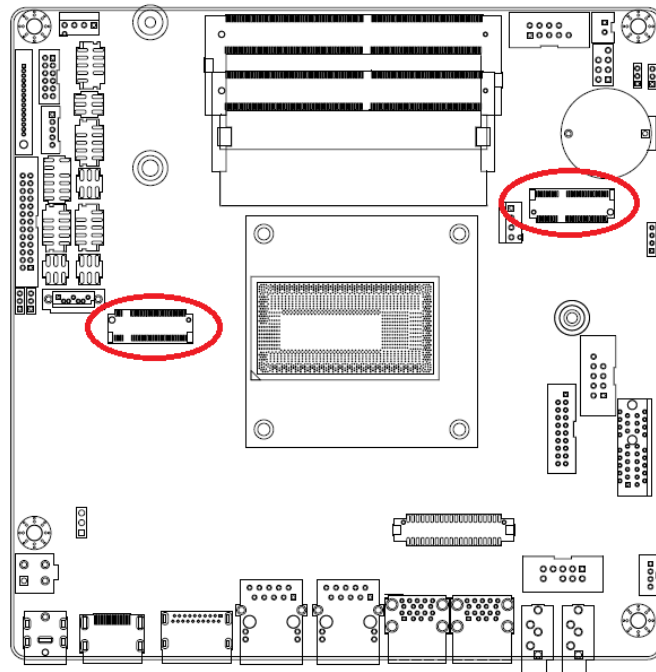
1.4.3 PCI Express x1 slot

This motherboard supports one PCI Express x1 slot that complies with the PCI Express specifications.



1.4.4 M.2 connector

Support PCIe and SATA interface of this connector.



1.5 Jumpers

1.5.1 Clear CMOS (JCMOS1)

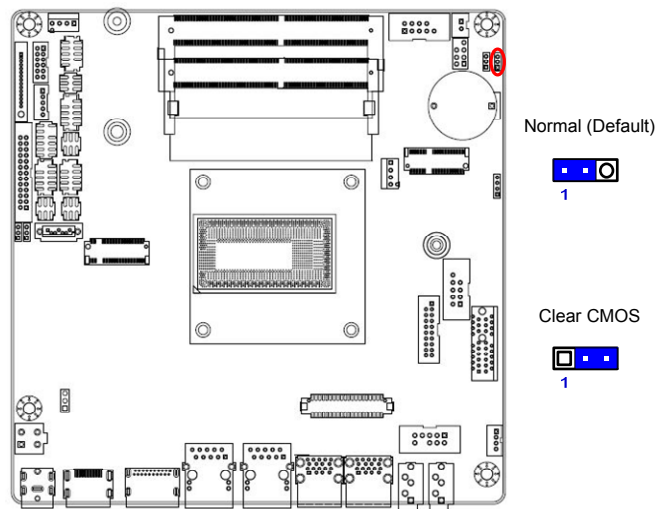
This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which includes system setup information such as system passwords.

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Remove the onboard battery.
3. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the key during the boot process and enter BIOS setup to re-enter data.



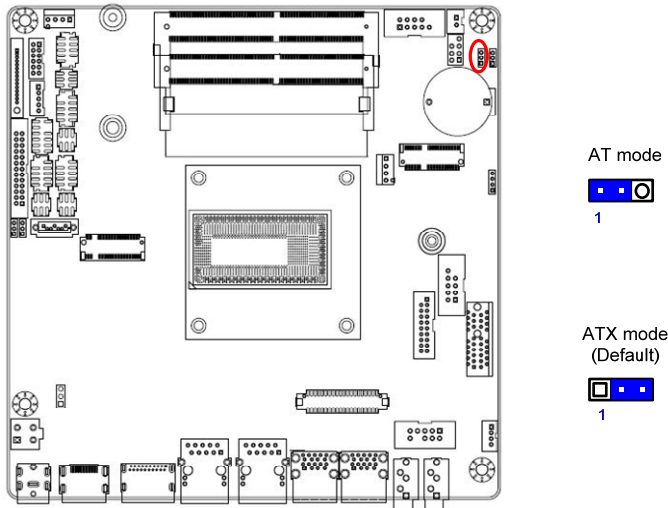
Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!



You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.P.R. (CPU Parameter Recall) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values.

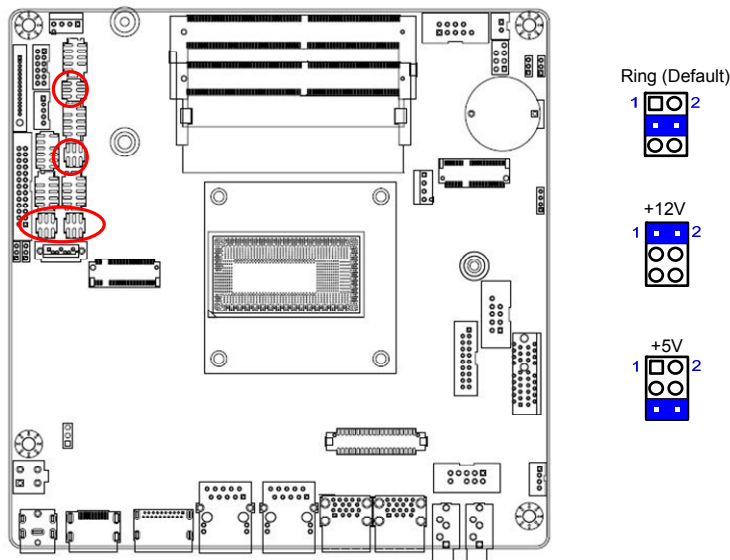
1.5.2 AT/ATX Power Mode Select (JPSON1)

This jumper allows you to select ATX Mode or AT mode

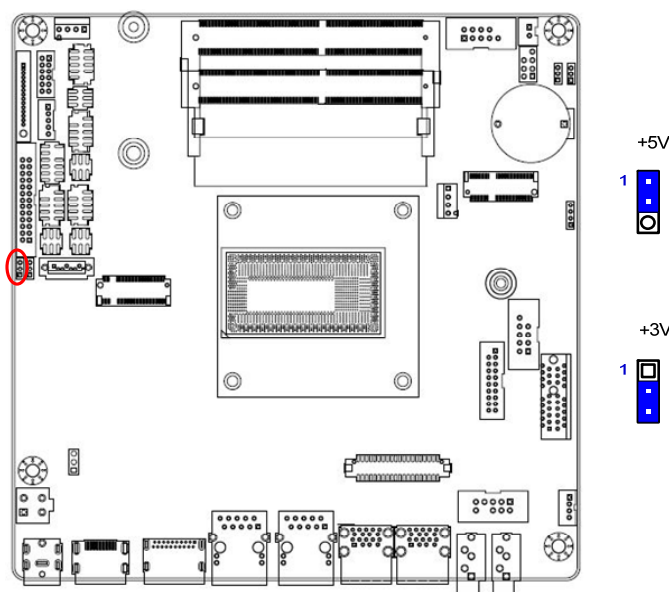


1.5.3 COM POWER SETTING (JCOMPWR1~2)

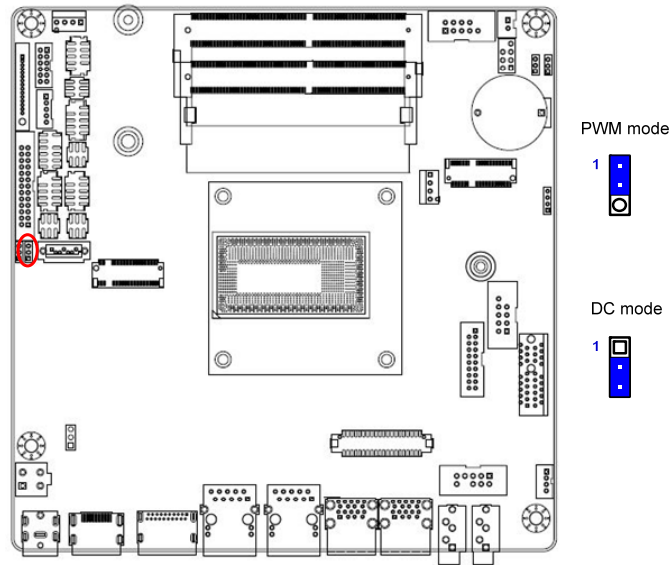
This jumper allows you to select COM1/COM2 to support Ring/+12V/+5V



1.5.4 LVDS panel voltage Selection (JBKLVOL1)

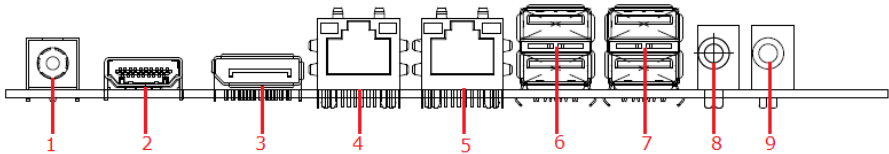




1.5.5 Brightness control mode Selection: (JLVDS_BKL1)



1.6 Connectors

1.6.1 Rear panel connectors

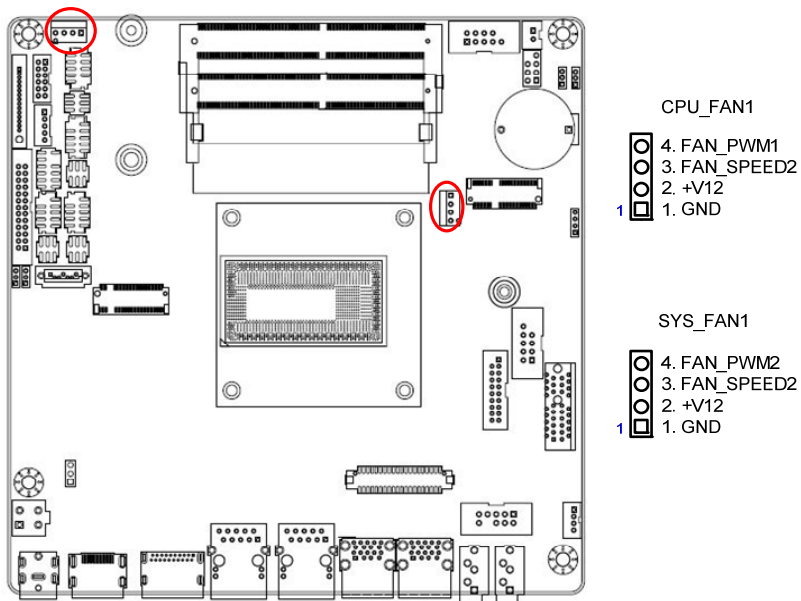


Item	Name	Function	Description																				
1	DCIN_1	DC-in connector	The connector is for DC-in (12-24V)																				
2	HDMI1	HDMI port	This HDMI port connector																				
3	DP1	Display Port	The display port Connector																				
4	LAN1	Gigabit LAN (RJ-45) Connectors	<div>This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.</div> <div><div>ACT/LINK LED SPEED LED</div><div></div><div>LAN port</div><table><tr><th colspan="2">ACT/Link LED</th><th colspan="2">Speed LED</th></tr><tr><th>Status</th><th>Description</th><th>Status</th><th>Description</th></tr><tr><td>OFF</td><td>No link</td><td>OFF</td><td>10Mbps connection</td></tr><tr><td>Orange</td><td>Linked</td><td>Green</td><td>100Mbps connection</td></tr><tr><td>Blinking</td><td>Data activity</td><td>Orange</td><td>1Gbps connection</td></tr></table></div>	ACT/Link LED		Speed LED		Status	Description	Status	Description	OFF	No link	OFF	10Mbps connection	Orange	Linked	Green	100Mbps connection	Blinking	Data activity	Orange	1Gbps connection
ACT/Link LED		Speed LED																					
Status	Description	Status	Description																				
OFF	No link	OFF	10Mbps connection																				
Orange	Linked	Green	100Mbps connection																				
Blinking	Data activity	Orange	1Gbps connection																				
5	LAN2.	Gigabit LAN (RJ-45) Connectors	<div>This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.</div> <div><div>ACT/LINK LED SPEED LED</div><div></div><div>LAN port</div><table><tr><th colspan="2">ACT/Link LED</th><th colspan="2">Speed LED</th></tr><tr><th>Status</th><th>Description</th><th>Status</th><th>Description</th></tr><tr><td>OFF</td><td>No link</td><td>OFF</td><td>10Mbps connection</td></tr><tr><td>Orange</td><td>Linked</td><td>Green</td><td>100Mbps connection</td></tr><tr><td>Blinking</td><td>Data activity</td><td>Orange</td><td>1Gbps connection</td></tr></table></div>	ACT/Link LED		Speed LED		Status	Description	Status	Description	OFF	No link	OFF	10Mbps connection	Orange	Linked	Green	100Mbps connection	Blinking	Data activity	Orange	1Gbps connection
ACT/Link LED		Speed LED																					
Status	Description	Status	Description																				
OFF	No link	OFF	10Mbps connection																				
Orange	Linked	Green	100Mbps connection																				
Blinking	Data activity	Orange	1Gbps connection																				
6	USB1,2	USB 3.1 Gen2 Connectors	These one Universal Serial Bus (USB) ports are available for connecting USB 3.1 devices.																				

7	USB3,4	USB 3.1 Gen2 Connectors	These one Universal Serial Bus (USB) ports are available for connecting USB 3.1 devices.
8	AUDIO1	Line-out port (Lime)	This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configuration, the function of this port becomes Front Speaker Out.
9	AUDIO1	Microphone port (Pink)	This port connects a microphone.

1.6.2 CPU and System fan connectors (CPU_FAN1, SYS_FAN1)

The fan connectors support cooling fans of 280mA (3.36 W max.) at 4800rpm or a total of 1A~2.22A (26.64W max.) at +12V. Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.

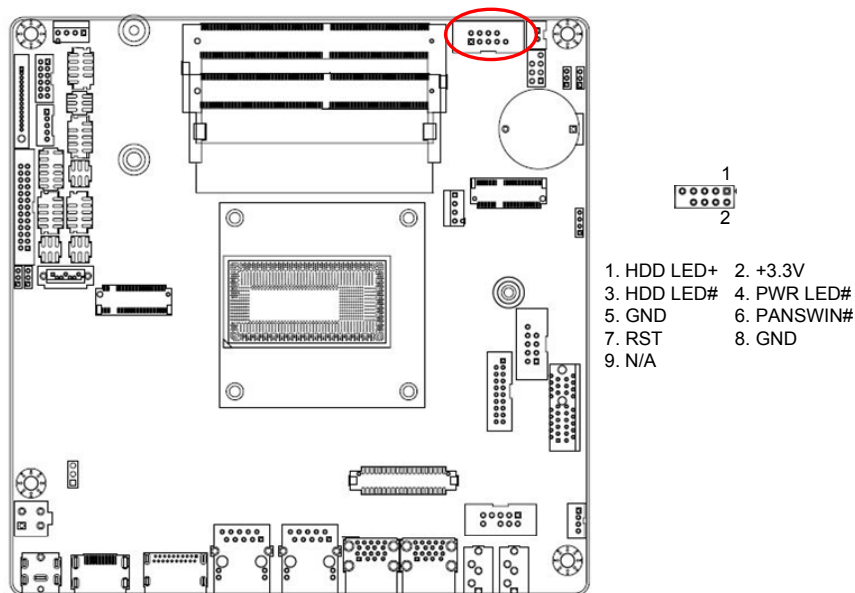


Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components.

These are not jumpers! DO NOT place jumper caps on the fan connectors.

1.6.3 System Panel (F_PANEL1)

This connector is for a chassis-mounted front panel. The functions are as following.



- **ATX Power Button/Soft-off Button (Pin 6-8)**

This 2-pin connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the BIOS settings. Pressing the power switch and holding it for more than four seconds while the system is ON turns the system OFF.

- **Reset Button (Pin 5-7)**

This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

- **Power LED (Pin 2-4)**

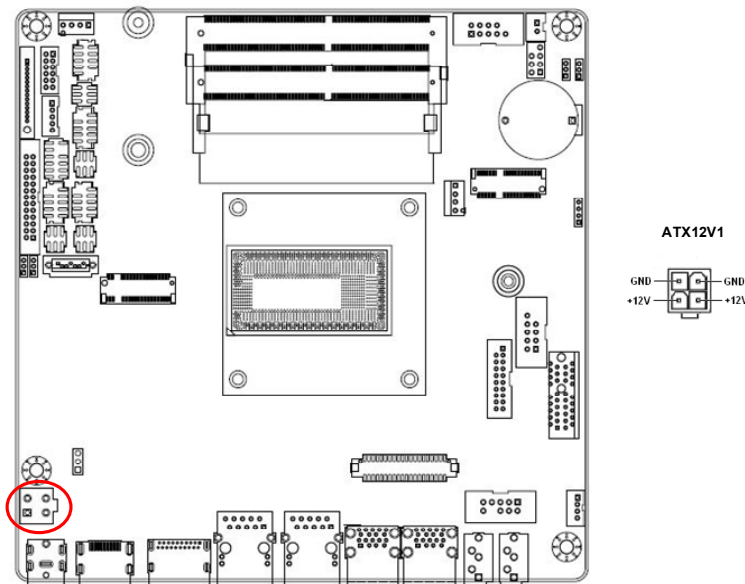
This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **Hard Disk Drive Activity LED (Pin 1-3)**

This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.

1.6.4 ATX power connectors (ATX12V1, 4pin)

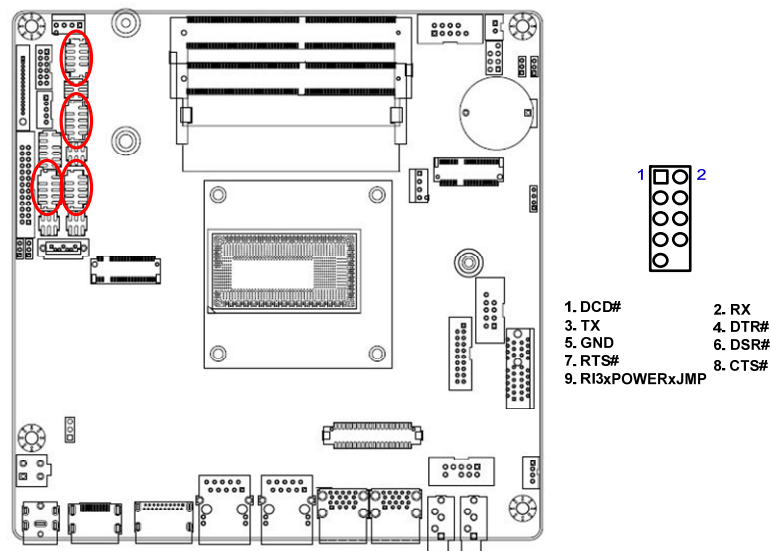
The connector is for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



- Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- Make sure that your power supply unit (PSU) can provide at least the minimum power required by your system.

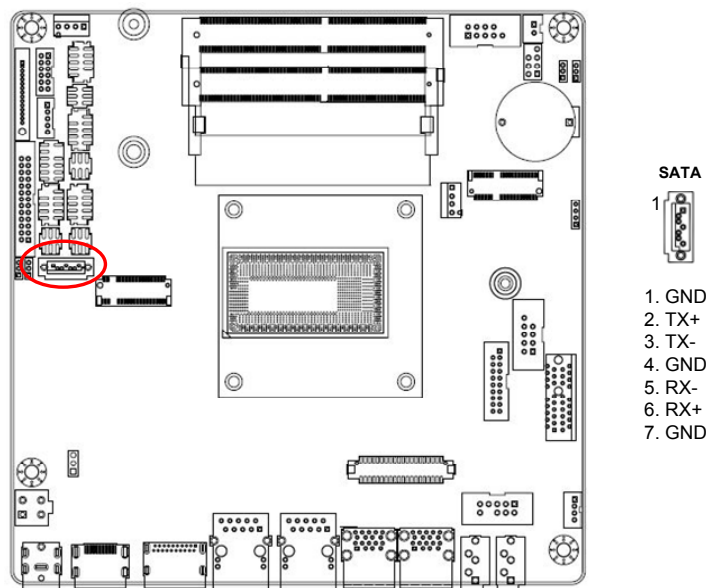
1.6.5 Serial Port connectors (COM1~4)

This connector is for a serial (COM) port. Connect the serial port module cable to this connector, and then install the module to a slot opening at the back of the system chassis.



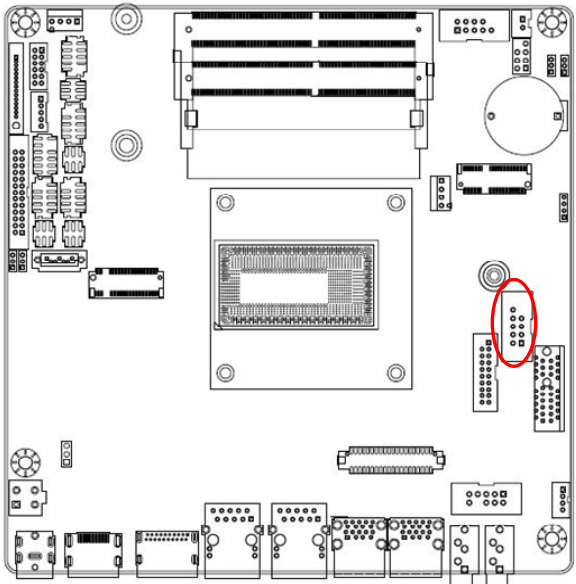
1.6.6 Serial ATA Connector (SATA1)

SATA 1 support SATA 3.0. These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.



1.6.7 USB connectors (USB78)

These connectors are for USB 2.0 ports. Connect the optional USB module cable to any of these connectors, and then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

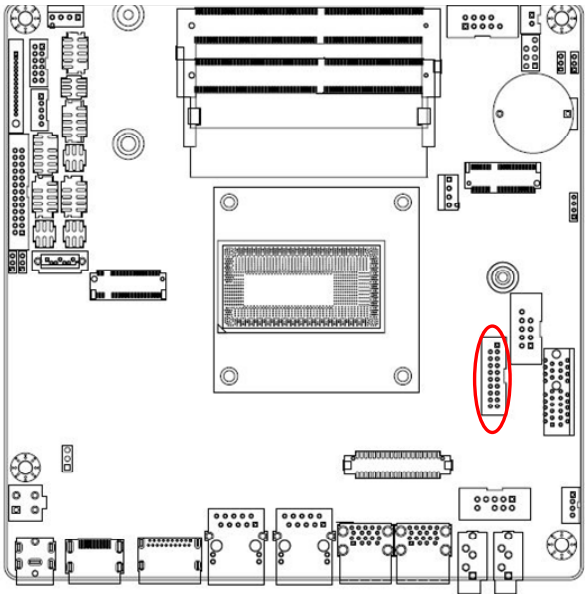


- USB
- | | | | |
|---|---|----------|----------|
| 1 | 2 | 1.USB+5V | 2.USB+5V |
| | | 3.USB - | 4.USB - |
| | | 5.USB + | 6.USB + |
| | | 7.GND | 8.GND |
| | | | 9.NC |

	Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!
	The USB module is purchased separately.

1.6.8 USB connectors (USB56)

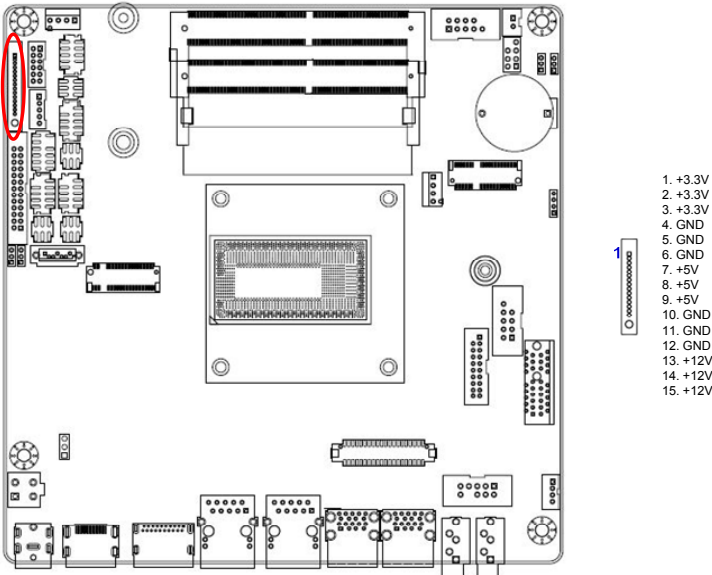
These connectors are for two USB 3.0 ports. Connect the optional USB module cable to any of these connectors, and then install the module to a slot opening at the back of the system chassis.



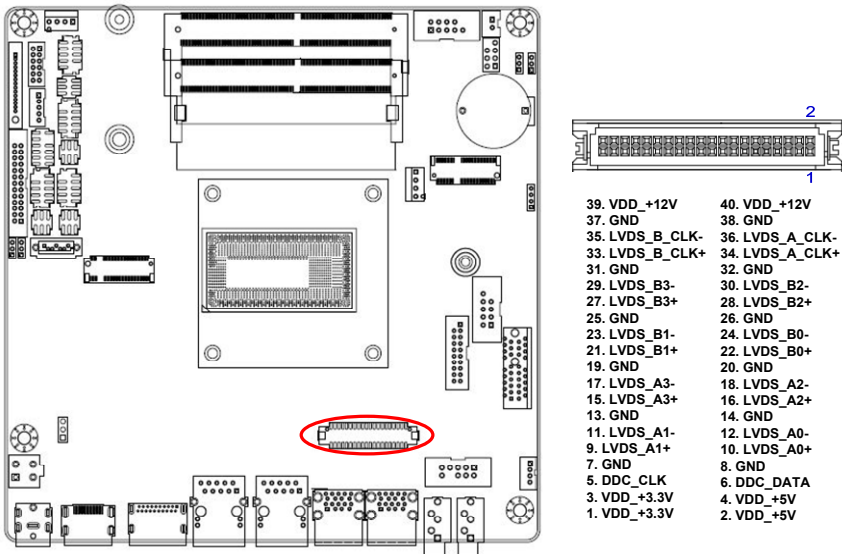
- USB56
- | | | | |
|----|---|--------------|-------------|
| 19 | 1 | 19. +5V | 2. USB3_RX- |
| | | 18. USB3_RX- | 3. USB3_RX+ |
| | | 17. USB3_RX+ | 4. GND |
| | | 16. GND | 5. USB3_TX- |
| | | 15. USB3_TX- | 6. USB3_TX+ |
| | | 14. USB3_TX+ | 7. GND |
| | | 13. GND | 8. USB- |
| | | 12. USB- | 9. USB+ |
| | | 11. USB+ | 10. NC |

MX4305UE User's Manual

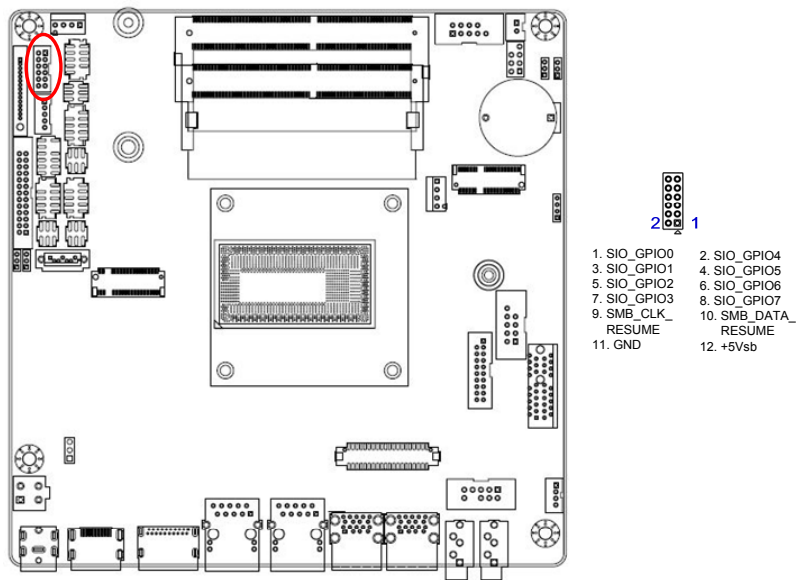
1.6.9 SATA power connector (SATAPW1)



1.6.10 LVDS panel connector (LVDS1)

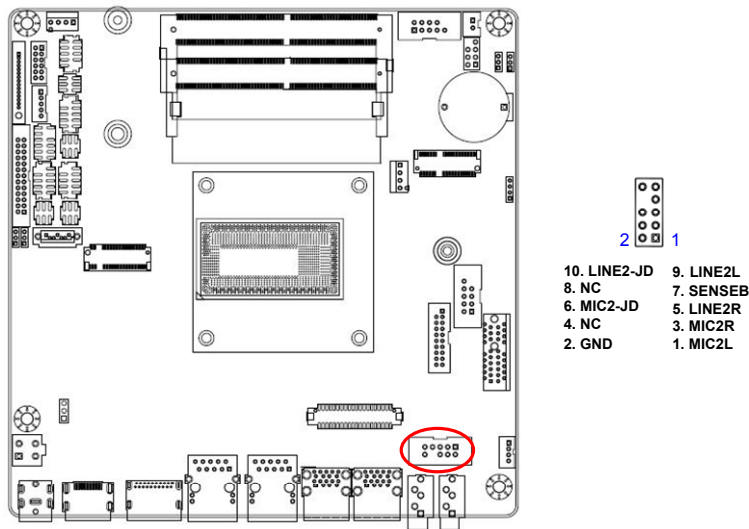


1.6.11 8 bit GPIO header (JDIO1)



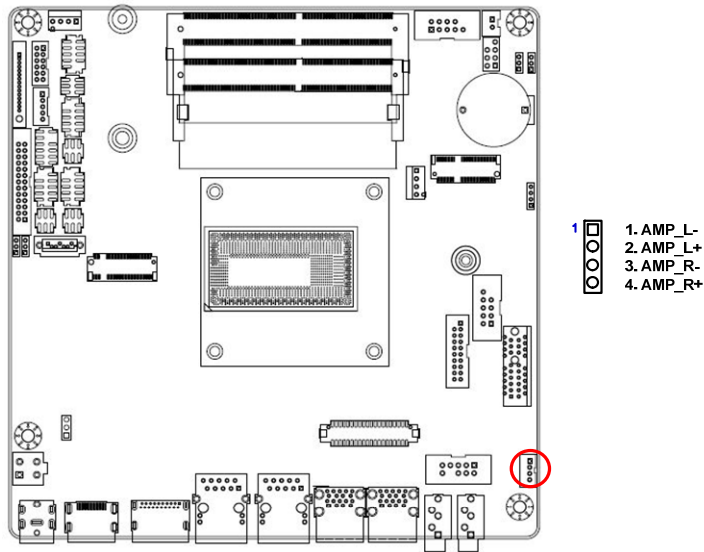
1.6.12 Front Audio connector (AAFP1)

This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC '97 (optional) audio standard.

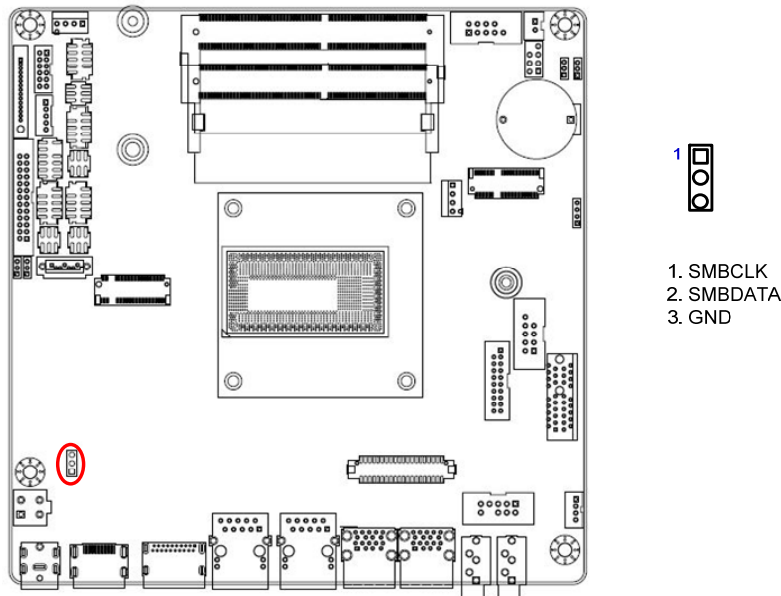


MX4305UE User's Manual

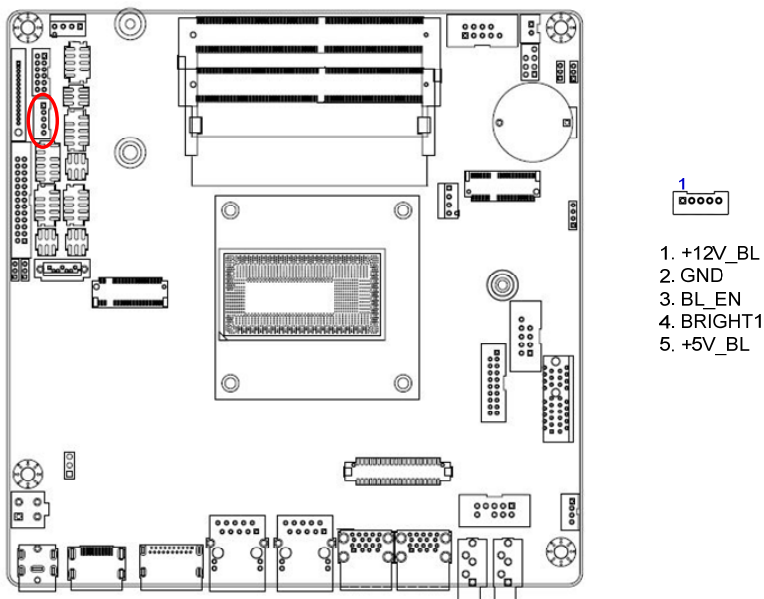
1.6.13 Amplifier Connector (JAMP1)



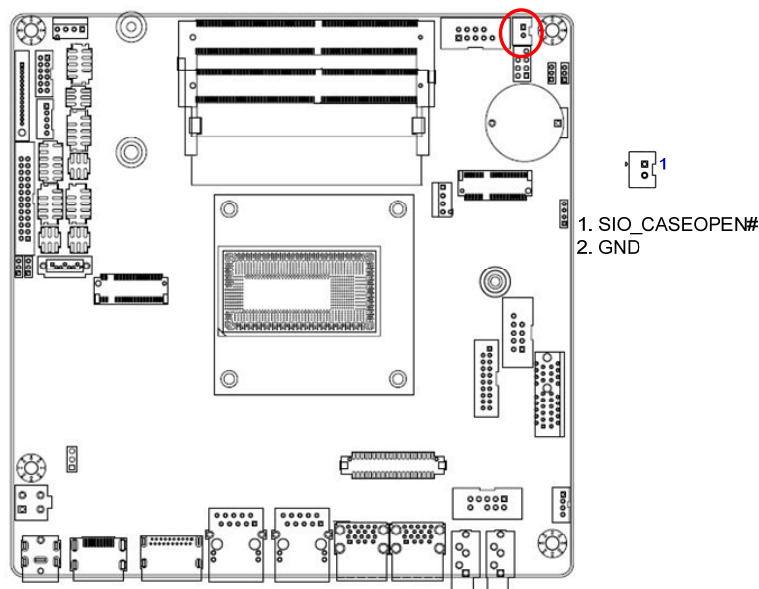
1.6.14 SM bus connector (JSMB1)



1.6.15 LVDS panel backlight connector (JBKL1)

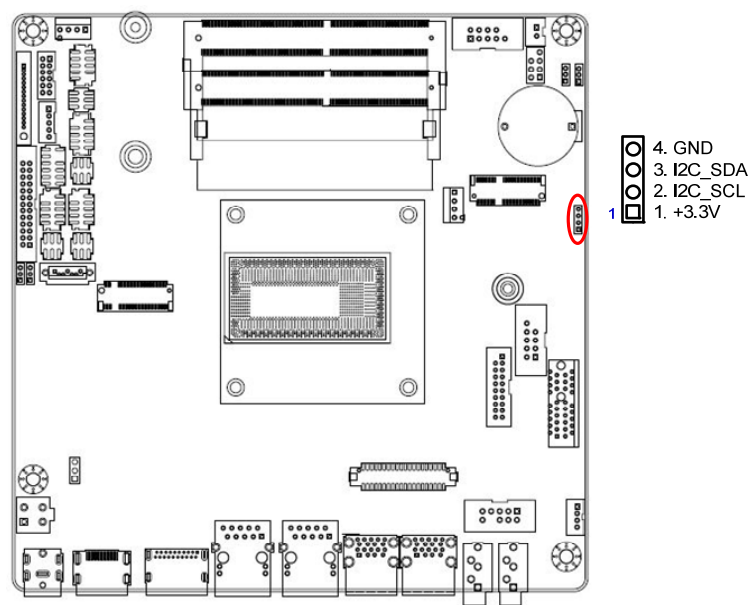


1.6.16 Chassis Intrusion Connector (JCASE1)



MX4305UE User's Manual

1.6.17 I2C connector (I2C1)



This chapter tells how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

2

BIOS Step

Chapter 2 - BIOS Setup

2.1 BIOS Setup Program

This motherboard supports a programmable firmware chip that you can update using the provided utility. Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press during the Power-On-Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.



- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** from the BIOS menu screen.
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the system builder's website to download the latest BIOS file for this motherboard

2.1.1 Legend Box


The keys in the legend bar allow you to navigate through the various setup menus

Key(s)	Function Description
→←	Select Screen
↑↓	Select Item
Enter	Select
+ -	Change Opt.
F1	General Help
F2	Previous Values
F3	Optimal Defaults
F4	Save and Exit
ESC	Exit

2.1.2 List Box

This box appears only in the opening screen. The box displays an initial list of configurable items in the menu you selected.

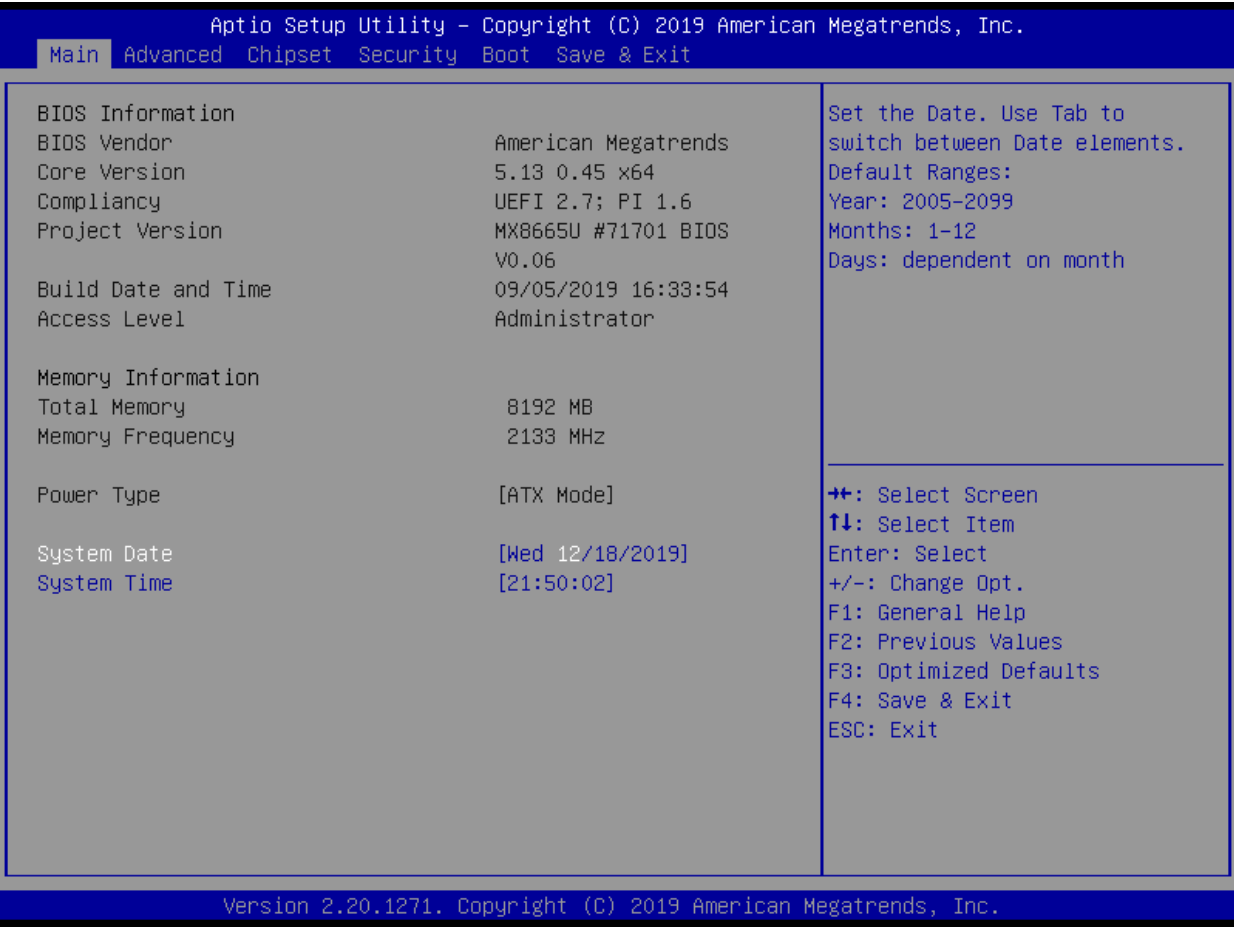
2.1.3 Sub-menu

Note that a right pointer symbol  appears to the left of certain fields. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press <Enter>. The sub-menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the <Esc> key to return to the main menu.

Take some time to familiarize yourself with the legend keys and their corresponding functions. Practice navigating through the various menus and submenus. If you accidentally make unwanted changes to any of the fields, press <F3> to load the optimal default values. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

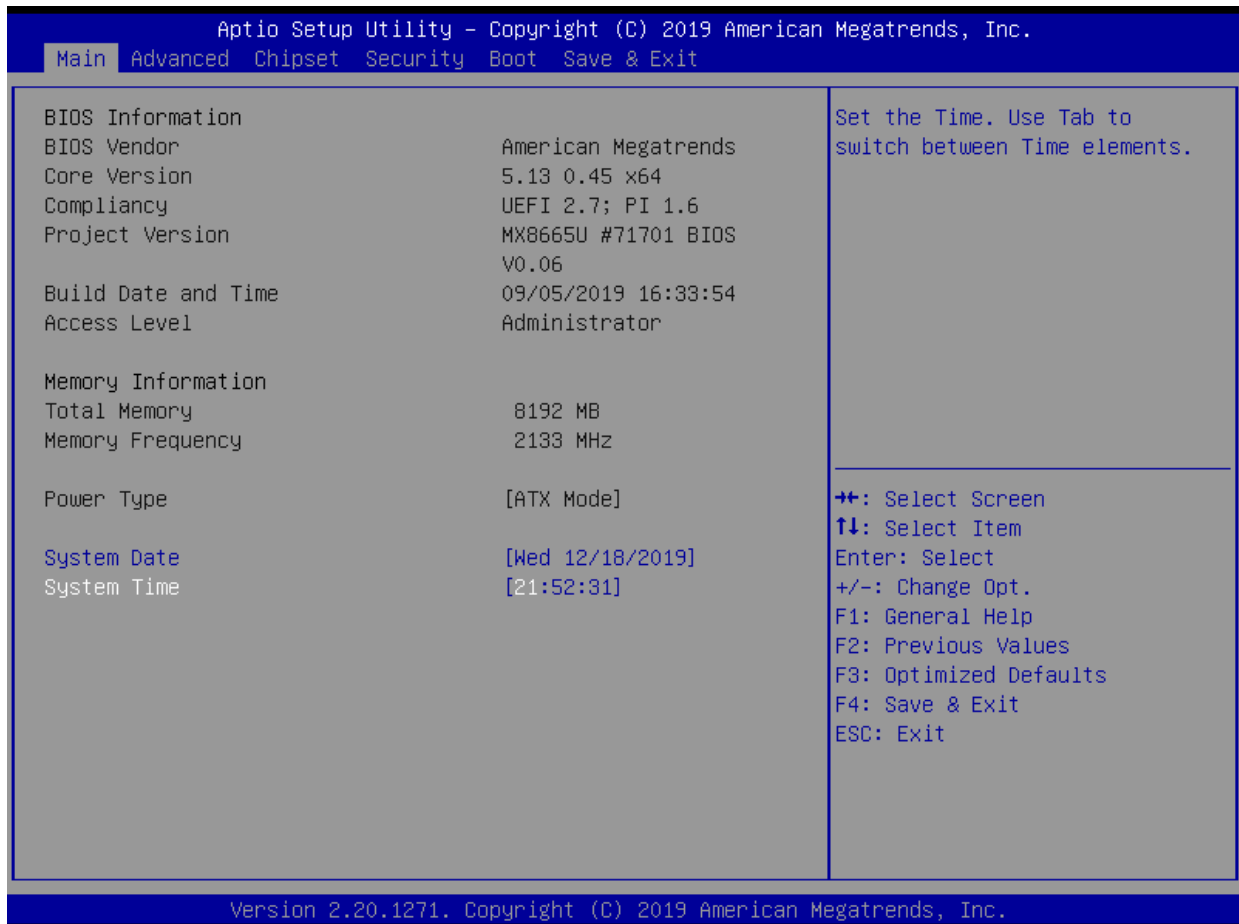
2.2 BIOS Menu Screen

When you enter the BIOS, the following screen appears. The BIOS menu screen displays the items that allow you to make changes to the system configuration. To access the menu items, press the up/down/right/left arrow key on the keyboard until the desired item is highlighted, then press [Enter] to open the specific menu.



2.3 Main Setup

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu. Use this menu for basic system configurations, such as time, date etc.



BIOS Information

Displays the auto-detected BIOS information.

- **System Date**

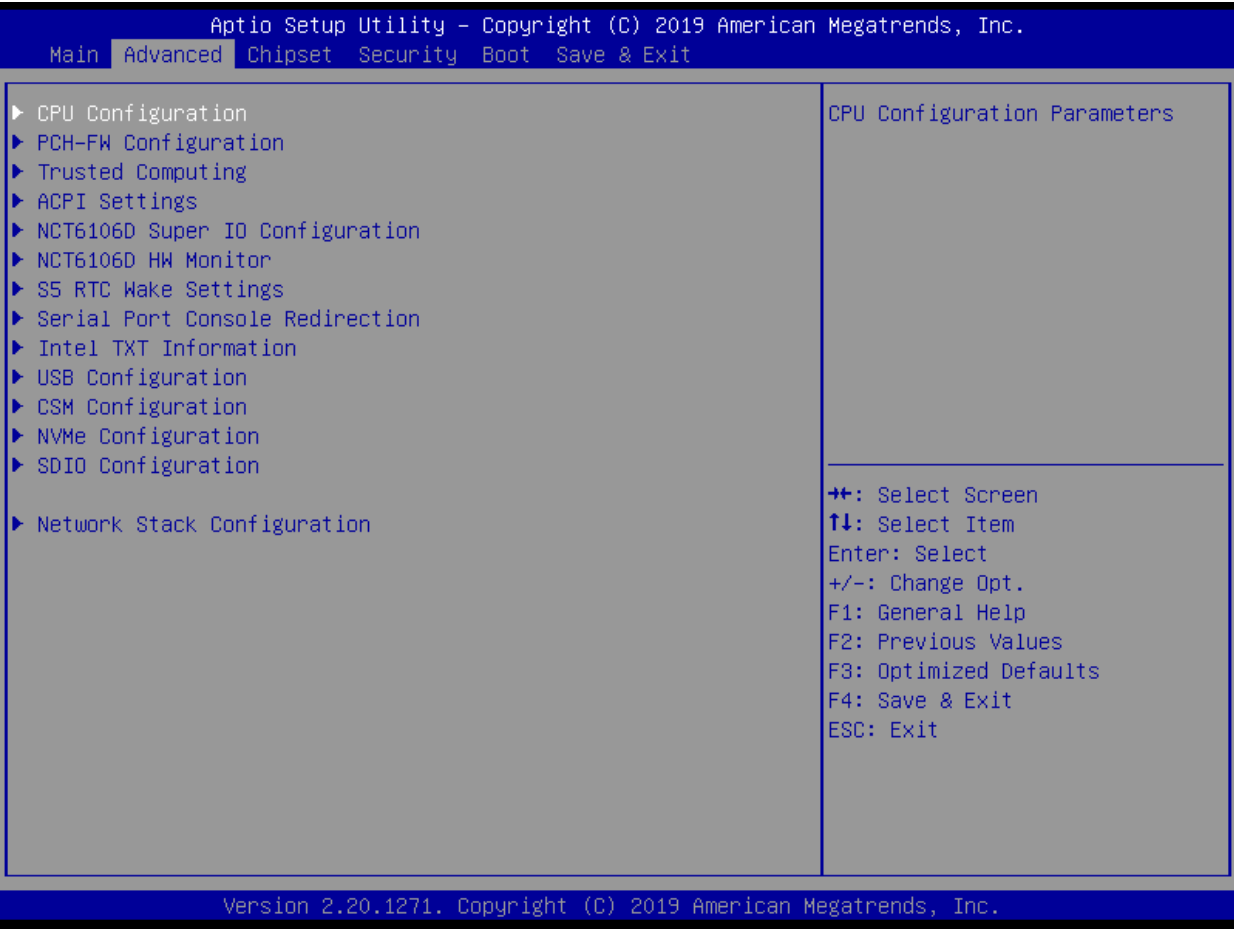
The date format is <Date>,<Month>,<Day>,<Year>.

- **System Time**

The time format is <Hour>,<Minute>,<Second>.

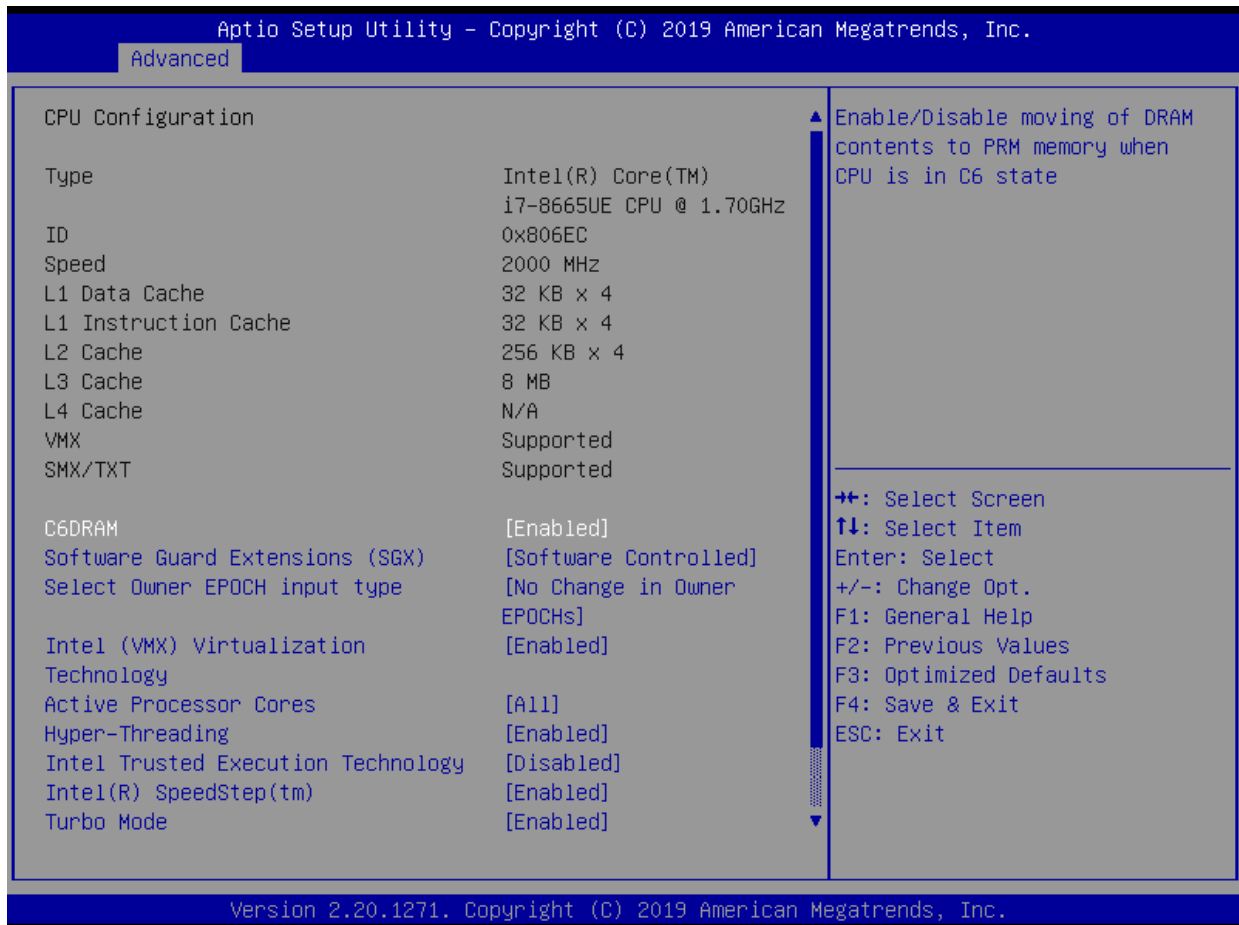
2.4 Advanced BIOS Setup

Select the Advanced tab from the setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as Chipset configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.



Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

2.4.1 CPU configuration



These options may differ to each CPU. It depends on the feature and items of each CPU models. This screenshot is for reference only.

- **C6DRAM [Enabled]**

Enabled or Disabled moving DRAM content to PRM memory when CPU is in C6 state.

Configuration options: [Disabled][Enabled]

This depends on CPU sku.

- **SW Guard Extensions(SGX) [software controlled]**

Enable or disables Guard Extensions

Configuration options:[Disabled][Enabled][Software Controlled]

- **Select owner EPOCH input type [No change in owner EPOCHs]**

After user enters EPOCH values manually, the values will not be visible for security reasons

Configuration options:[No change in owner EPOCHs][change to new random owner EPOCHs][Manual user defined owner EPOCHs]

- **Intel Virtualization Technology [Enabled]**

When enabled, a VMM can utilize the additional hardware capabilities provided by vandrpool Technology

Configuration options: [Disabled][Enabled]

MX4305UE User's Manual

- **Active Processor Cores [All]**

Number of Cores to enable in each processor package

Configuration options: [all] [1][2][3]

This depends on CPU sku.

- **Hyper-Threading [Enabled]**

Enabled or Disabled the hyper threading of Intel CPU

Configuration options: [Disabled][Enabled]

This depends on CPU sku.

- **Intel Trusted Execution Technology [Disabled]**

Enabled or Disabled Intel Trusted Execution Technology.

Configuration options: [Disabled][Enabled]

- **Intel® SpeedStep™ [Enabled]**

Allow more than two frequency ranges to be supported.

Configuration options: [Disabled][Enabled]

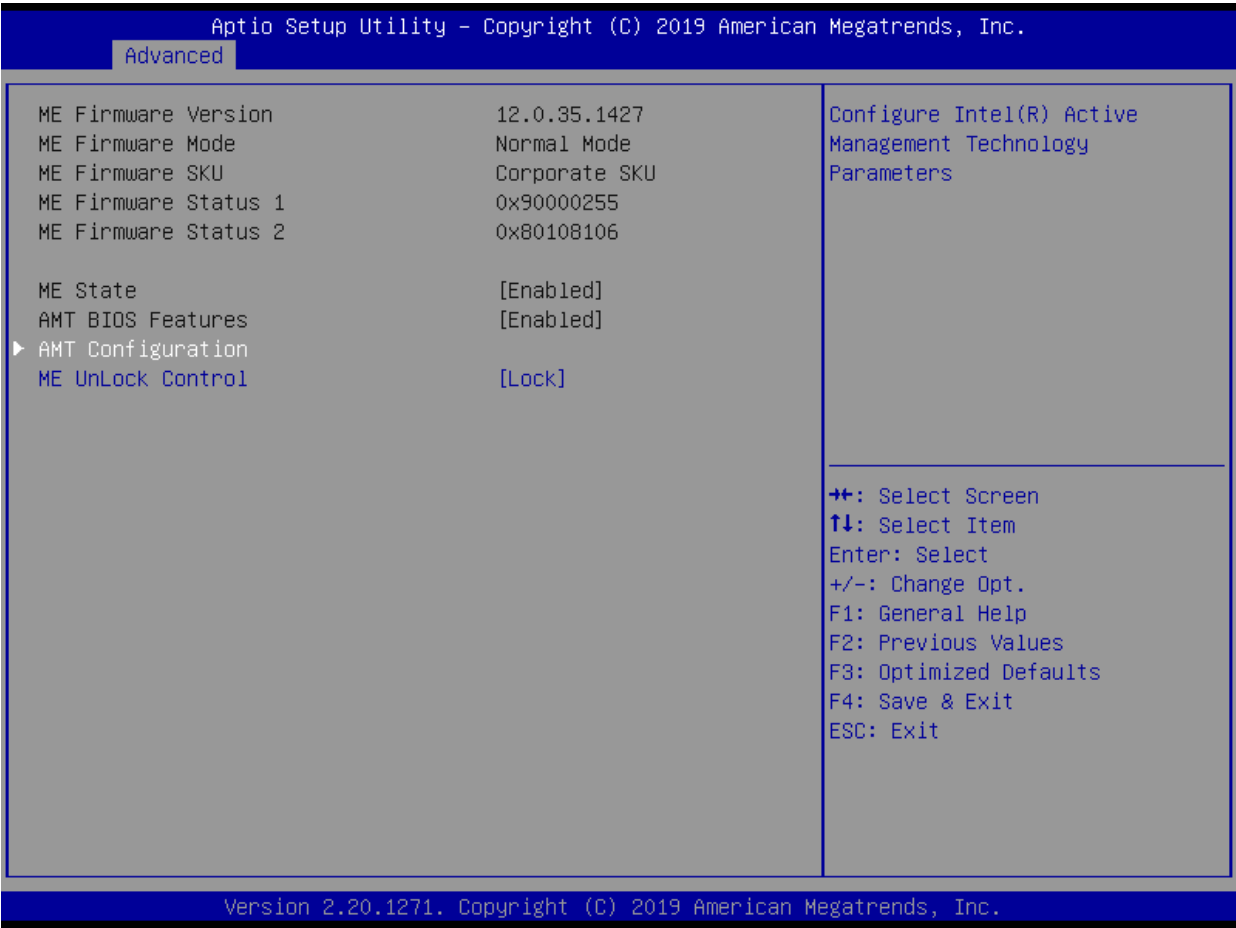
- **Turbo mode [Enabled]**

Enable or disable Turbo mode

Configuration options: [Enabled] [Disabled]

2.4.2 PCH-FW Configuration

It shows ME version and ME status.

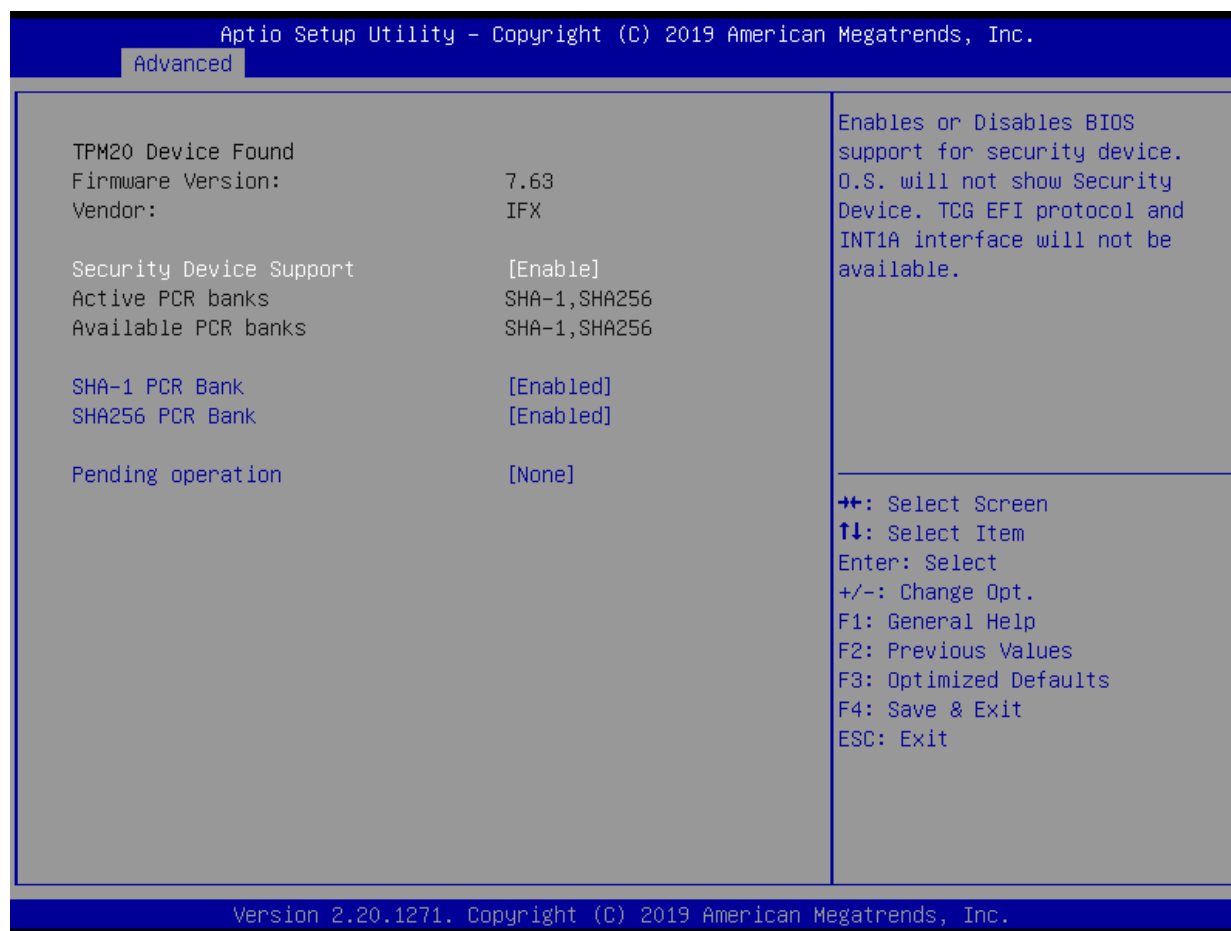


- **ME State [Enable]**
Enable or Disable Intel ME.
Configuration options: [Enable] [Disable]
- **ME Unlock Control [Lock]**
ME unlock switch function. This function will automatically recover setting from Unlock to Lock after power-on system.
Configuration options: [Lock] [Unlock]

2.4.3 Trusted Computing

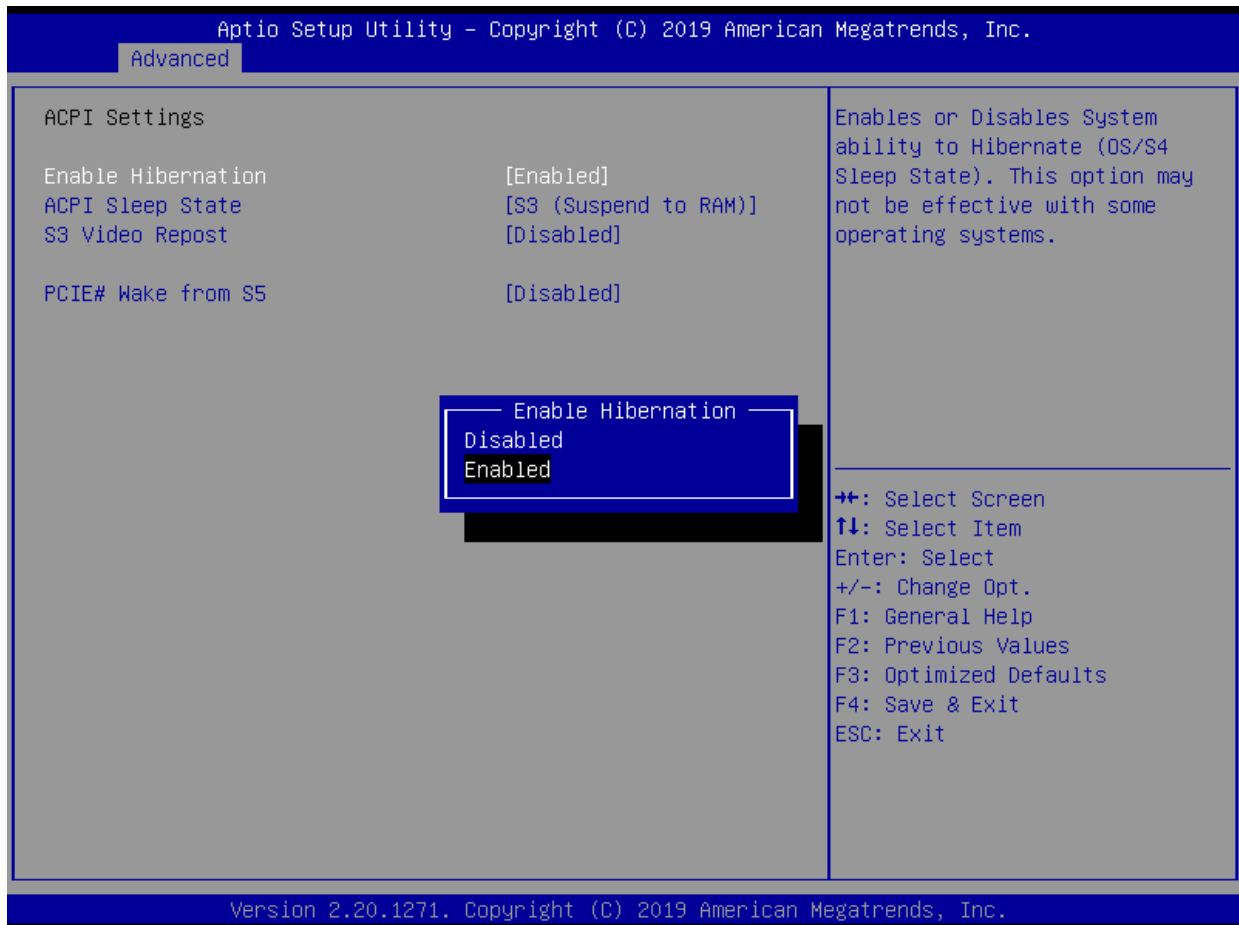
Security device settings

MX4305UE User's Manual



- **Security Device Support [Enable]**
Enable or Disable BIOS support for security device.
Configuration options: [Enable] [Disable]
- **SHA-1 PCR Bank [Enable]**
Enable or Disable SHA-1 PCR Bank.
Configuration options: [Enable] [Disable]
- **SHA256 PCR Bank [Enable]**
Enable or Disable SHA256 PCR Bank.
Configuration options: [Enable] [Disable]
- **Pending Operation [None]**
Schedule and operation for the Security Device.
Configuration options: [None] [TPM clear]

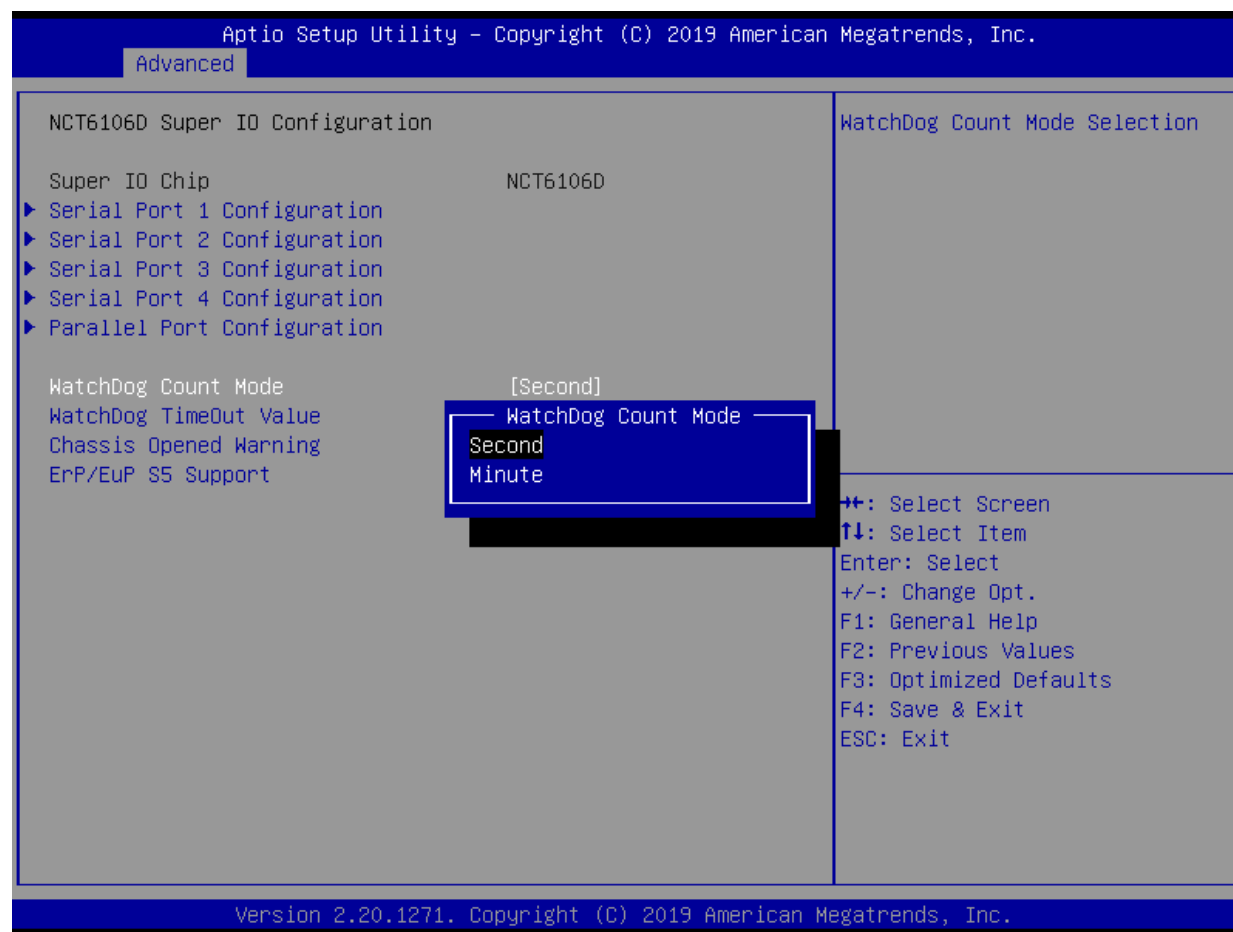
2.4.4 ACPI Settings



- **Enable Hibernation [Enable]**
Enable or Disable system ability to Hibernation.
Configuration options: [Enable] [Disable]
- **ACPI Sleep State [S3 only (Suspend to RAM)]**
Select the highest ACPI sleep state the system will enter the SUSPEND button is press.
Configuration options: [Suspend Disabled] [S3 only(suspend to RAM)]
- **S3 Video Repost [Disabled]**
Enable or disable S3 video repost
Configuration options: [Disabled] [Enabled]
- **PCIE# wake from S5 [Disabled]**
Enable or disable PCIE wake the system from S5.
Configuration options: [Disabled] [Enabled]

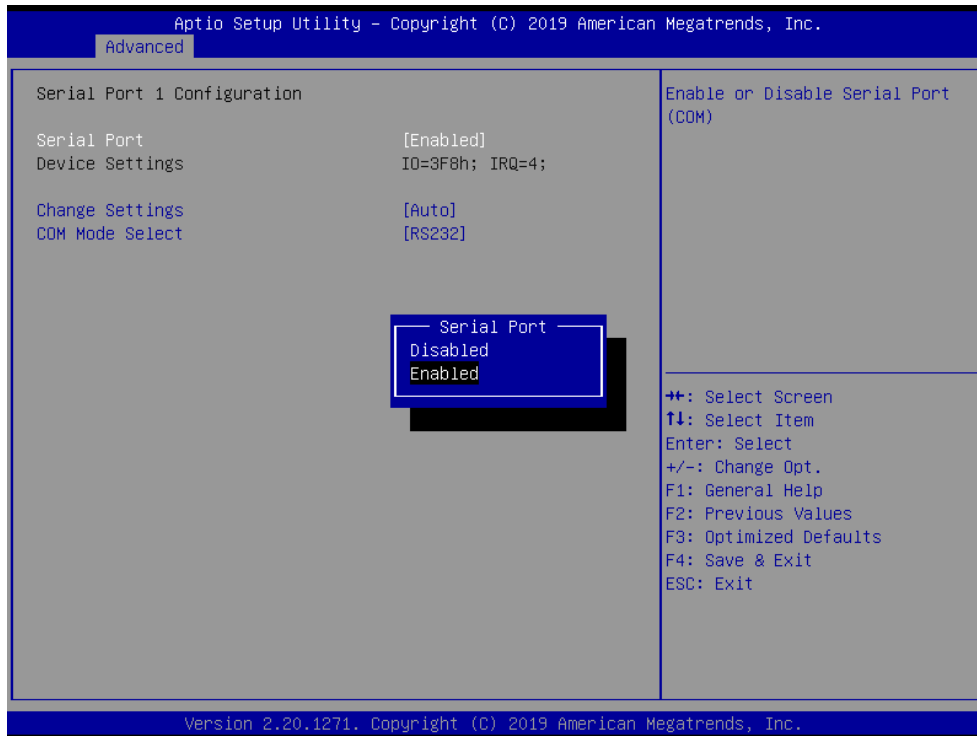
2.4.5 NCT6106D Super IO configuration

Provide NCT6106D super IO configuration settings

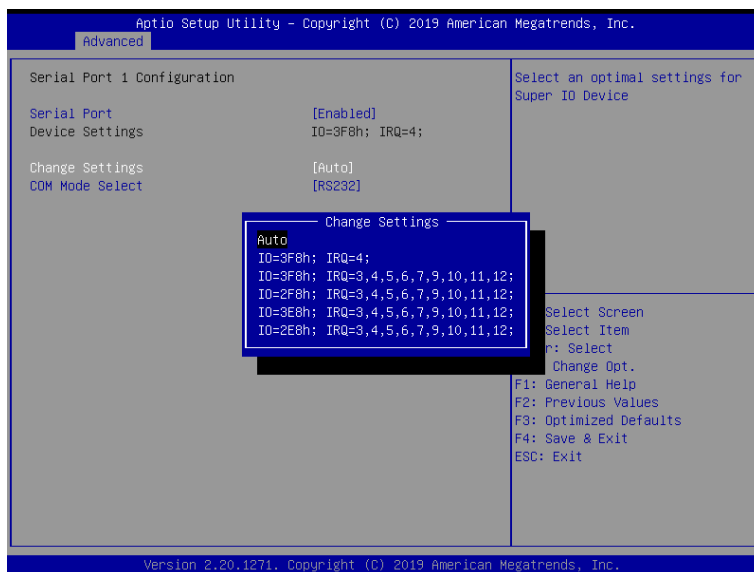


- **WatchDog count mode [Second]**
WatchDog count mode Selection
Configuration options: [Second] [Minute]
- **WatchDog Timeout value**
Fill watchdog timeout value, 0 means disables
- **Chassis opened warning [Disabled]**
Select chassis intrusion enabled to Disabled
Configuration options: [Disabled] [Enabled]
- **ErP/EuP S5 support [Disabled]**
ErP/EuP S5 support mode Selection
Configuration options: [Disabled] [Enabled]

2.4.5.1 Serial Port 1 Configuration

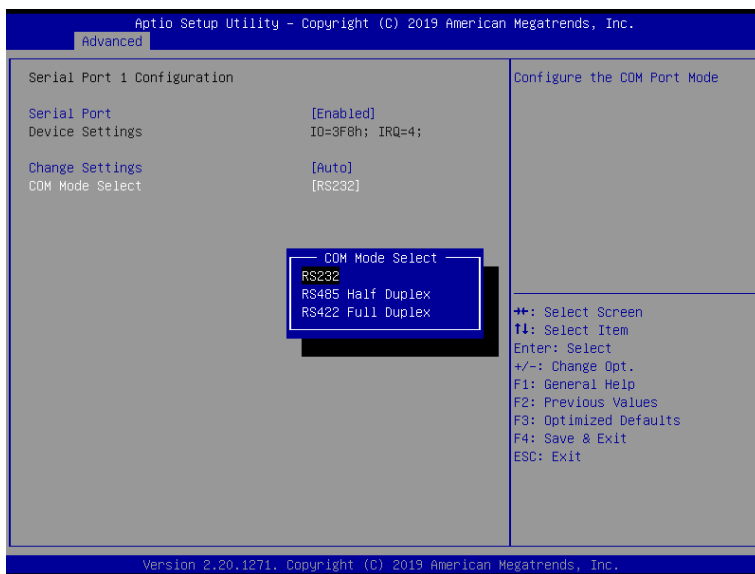


- **Serial Port [Enabled]**
Enable or Disable serial Port (COM)
Configuration options: [Disabled] [Enabled]
- **Change Settings [Auto]**
Select an optimal settings for super IO device
Configuration options: as below



- **COM mode Select [RS232]**
Configure the Com port mode
Configuration options: as below

MX4305UE User's Manual



2.4.5.2 Serial Port 2 Configuration

- **Serial Port [Enabled]**

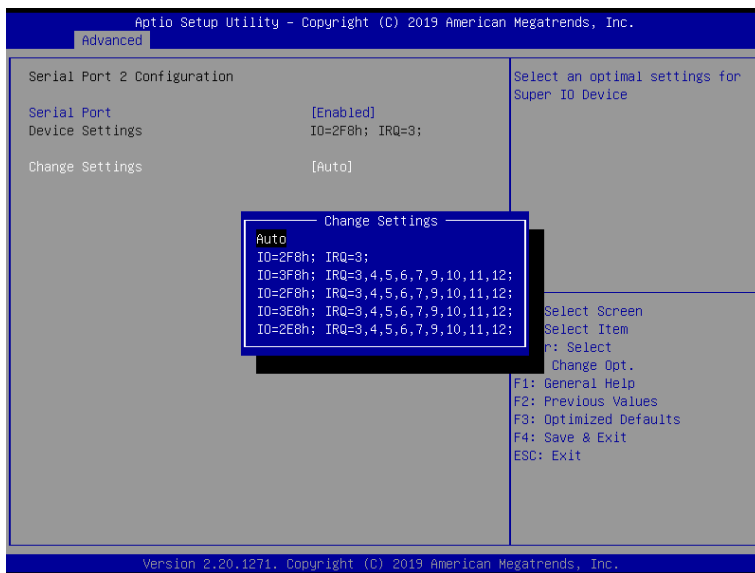
Enable or Disable serial Port (COM)

Configuration options: [Disabled] [Enabled]

- **Change Settings [Auto]**

Select an optimal settings for super IO device

Configuration options: as below



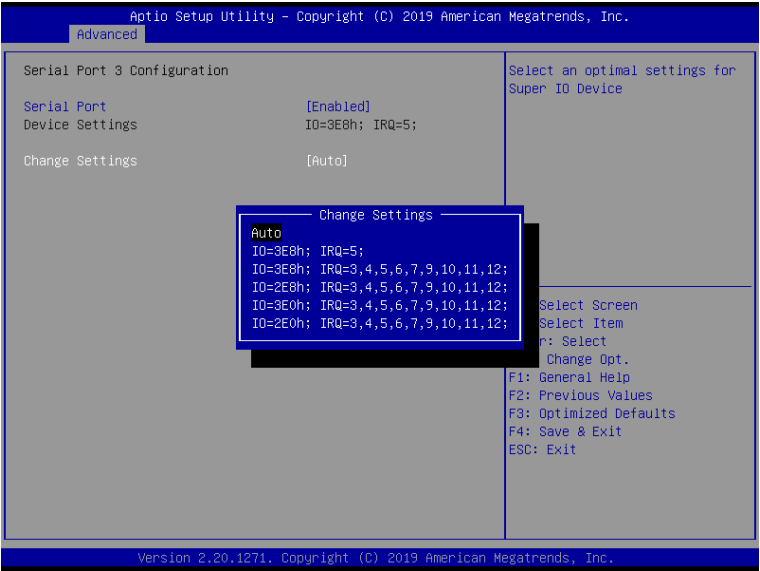
2.4.5.3 Serial Port 3 Configuration

- **Serial Port [Enabled]**

Enable or Disable serial Port (COM)

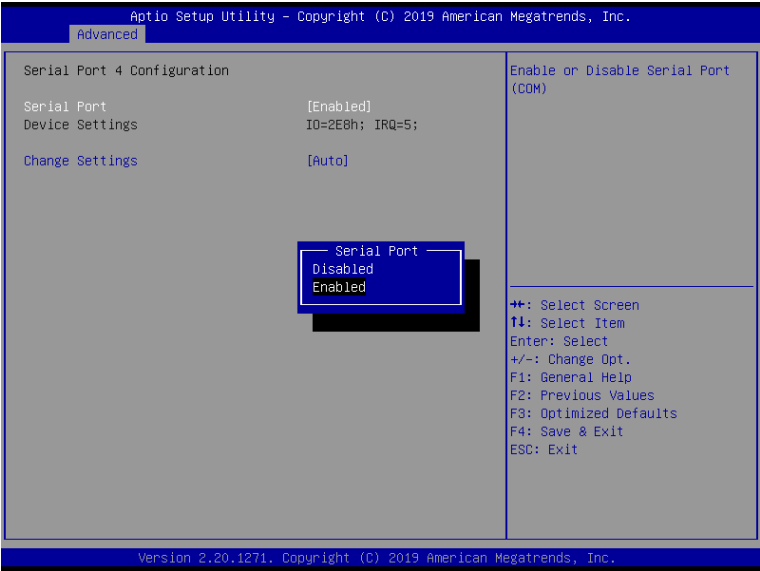
Configuration options: [Disabled] [Enabled]

- **Change Settings [Auto]**
Select an optimal settings for super IO device
Configuration options: as below



2.4.5.4 Serial Port 4 Configuration

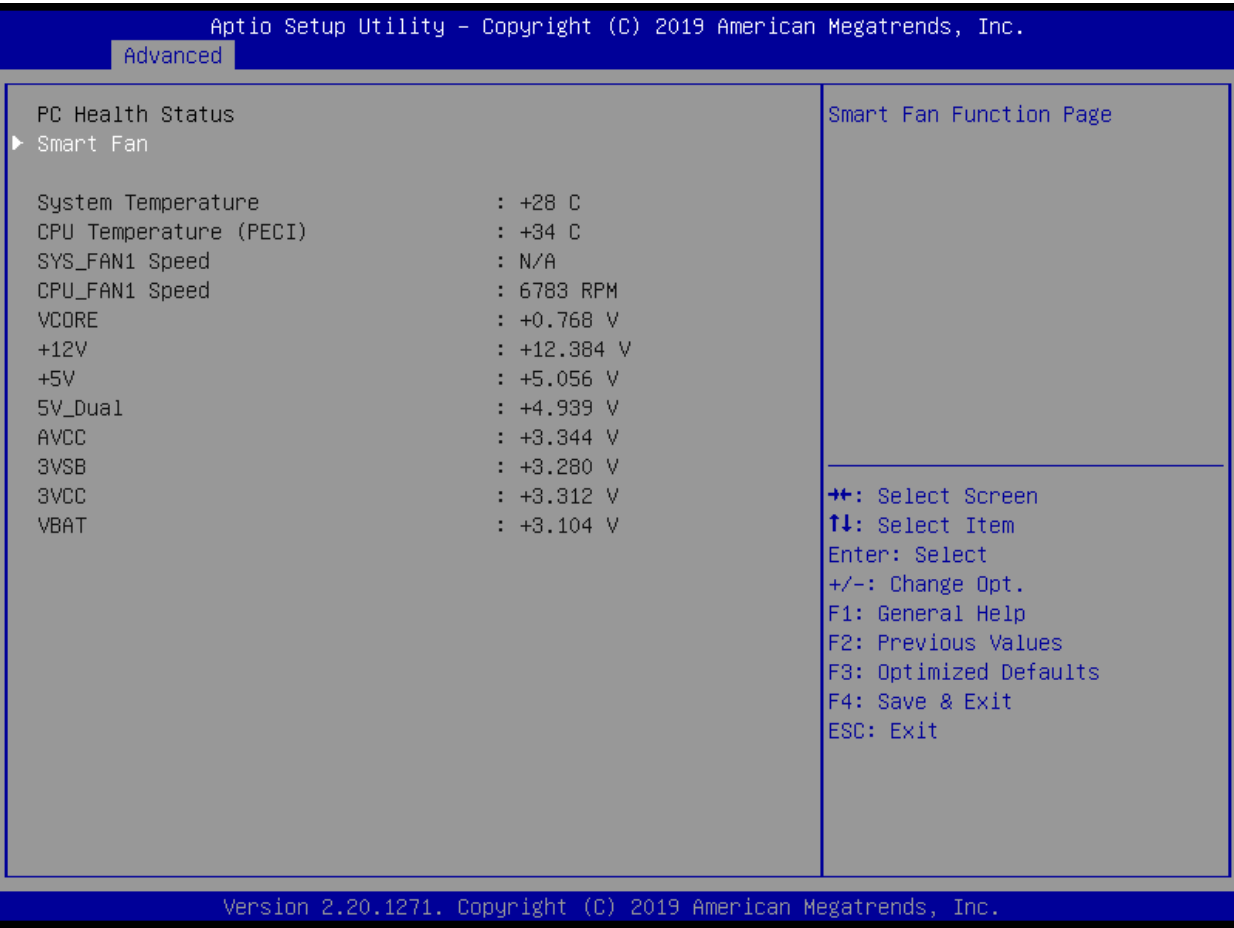
- **Serial Port [Enabled]**
Enable or Disable serial Port (COM)
Configuration options: [Disabled] [Enabled]
- **Change Settings [Auto]**
Select an optimal settings for super IO device
Configuration options: as below



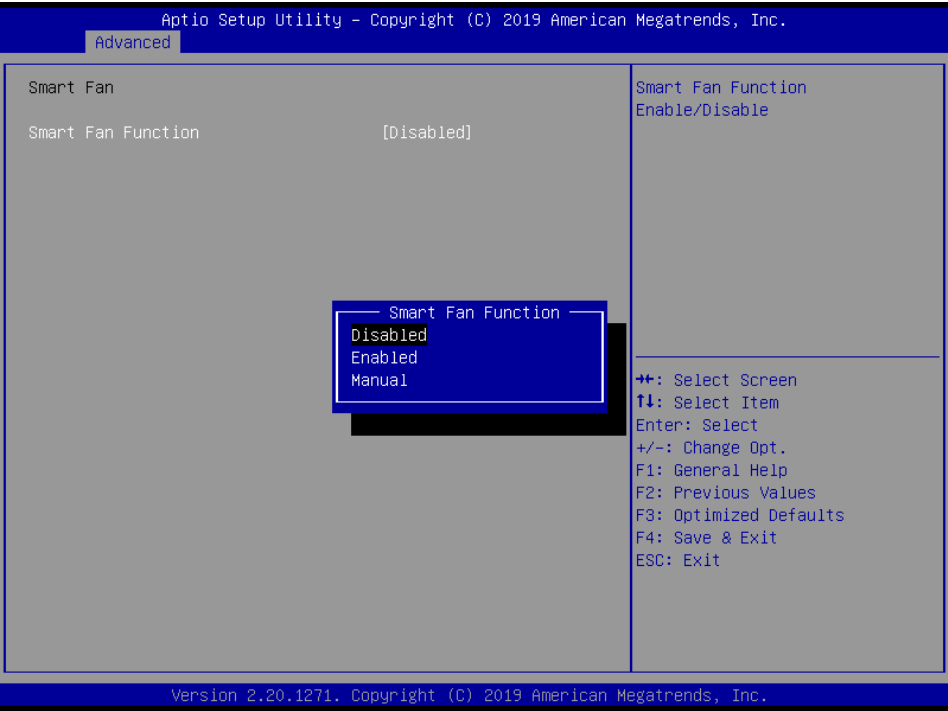
MX4305UE User's Manual

2.4.6 NCT6106D HW monitor

Display Hardware monitor information



2.4.6.1 Smart FAN



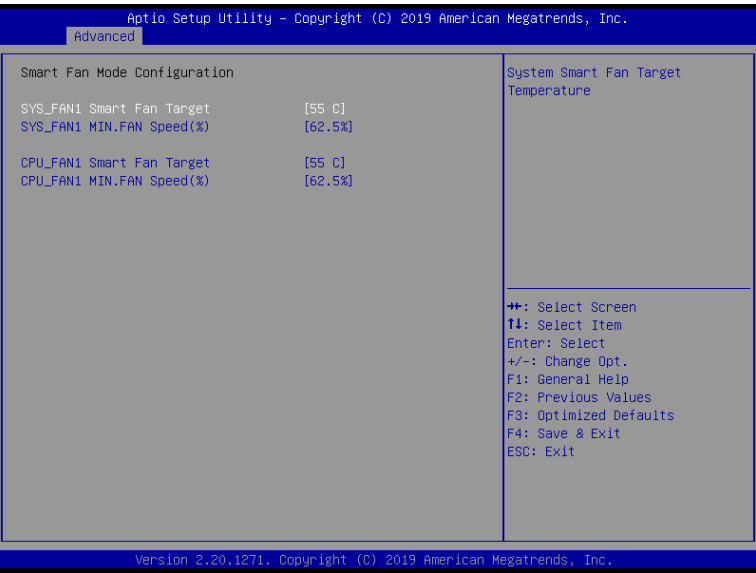
- **Smart FAN Function [Disabled]**

Smart fan function Enable/Disabled/Manual

Configuration options: [Enabled] [Disabled] [Manual]

2.4.6.1.1 Smart FAN mode Configuration

Setting different FAN on this motherboard when enable the Smart Fan Function.

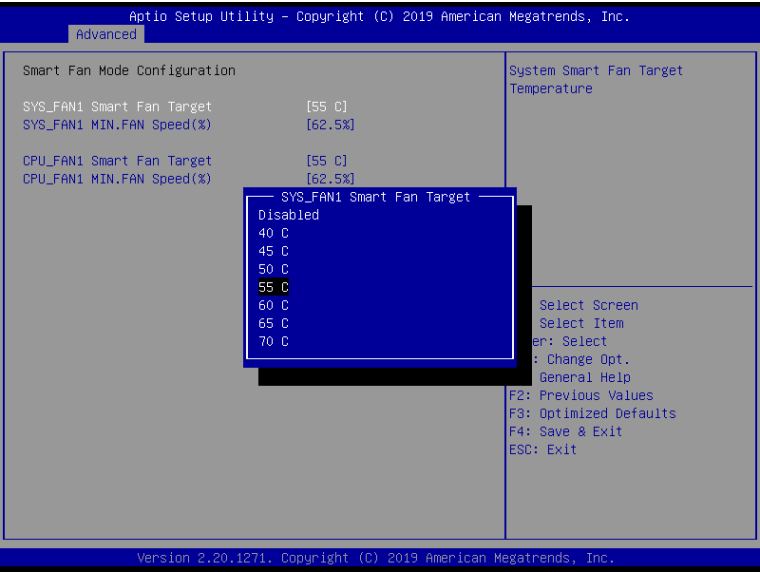


- **SYS_FAN1 Smart Fan Target [Disabled]**

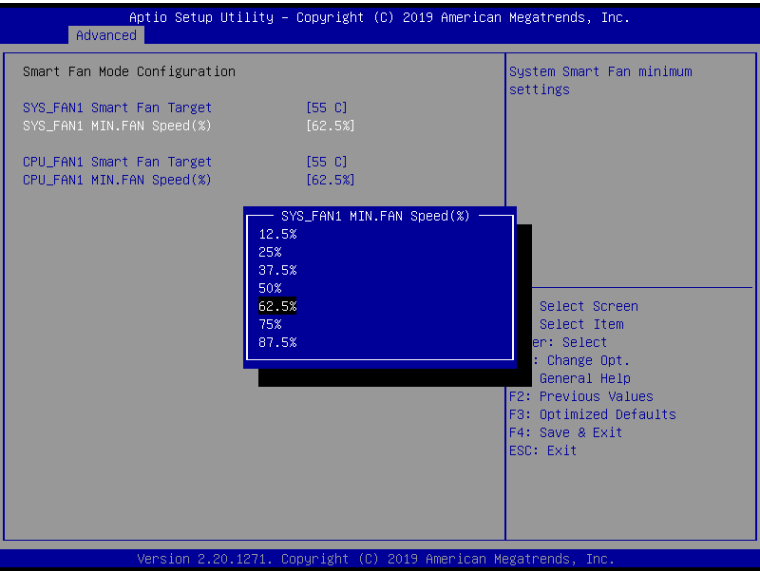
Smart FAN target temperature

Configuration options: Please see below picture

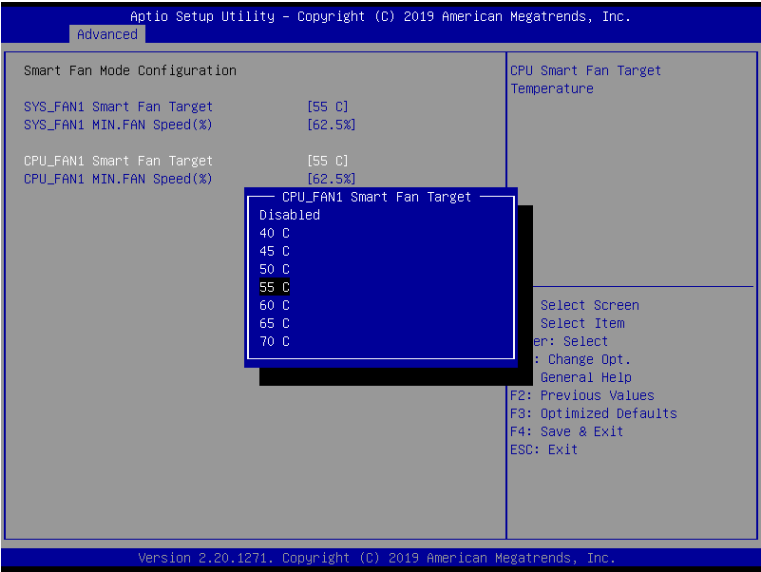
MX4305UE User’s Manual



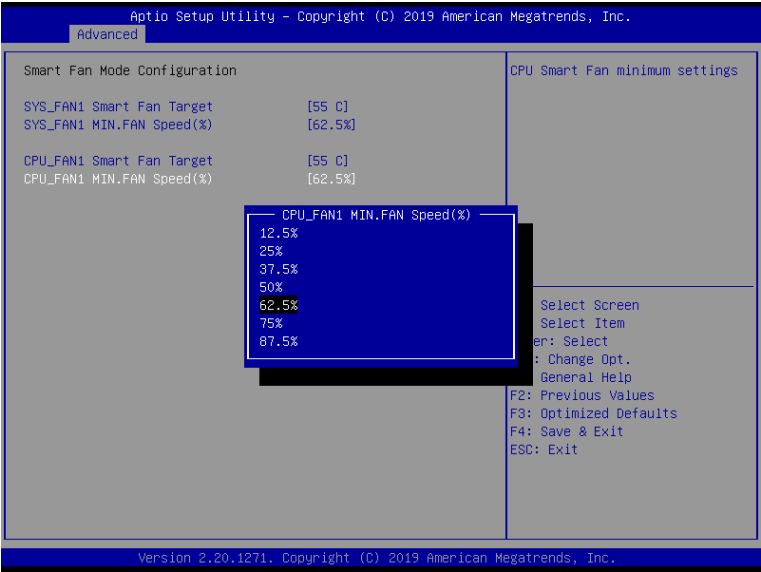
- **SYS_FAN1 Min.FAN Speed(62.5%)**
 Smart FAN minimum settings
 Configuration options: Please see below picture



- **CPU_FAN1 Smart Fan Target [Disabled]**
 Smart FAN target temperature
 Configuration options: Please see below picture

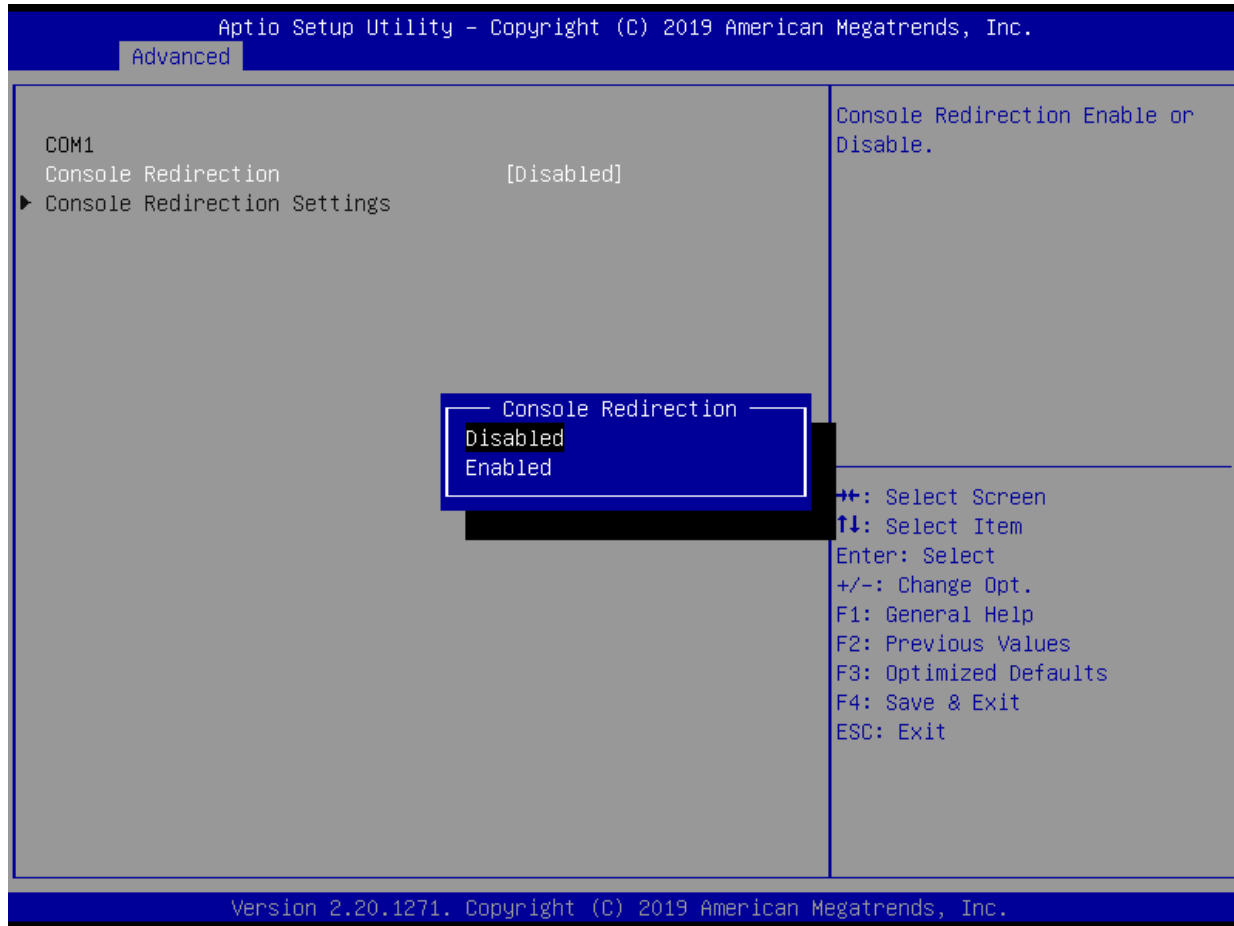


- **CPU_FAN1 Min.FAN Speed(62.5%)**
 Smart FAN minimum settings
 Configuration options: Please see below picture



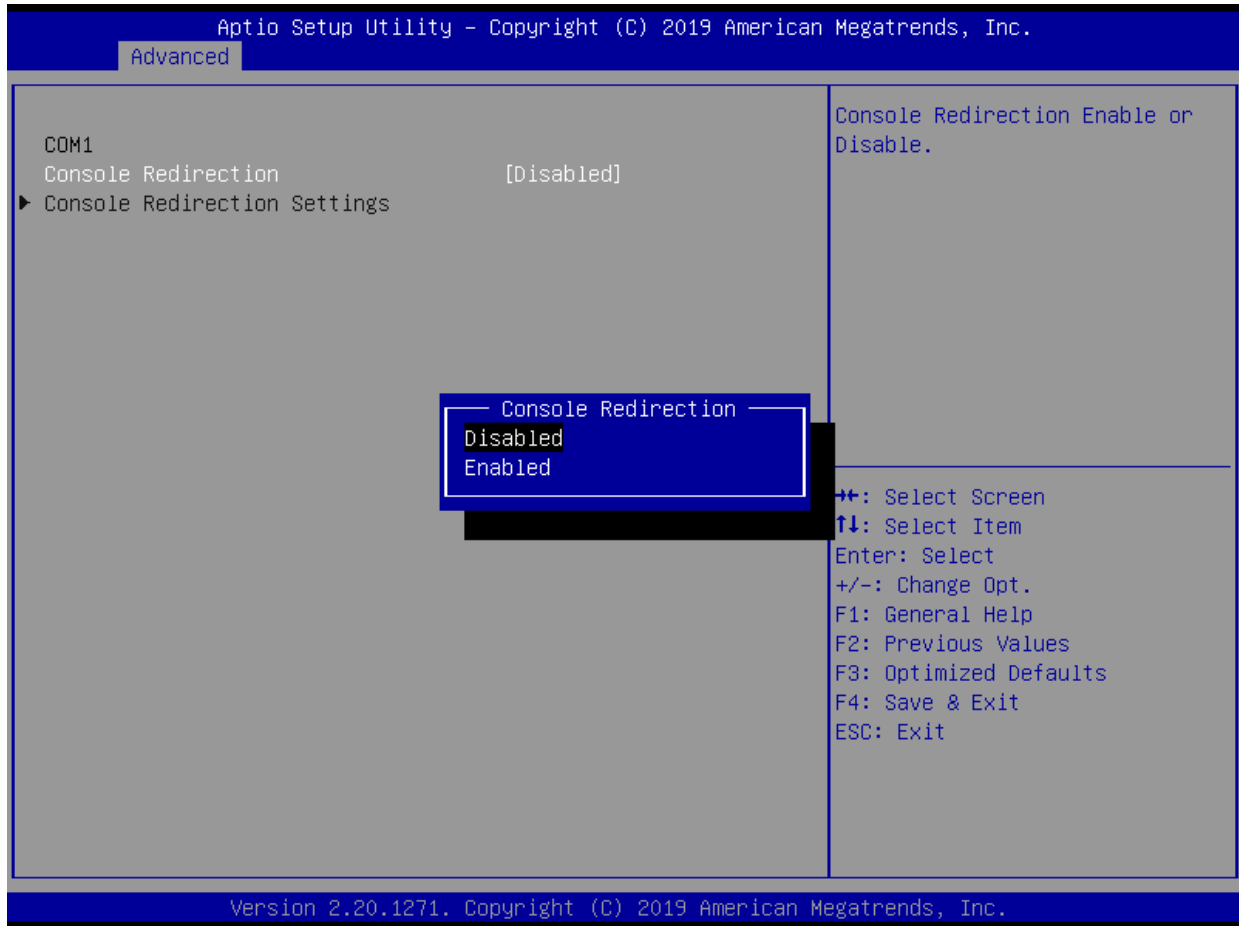
MX4305UE User's Manual

2.4.7 S5 RTC wake settings



- **Wake system from S5 [Disabled]**
Enabled or Disabled system wake on alarm event
Configuration options: [Enabled] [Disabled]

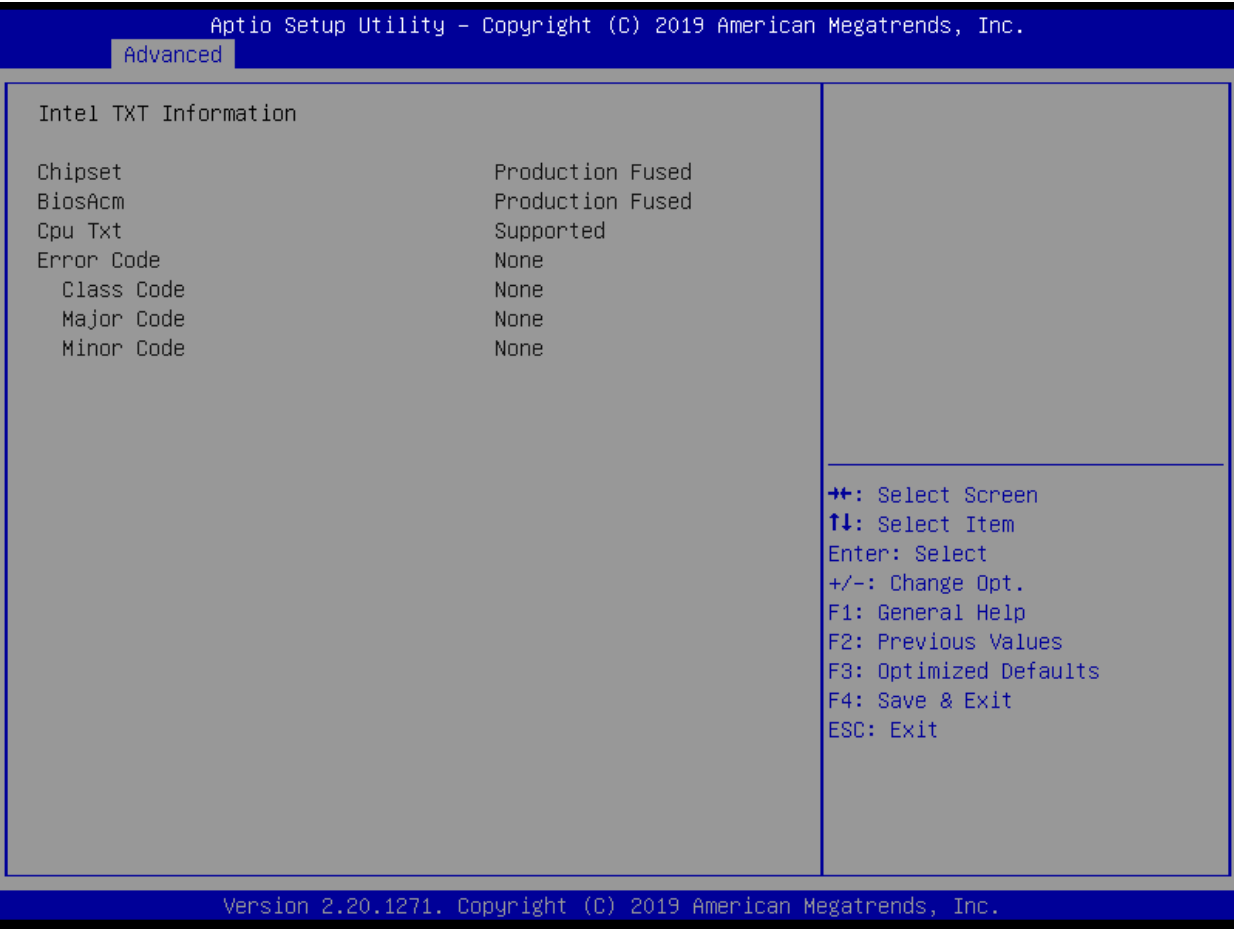
2.4.8 Serial Port Console Redirection



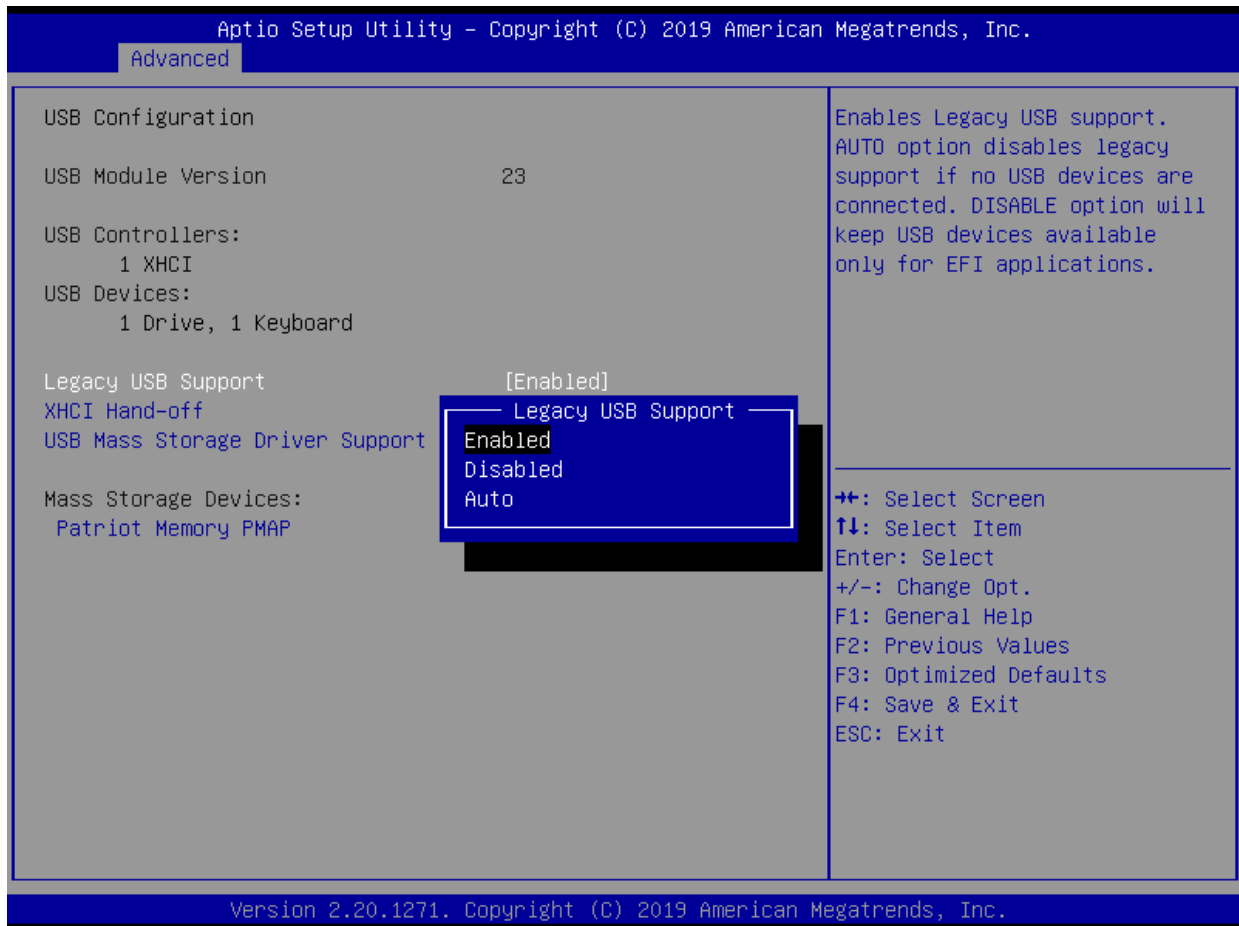
- **Console Redirection [Disabled]**
 Enabled or Disabled Console Redirection
 Configuration options: [Enabled] [Disabled]

2.4.9 Intel TXT information

Display Intel TXT information



2.4.10 USB Configuration



- **Legacy USB Support [Enabled]**

Enabled Legacy USB Support. Auto Option disables legacy support if no USB devices are connected. Disabled option will keep USB devices available only for EFI application.

Configuration options: [Disabled] [Enabled][Auto]

- **XHCI Hand-off [Enabled]**

This is a workaround for OSes without XHCI hand-off support. This XHCI ownership change should be claimed by XHCI drivers

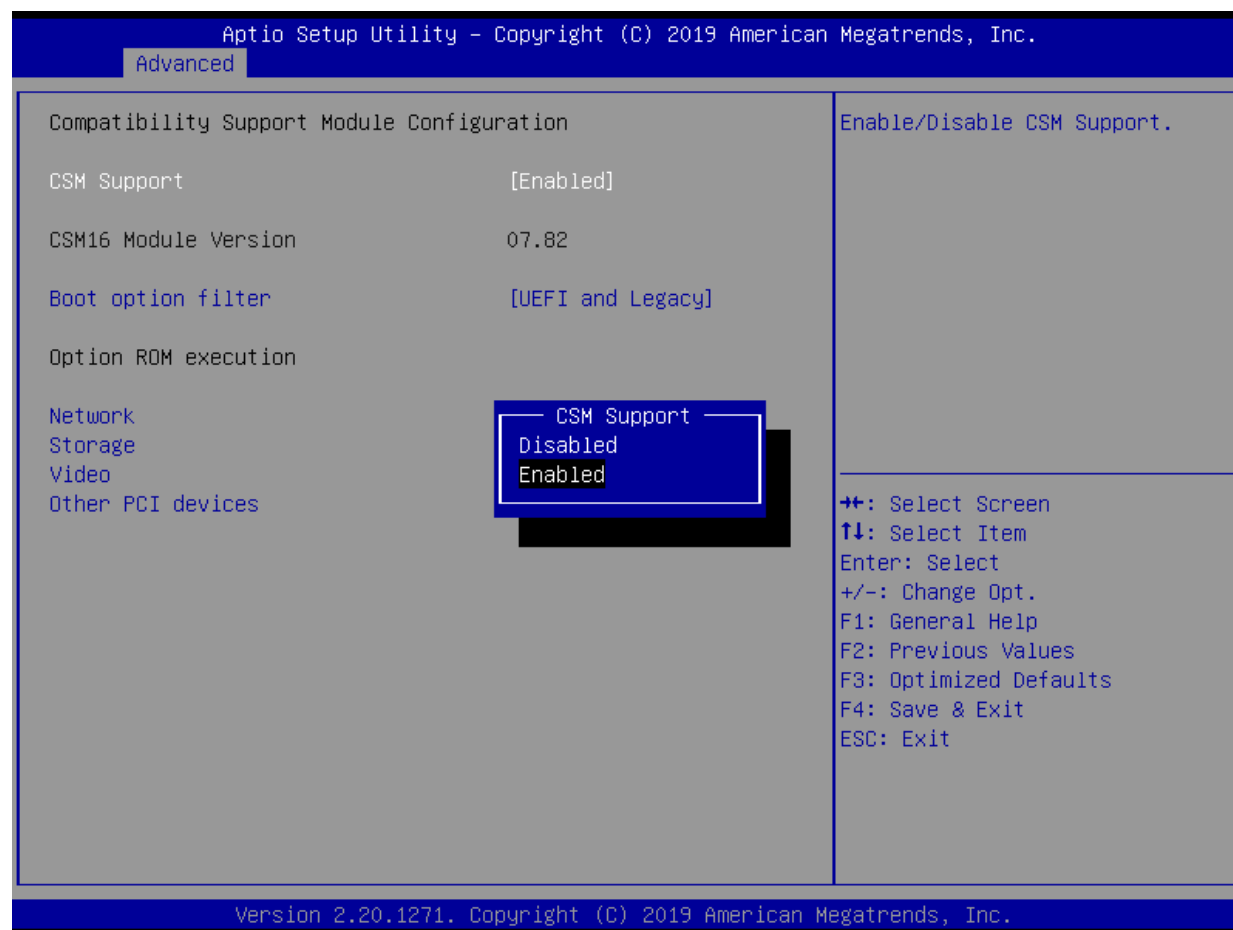
Configuration options: [Disabled] [Enabled]

- **USB Mass storage Driver Support[Enabled]**

Enabled or Disabled USB Mass storage driver support.

Configuration options: [Disabled] [Enabled]

2.4.11 Compatibility Support Module Configuration



- **CSM Support [Enabled]**

Enabled or disabled CSM Support

Configuration options: [Disabled] [Enabled]

- **Boot option Filter [UEFI and Legacy]**

This option controls Legacy/UEFI ROMs Priority

Configuration options: [UEFI and Legacy] [Legacy Only][UEFI Only]

- **Network [UEFI]**

Control the execution of UEFI and Legacy PXE OpROM

Configuration options: [Do not launch] [UEFI][Legacy]

- **Storage [UEFI]**

Control the execution of UEFI and Legacy Storage OpROM

Configuration options: [Do not launch] [UEFI][Legacy]

- **Video [UEFI]**

Control the execution of UEFI and Legacy Video OpROM

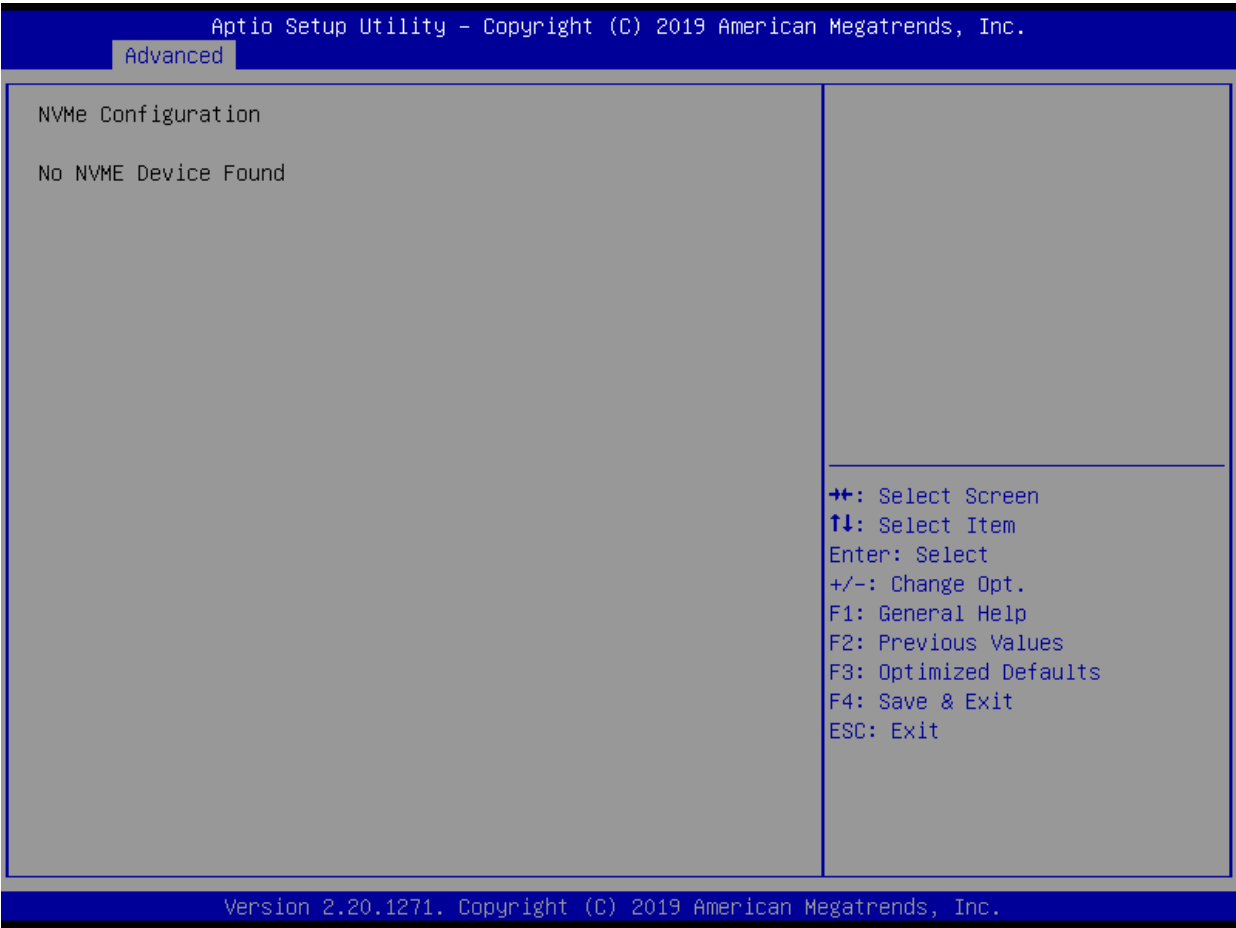
Configuration options: [Do not launch] [UEFI][Legacy]

- **Other PCI devices [UEFI]**

Determines OpROM execution policy for devices other than Network, Storage, or Video.

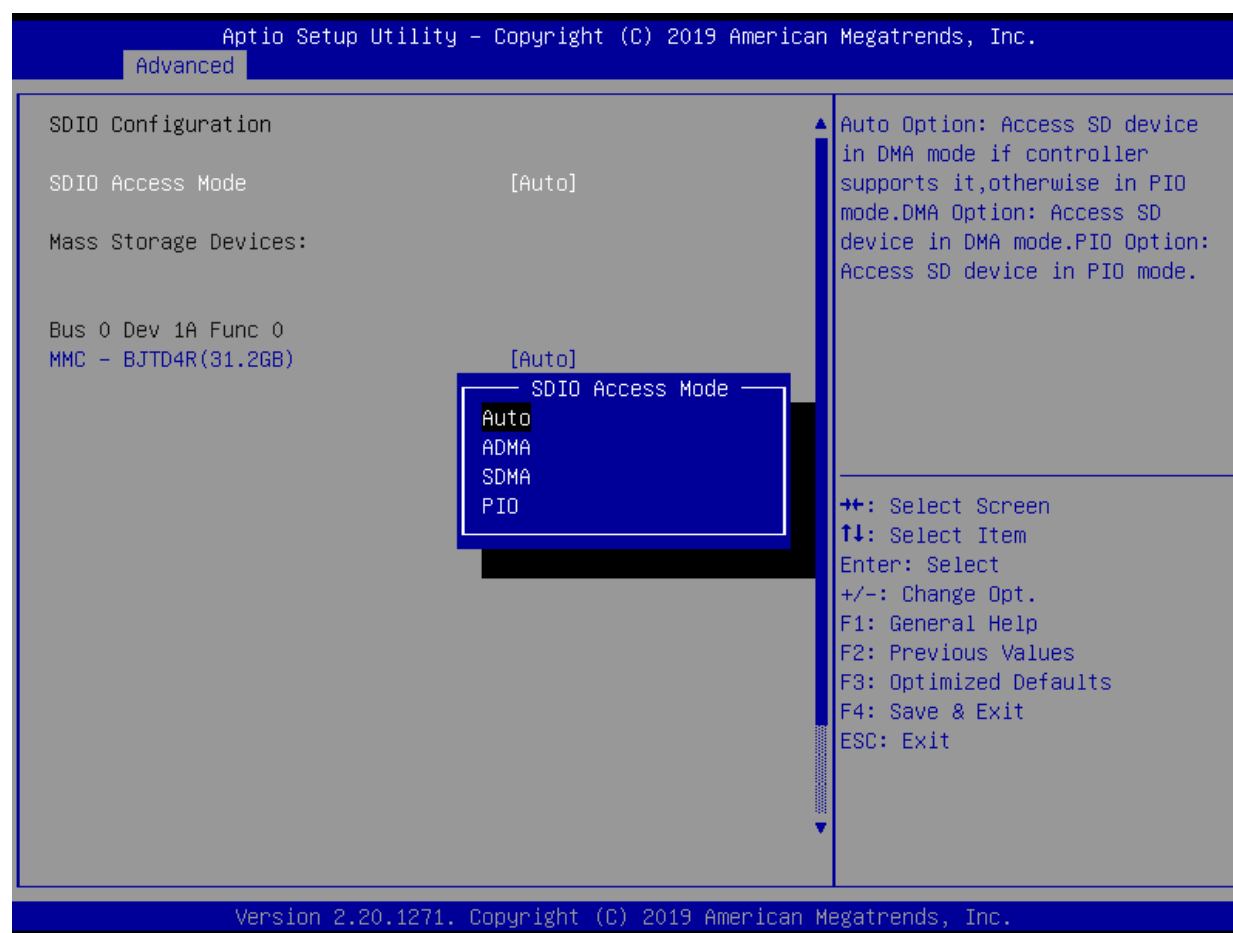
Configuration options: [Do not launch] [UEFI][Legacy]

2.4.12 NVMe Configuration
Display NVMe controller or Drive information



2.4.13 SDIO Configuration
Display SDIO information

MX4305UE User's Manual



- **SDIO Access Mode [Auto]**

SDIO Access Mode Selection

Configuration options: [Auto] [ADMA] [SDMA] [PIO]

- **MMC – BJTD4R (31.2GB) [Auto]**

Mass Storage Device Emulation Type

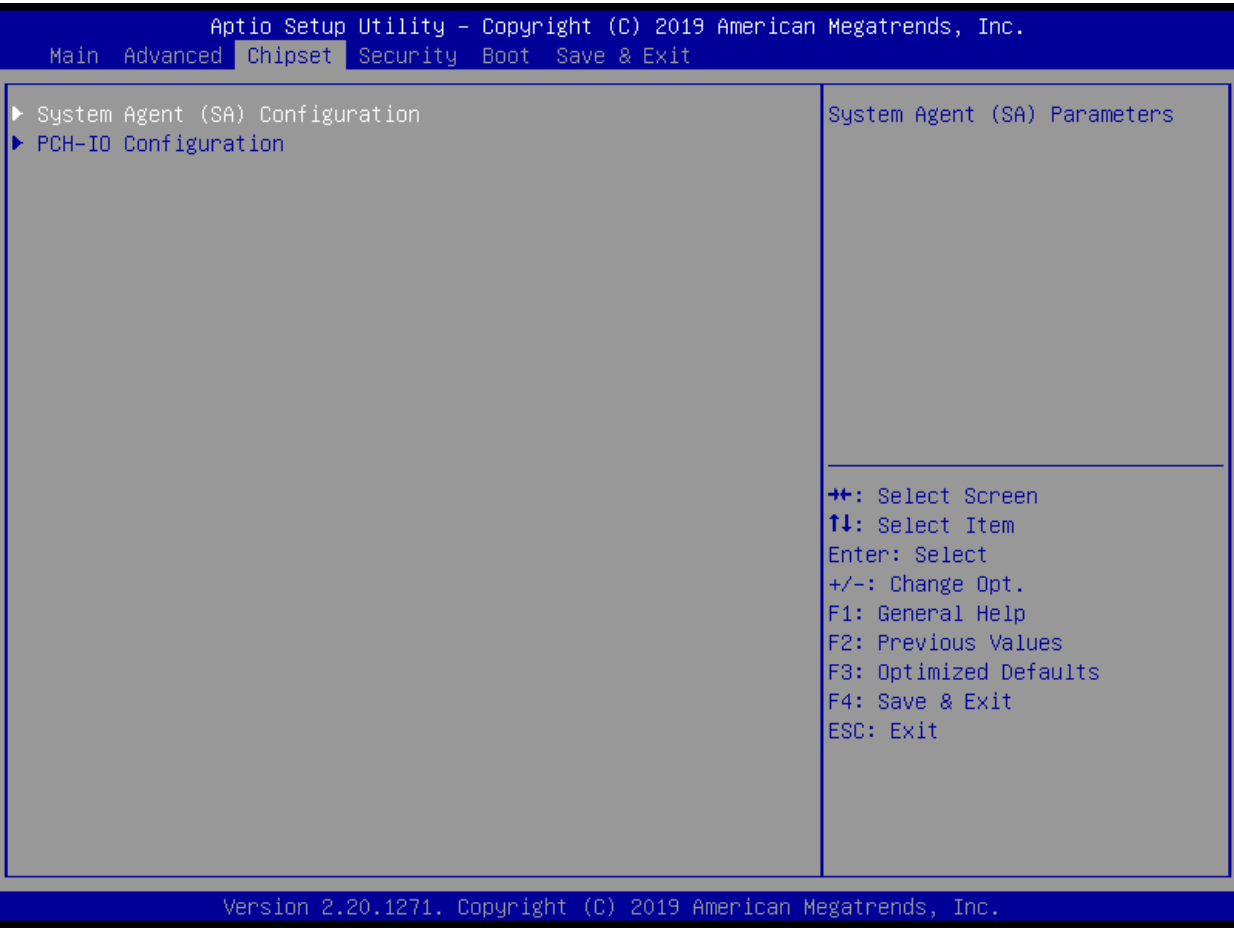
Configuration options: [Auto] [Floppy][Forced FDD][Hard Disk]

2.4.14 Network Stack Configuration

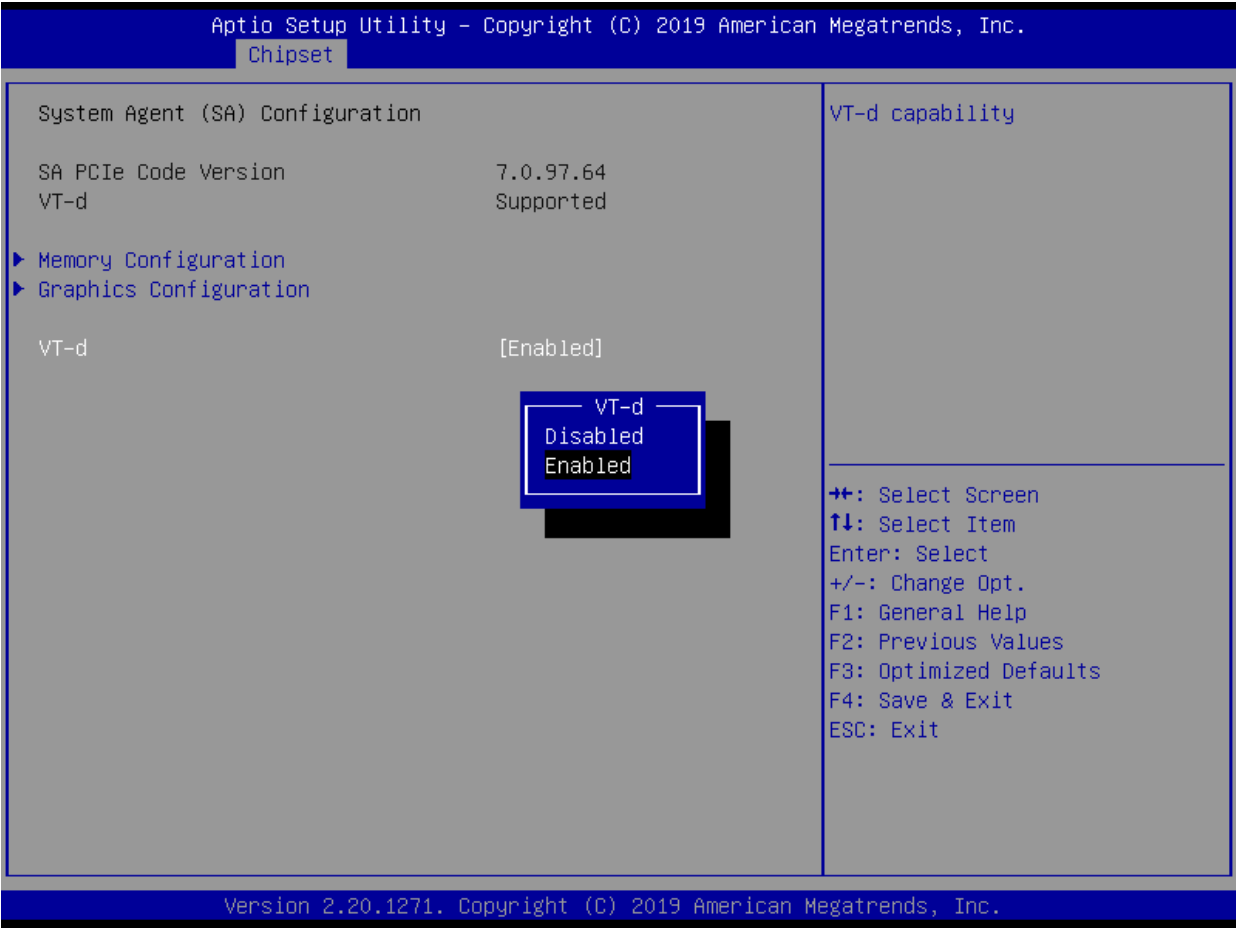


- **Network Stack [Disabled]**
Enabled or disabled UEFI Network Stack
Configuration options: [Disabled] [Enabled]
- **Ipv4 PXE Support [Disabled]**
Enabled IPv4 PXE boot support
Configuration options: [Disabled] [Enabled]
- **Ipv6 PXE Support [Disabled]**
Enabled IPv6 PXE boot support
Configuration options: [Disabled] [Enabled]
- **PXE boot wait time**
Wait time to press ESC to abort the PXE boot
- **Media Detect Count**
Number of times presence of media will be checked

2.5 Chipset



2.5.1 System Agent (SA) Configuration



● VT-d [Enabled]

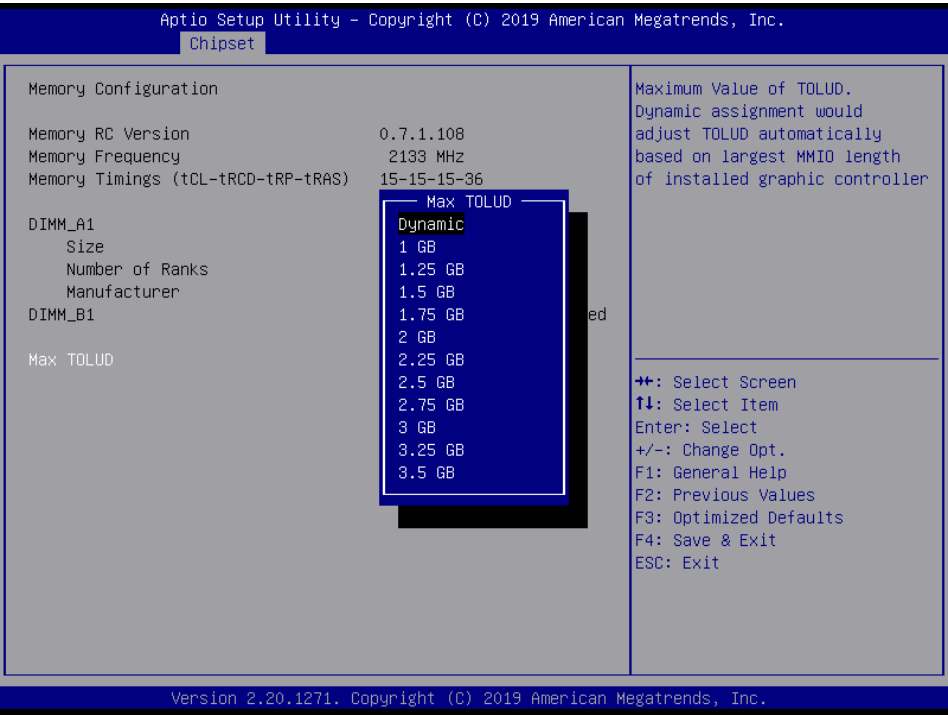
VT-d capability

Configuration options: [Disabled] [Enabled]

2.5.1.1 Memory configuration

Display memeory information

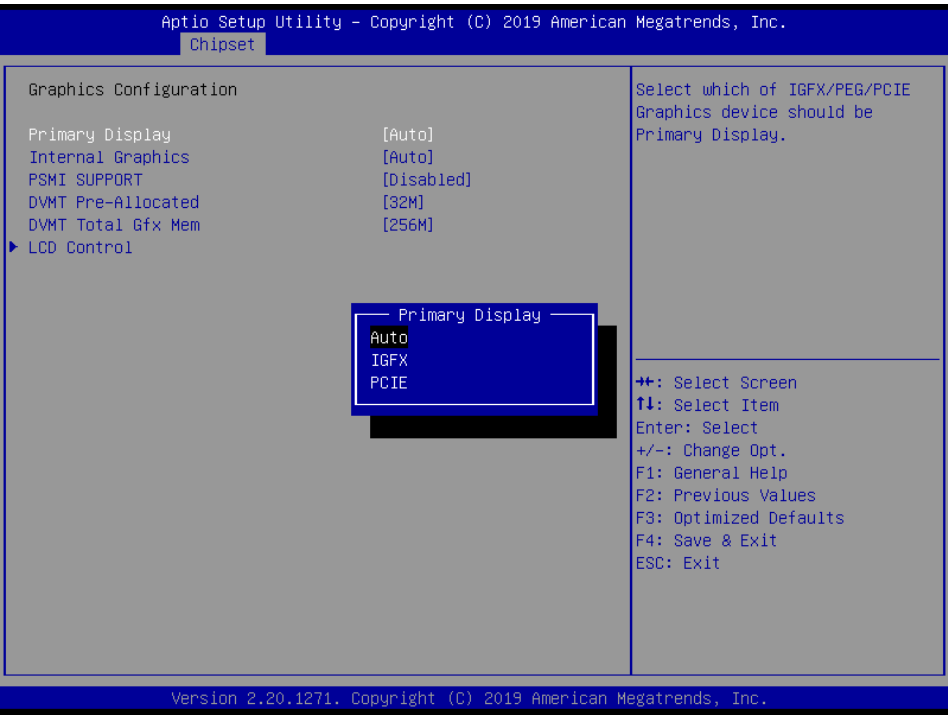
MX4305UE User’s Manual



- **Max TOLUD [Dynamic]**
Maximum value of TOLUD.
Configuration options: As above picture

2.5.1.2 Graphic Configuration

Graphic configuration settings



- **Primary Display[Auto]**
Select which of IGFX/PEG/PCI graphic device should be primary display or select SG for

switchable GFx.

Configuration options: [Auto] [IGFX][PCIE]

- **Internal Graphics [Auto]**

Keep IGFX enabled based on the setup options

Configuration options: [Auto] [Disabled][Enabled]

- **PSMI Support [Disabled]**

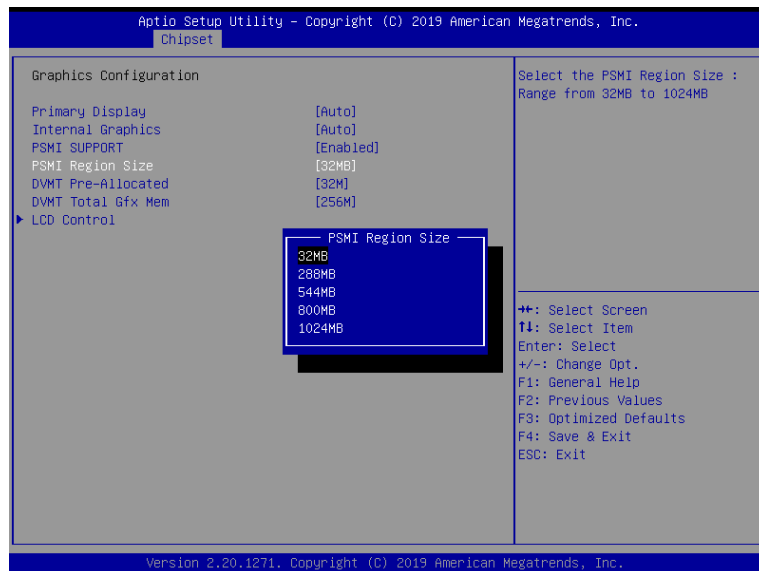
Enable or disable PSMI

Configuration options: [Disabled][Enabled]

- **PSMI Region Size [32MB]**

Enable or disable PSMI

Configuration options: As below picture

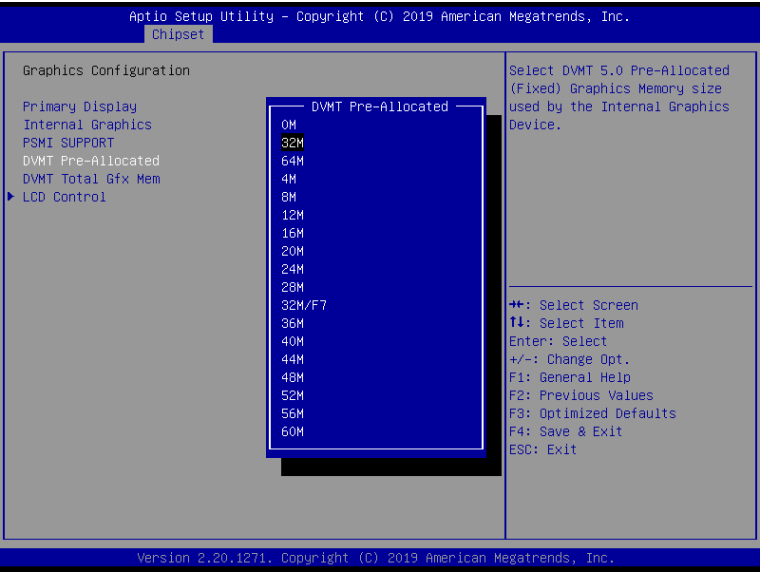


- **DVMT Pre-Allocated [32M]**

Select DVMT 5.0 Pre-allocated (Fixed) Graphics memory size used by the internal graphics device.

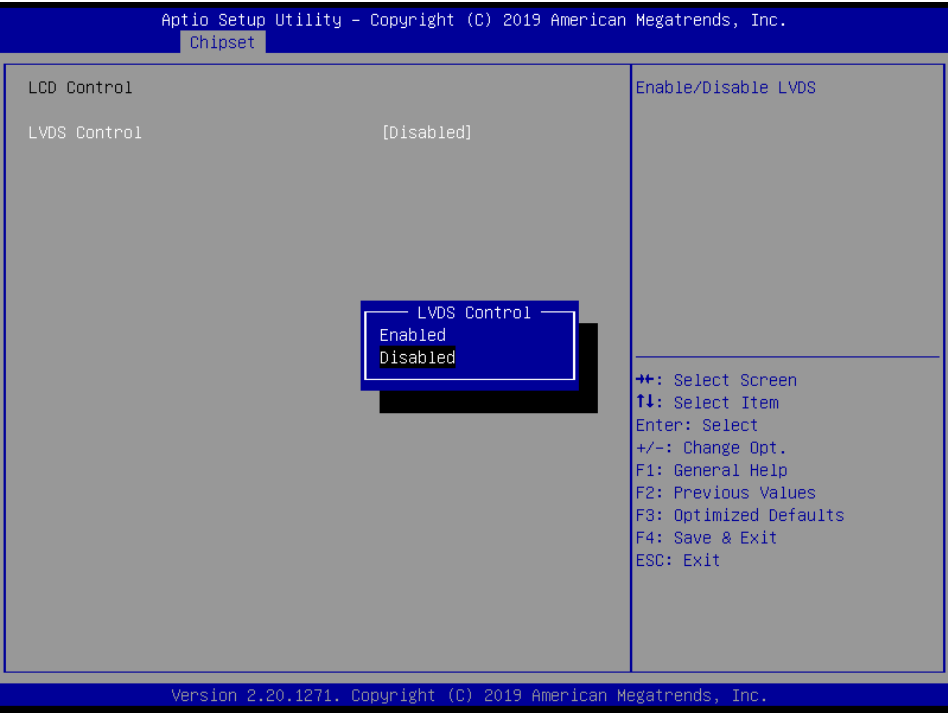
Configuration options: As below picture

MX4305UE User’s Manual

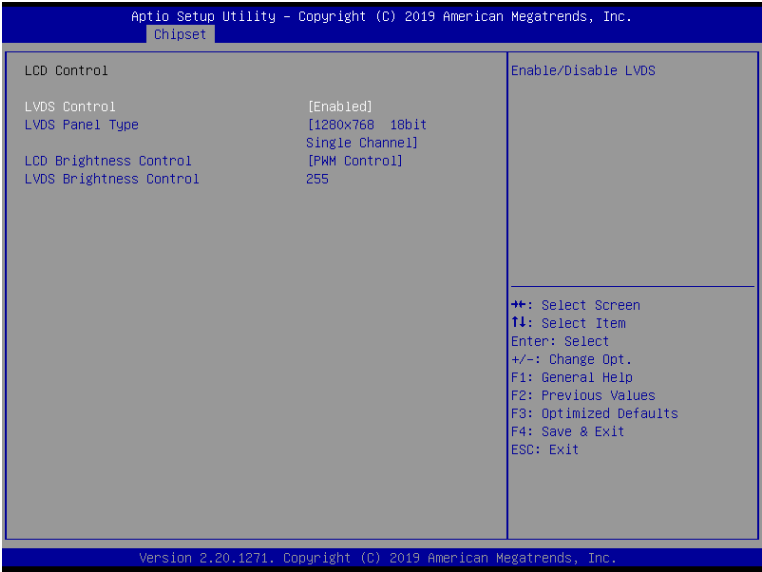


- **DVMT Total Gfx Mem [256M]**
Select DVMT 5.0 Total graphic memory size used by the internal graphic device
Configuration options: [128M][256M][Max]

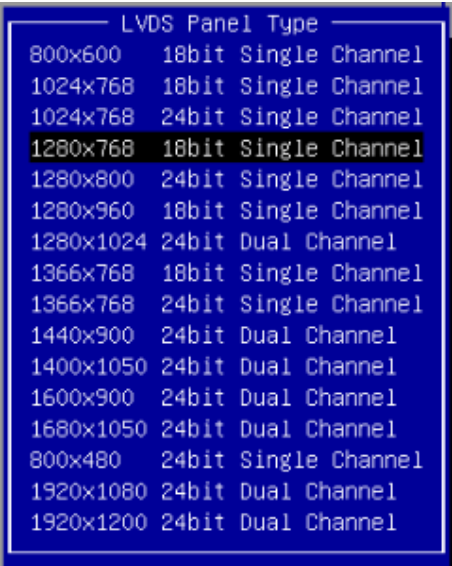
2.5.1.3 LCD Control



- **LVDS Control [Disable]**
Configuration options: [Enabled][Disabled]
If choosing [Enable], it is shown as below picture :



a. LVDS Panel Type Configuration options : As below picture

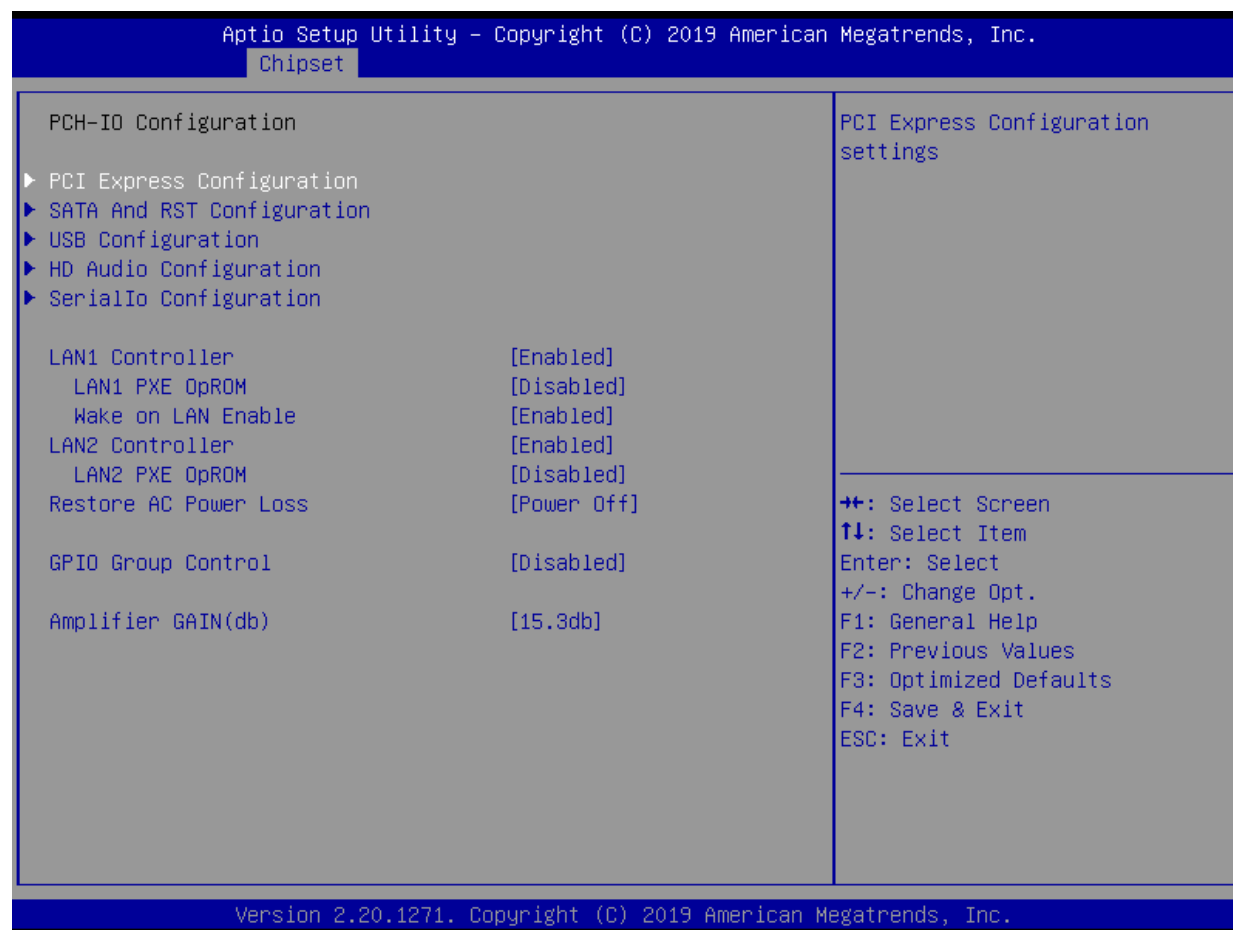


b. LCD Brightness Control Configuration Option: [DC Control][PWM Control]

c. LVDS Brightness Control : Adjust Brightness of LVDS from 1 to 255

MX4305UE User's Manual

2.5.2 PCH-IO configuration

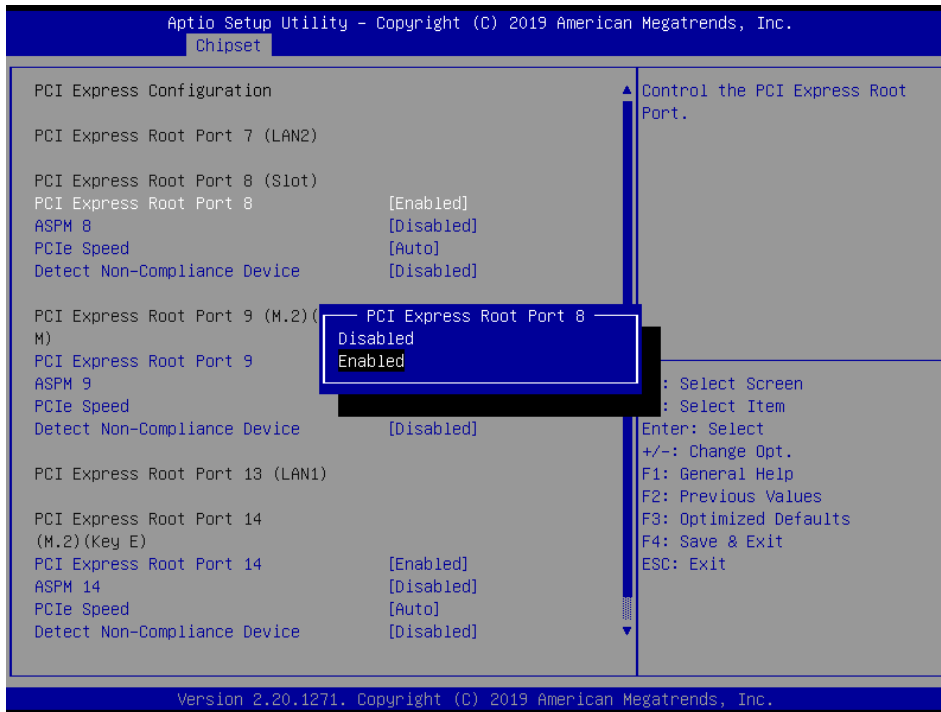


- **Lan1 Controller [Enabled]**
Enable or Disable onboard Lan1
Configuration options: [Disabled][Enabled]
- **Lan1 PXE DpROM [Disabled]**
Enable or Disable boot option for Lan1 Controller
Configuration options: [Disabled][Enabled]
- **Wake on Lan Eanble [Enable]**
Enable or Disable integrated LAN to wake the system
Configuration options: [Disabled][Enabled]
- **Lan2 Controller [Enabled]**
Enable or Disable onboard Lan2
Configuration options: [Disabled][Enabled]
- **Lan2 PXE DpROM [Disabled]**
Enable or Disable boot option for Lan2 Controller
Configuration options: [Disabled][Enabled]
- **Restore AC power Loss [Power off]**
Specify what state to go to when power is re-applied after a power failure.
Configuration options: [Power on][Power off][Last State]

- **GPIO Group Control [Disabled]**
Configure the digital GPIO pins
Configuration options: [Disabled][Enabled]
- **Amplifier GAIN(db) [15.3db]**
Select Amplifier GAIN value
Configuration options: [15.3db][21.2db][27.2db][31.8db]

2.5.2.1 PCI Express configuration

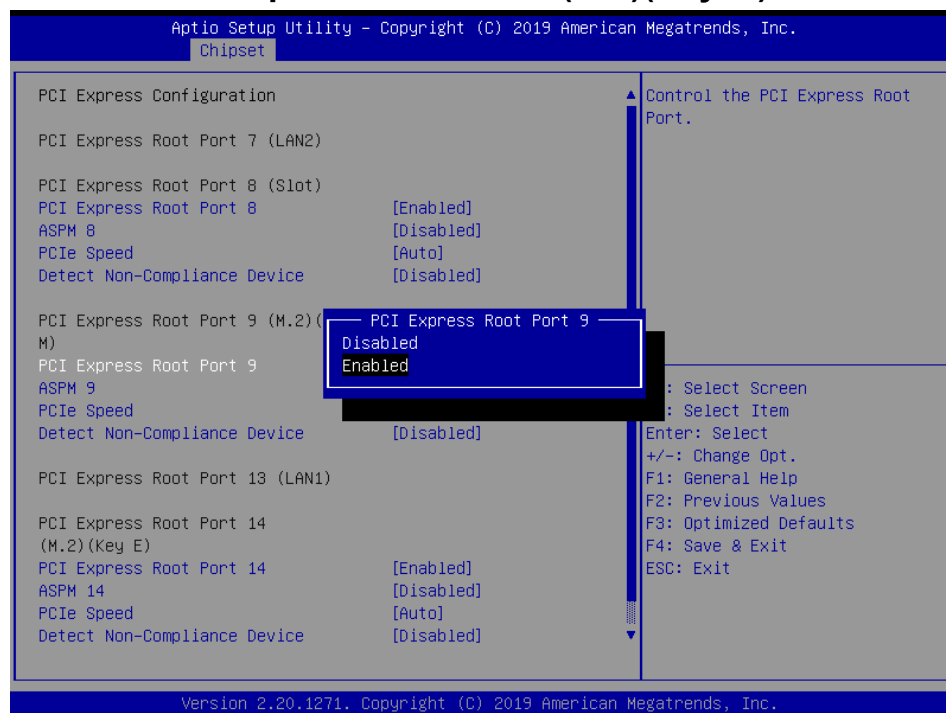
2.5.2.1.1 PCI Express Root Port 8 (Slot)



- **PCI Express Root Port 8 [Enabled]**
Control the PCI Express Root Port
Configuration options: [Disabled][Enabled]
- **ASPM Support [Disabled]**
Set the ASPM level: Force L0s- Force all links to L0s State; Auto- BIOS auto configure; Disabled- Disables ASPM
Configuration options: [Disabled][L0s][L1][L0sL1][Auto]
- **PCIe Speed [Auto]**
Select PCI Express Port speed
Configuration options: [Auto][Gen1][Gen2][Gen3]
- **Detect Non-Compliance Device [Disable]**
Configuration options: [Disable][Enable]

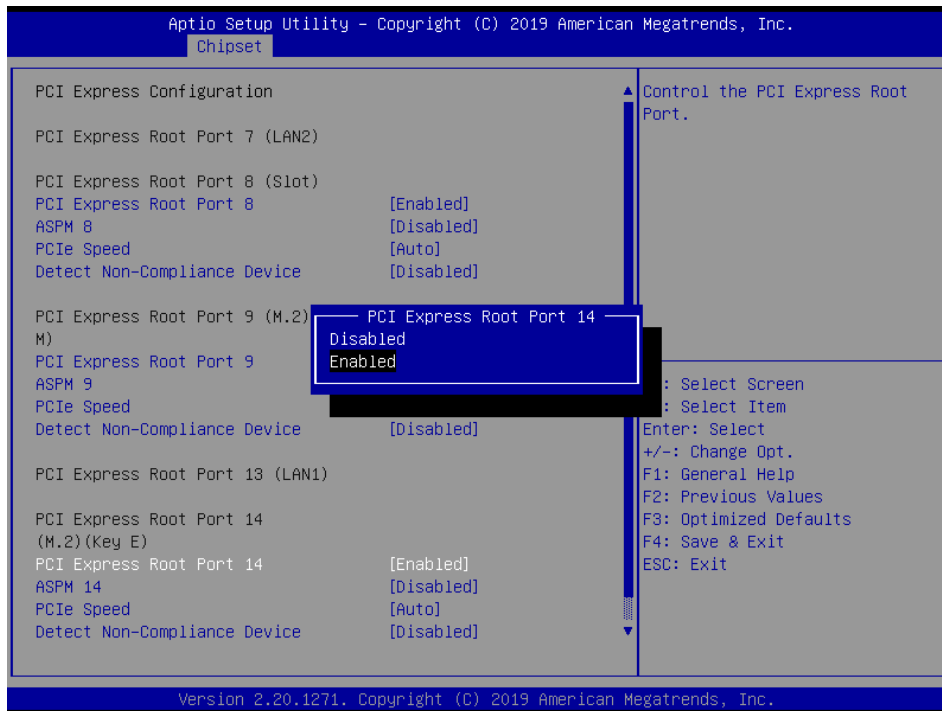
MX4305UE User's Manual

2.5.2.1.2 PCI Express Root Port 9(M.2)(Key M)



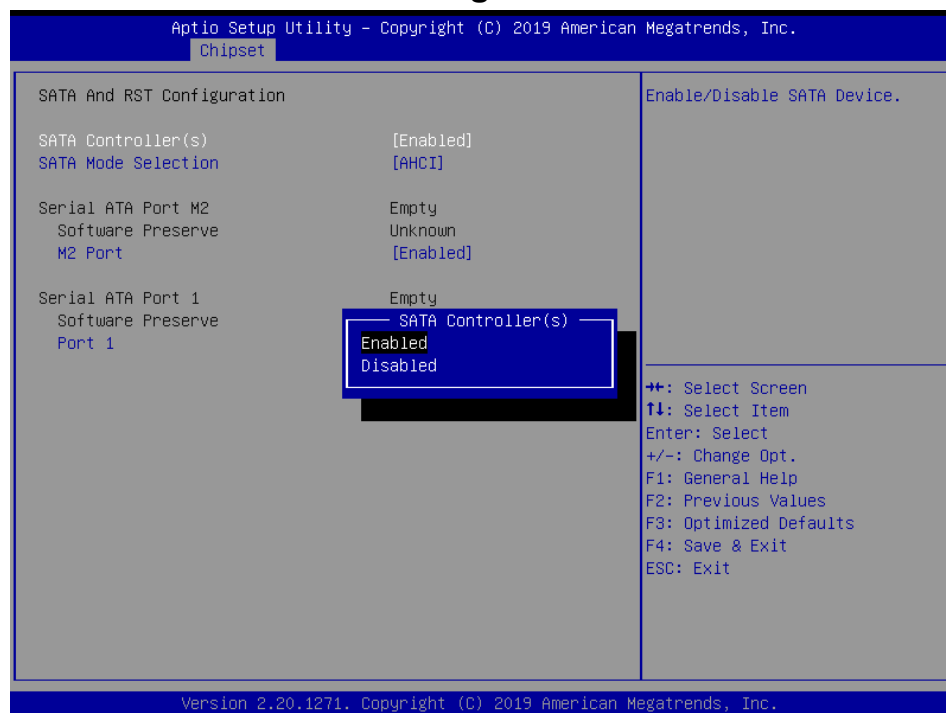
- **PCI Express Root Port 9 [Enabled]**
Control the PCI Express Root Port
Configuration options: [Disabled][Enabled]
- **ASPM Support [Disabled]**
Set the ASPM level: Force L0s- Force all links to L0s State; Auto- BIOS auto configure;
Disabled- Disables ASPM
Configuration options: [Disabled][L0s][L1][L0sL1][Auto]
- **PCIe Speed [Auto]**
Select PCI Express Port speed
Configuration options: [Auto][Gen1][Gen2][Gen3]
- **Detect Non-Compliance Device [Disable]**
Configuration options: [Disable][Enable]

2.5.2.1.3 PCI Express Root Port 14(M.2)(Key E)



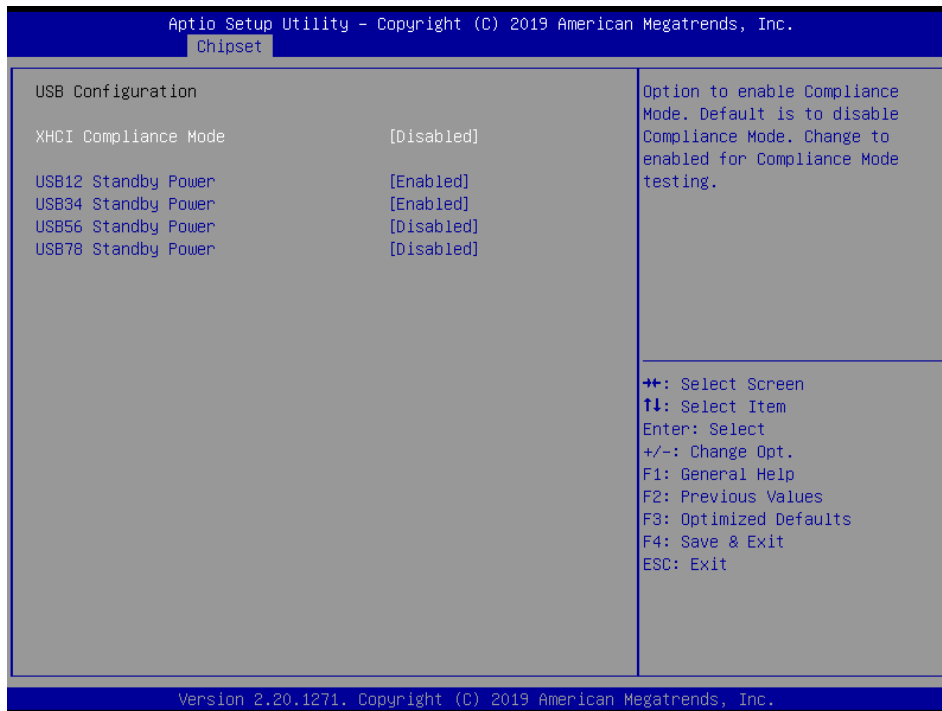
- **PCI Express Root Port 14 [Enabled]**
Control the PCI Express Root Port
Configuration options: [Disabled][Enabled]
- **ASPM Support [Disabled]**
Set the ASPM level: Force L0s- Force all links to L0s State; Auto- BIOS auto configure;
Disabled- Disables ASPM
Configuration options: [Disabled][L0s][L1][L0sL1][Auto]
- **PCIe Speed [Auto]**
Select PCI Express Port speed
Configuration options: [Auto][Gen1][Gen2][Gen3]
- **Detect Non-Compliance Device [Disable]**
Configuration options: [Disable][Enable]

2.5.2.2 SATA and RST configuration



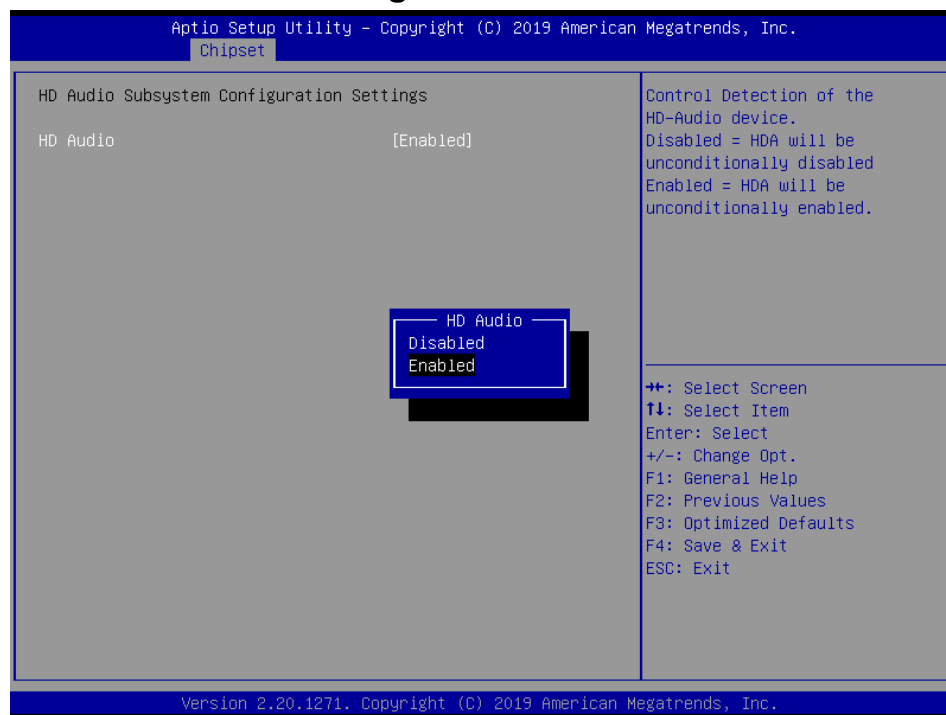
- **SATA Controller [Enabled]**
Enable or Disable SATA device
Configuration options: [Enabled][Disabled]
- **SATA Mode Selection [AHCI]**
Determines how SATA controller operate
Configuration options: [AHCI][Intel RST Premium with Intel Optane System Acceleration]
- **M2 Port [Enabled]**
Enable or Disable SATA Port
Configuration options: [Disabled] [Enabled]
- **Port 1 [Enabled]**
Enable or Disable SATA Port
Configuration options: [Disabled] [Enabled]

2.5.2.3 USB configuration



- **XHCI Compliance Mode [Disabled]**
 Options to enable Compliance Mode.
 Configuration options: [Disabled] [Enabled]
- **USB12 Standby Power [Enabled]**
 Enable or Disable USB standby power
 Configuration options: [Disabled] [Enabled]
- **USB34 Standby Power [Enabled]**
 Enable or Disable USB standby power
 Configuration options: [Disabled] [Enabled]
- **USB56 Standby Power [Disabled]**
 Enable or Disable USB standby power
 Configuration options: [Disabled] [Enabled]
- **USB78 Standby Power [Disabled]**
 Enable or Disable USB standby power
 Configuration options: [Disabled] [Enabled]

2.5.2.4 HD Audio Configuration

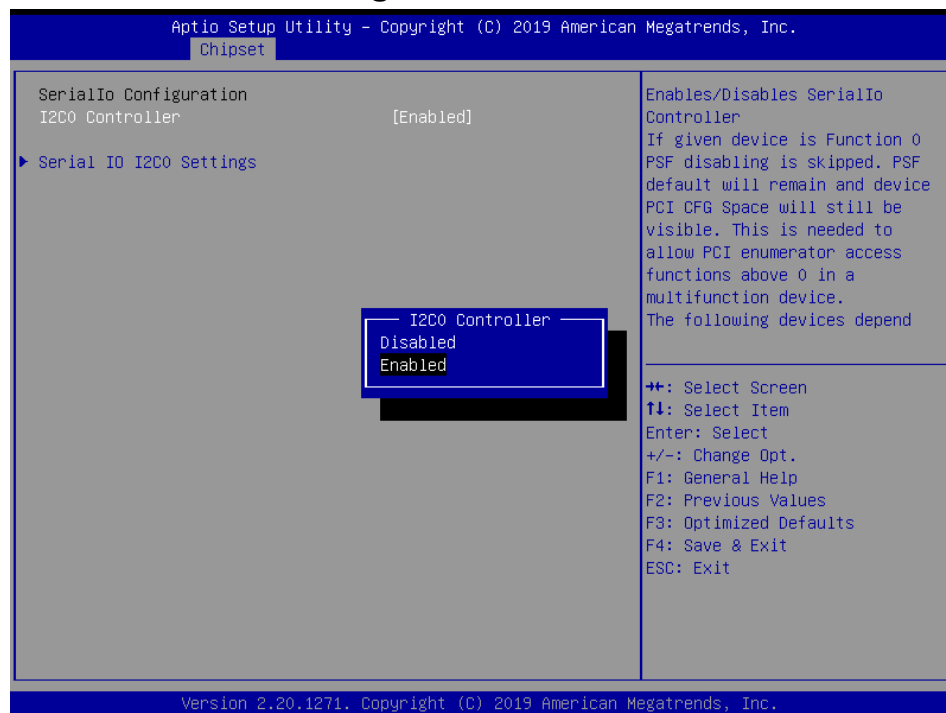


- **HD audio[Enabled]**

Control Detection of the HD-Audio device.

Configuration options: [Disabled] [Enabled]

2.5.2.5 Serial IO Configuration

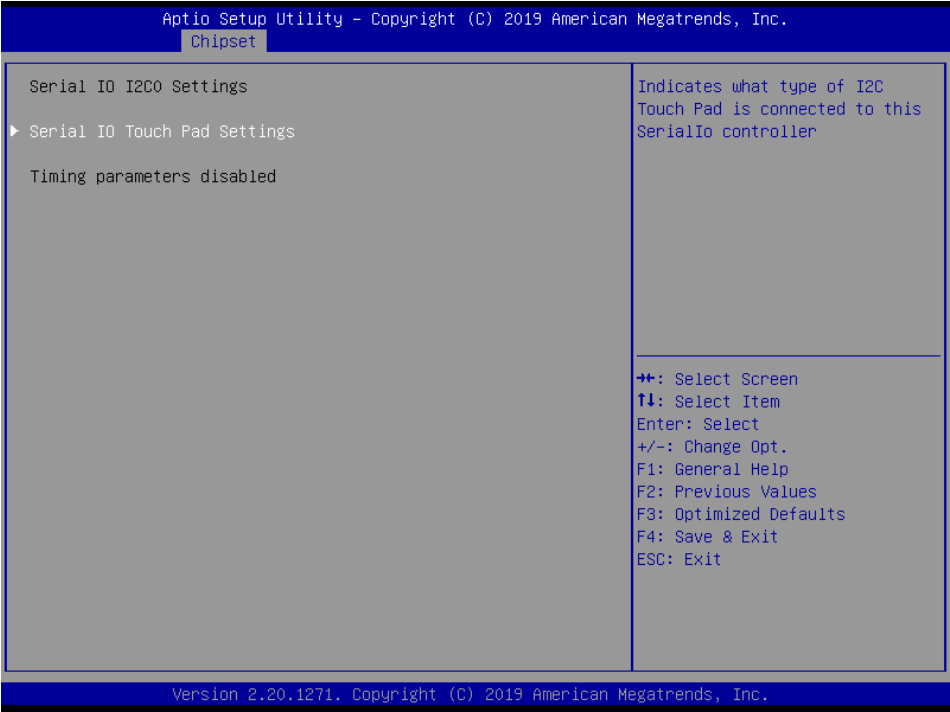


- **I2C0 [Enabled]**

Enables/ Disables Serial IO Controller

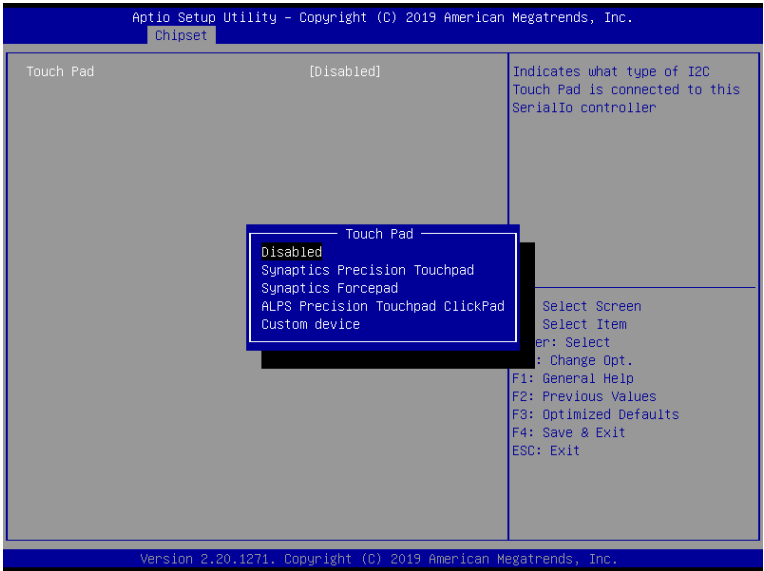
Configuration options: [Disabled] [Enabled]

2.5.2.5.1 Serial IO I2C0 Settings



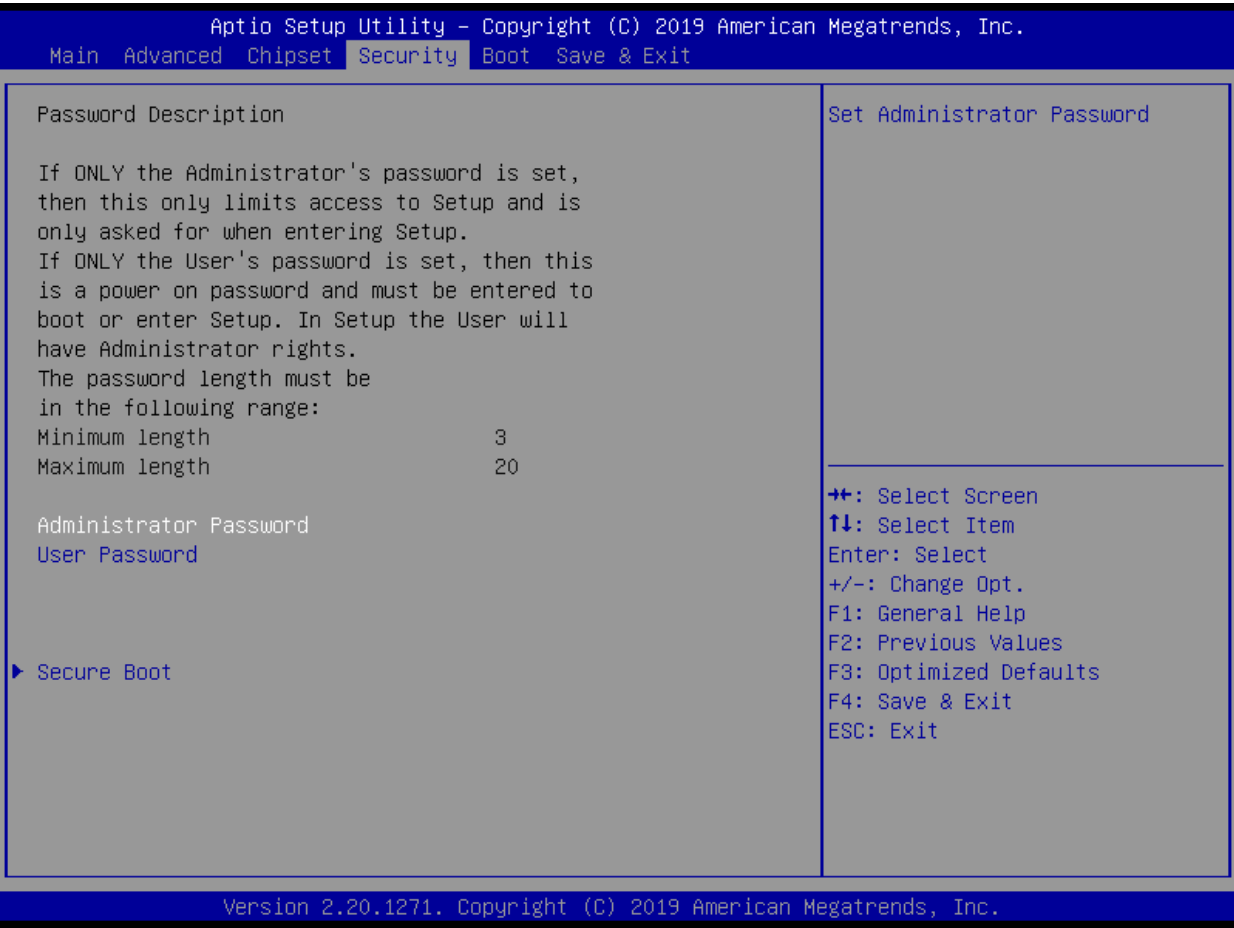
● Serial IO Touch Pad Settings

Indicates what type of I2C Touch Pad is connected to this serial IO Controller



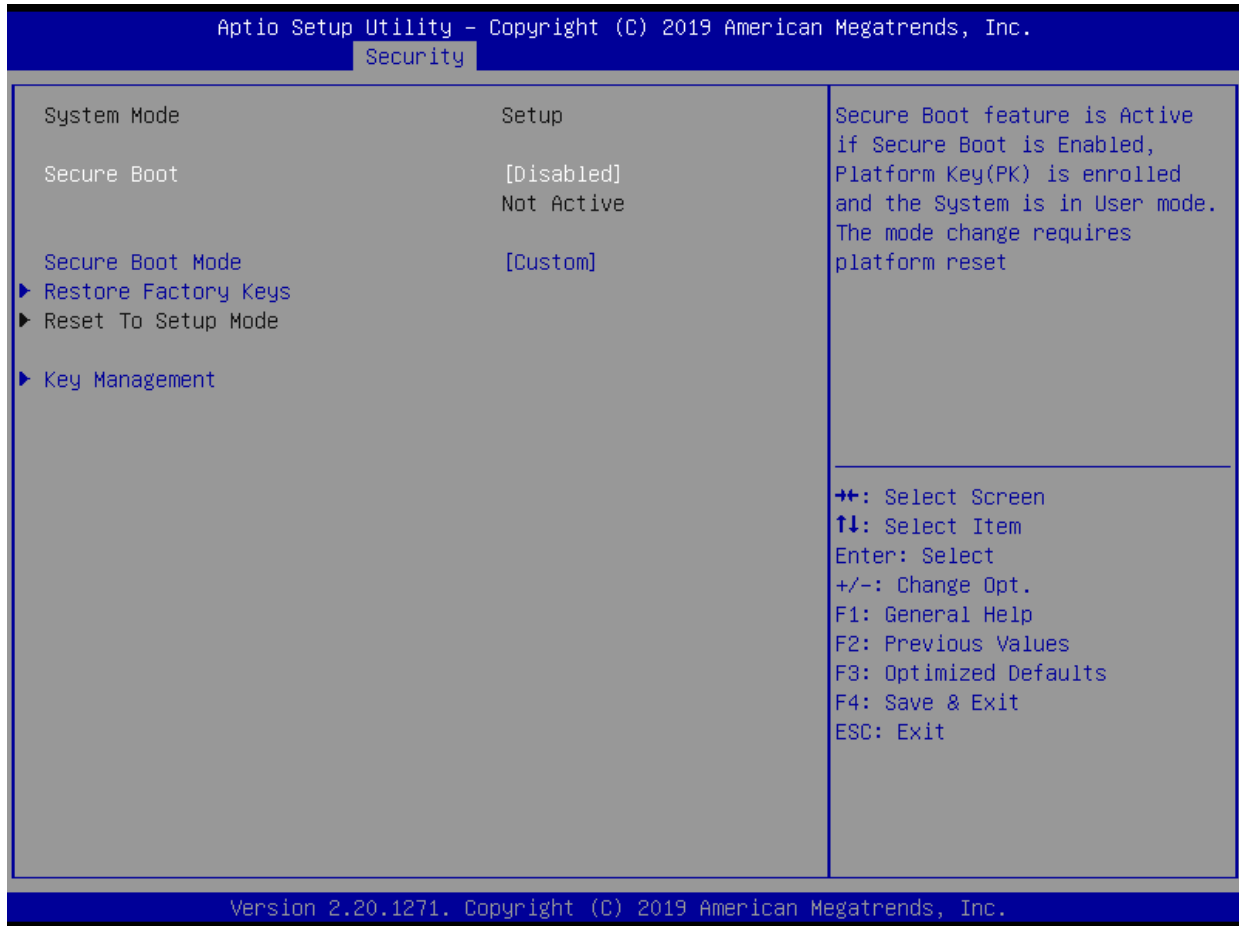
Touch Pad Configuration options: [Disabled] [Synaptics Precision Touchpad] [Synaptics Forcepad] [ALPS Precision Touchpad ClickPad] [Custom device]

2.6 Security



- **Administrator Password**
Set setup Administrator Password
- **User Password**
Set User Password

2.6.1 Secure boot

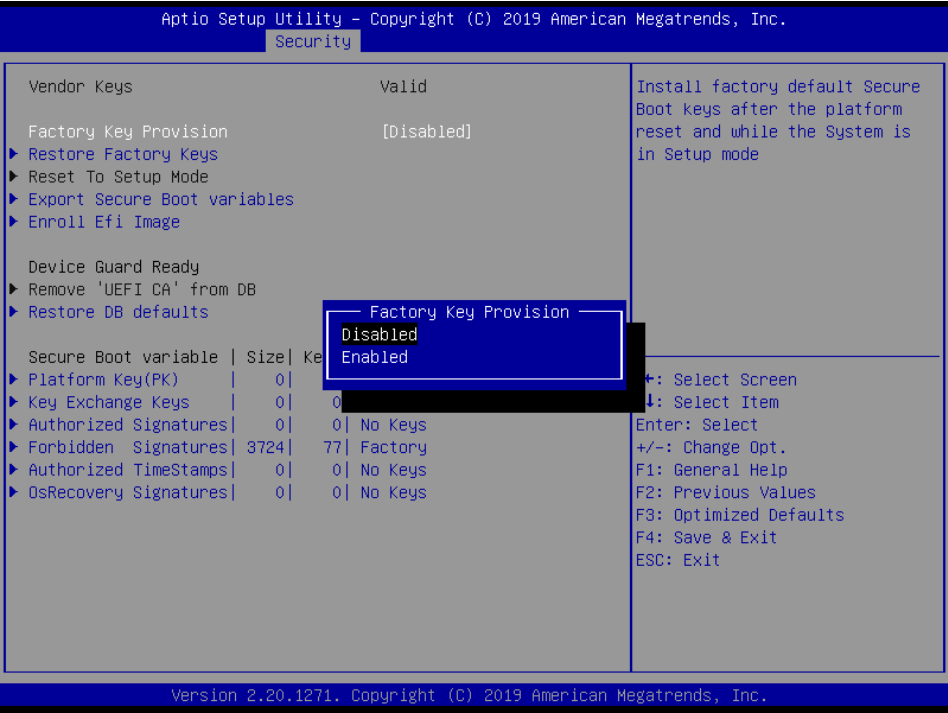


- **Secure Boot[Disabled]**
Enable or Disable system secure boot.
Configuration options: [Disabled] [Enabled]
- **Secure Boot mode[Custom]**
Secure boot mode option
Configuration options: [Standard] [Custom]
- **Restore Factory keys**
Force system to user mode. Install factory default secure boot key database.
- **Reset to Setup Mode**
Secure boot mode option
Configuration options: [Standard] [Custom]

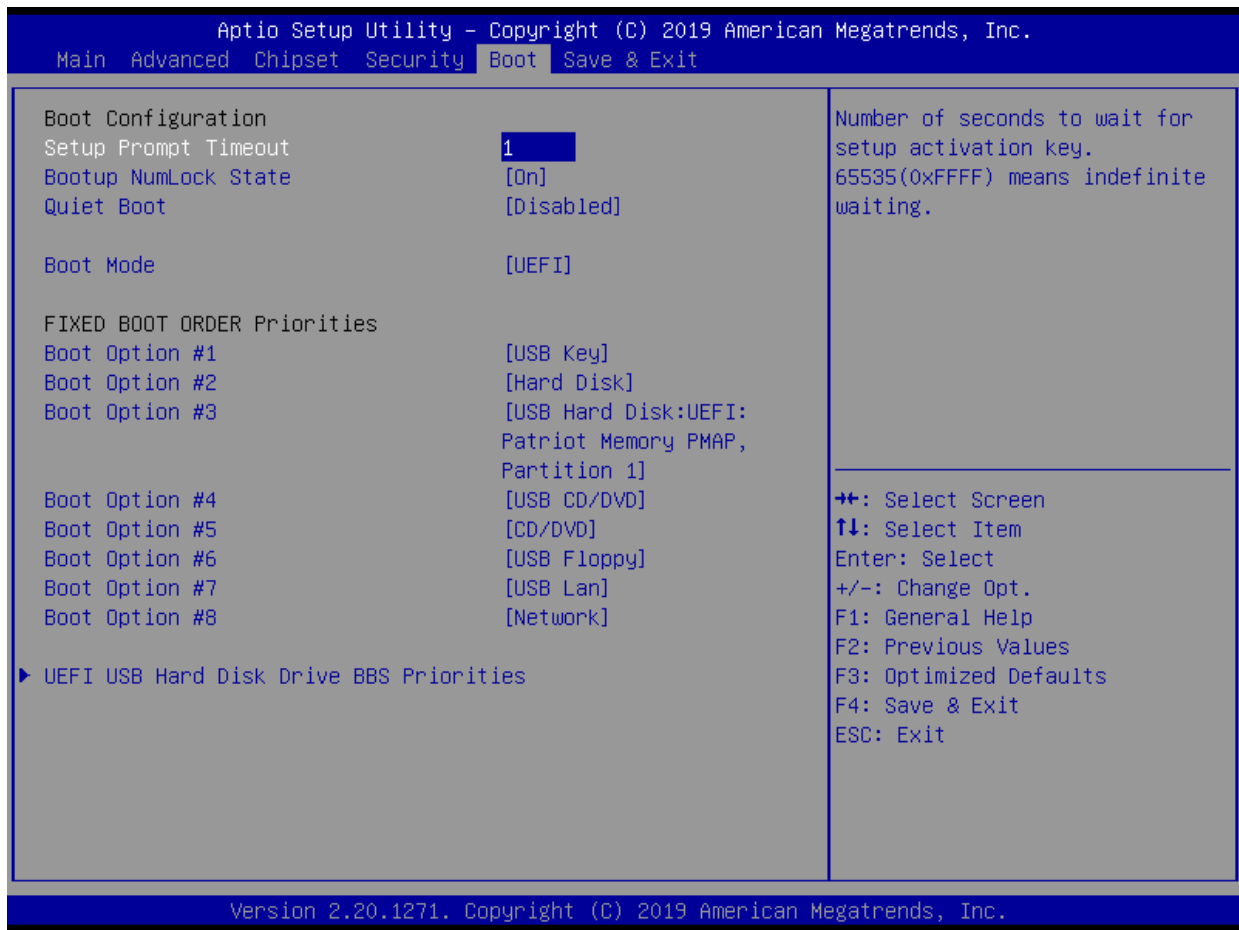
MX4305UE User's Manual

2.6.1.1 Key management

This sheet describe keys installation and status for secure boot. We suggest user do not change these default setting if you are not familiar with secure boot setting.

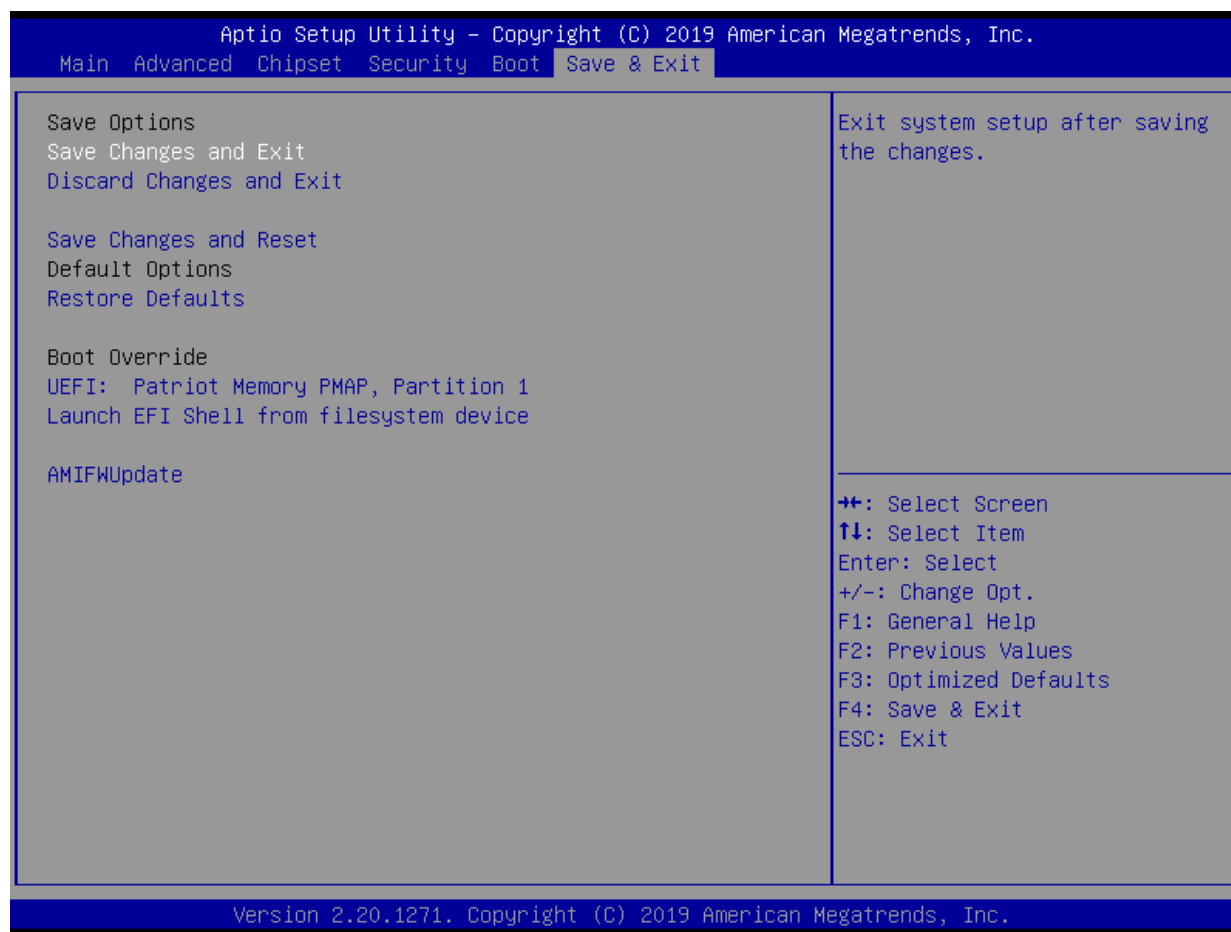


2.7 Boot



- **Setup Prompt Timeout [1]**
Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
- **Bootup NumLock State [On]**
Select the keyboard NumLock state
Configuration options: [On] [Off]
- **Quick Boot [Disable]**
Enable or disable Quick Boot option
Configuration options: [Disabled] [Enabled]
- **Boot mode [UEFI]**
Select boot mode LEGACY/UEFI
Configuration options: [LEGACY] [UEFI]
- **UEFI USB Key Drive BBS Priorities**
Specifies the boot device priority sequence from available UEFI USB key Drives.

2.8 Save & Exit



- **Save changes and Exit**
Exit system setup after saving the changes.
- **Discard changes and Exit**
Exit system setup without saving the changes.
- **Save changes and Reset**
Reset the system after saving the changes.
- **Restore Defaults**
Restore/Load default values for all the setup options.
- **AMIFWUpdate**
Launch AMIFWupdate