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# IEC-3702

Digital Signage Player with  
Intel® 11<sup>th</sup> Core i5-1135G7 Processor

## User's Manual

Version 1.0

P/N: 4010370200100P

2024.07



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## Revision History

Version	Date	Description
1.0	2024.07	Initial release

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### Copyright Notice

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Under no circumstances will the manufacturer be liable for any direct, indirect, special, incidental, or consequential damages arising from the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this document may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

### Declaration of Conformity

#### CE

The CE symbol on the computer indicates that it is in compliance with the directives of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from ARBOR. Please contact your local supplier for ordering information.

#### Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

### FCC Class A

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

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**NOTE:**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**RoHS**

ARBOR Technology Corp. certifies that all components in its products are in compliance and conform to the European Union's Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2002/95/EC.

The above mentioned directive was published on 2/13/2003. The main purpose of the directive is to prohibit the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE) in electrical and electronic products. Member states of the EU are to enforce by 7/1/2006.

ARBOR Technology Corp. hereby states that the listed products do not contain unintentional additions of lead, mercury, hex chrome, PBB or PBDB that exceed a maximum concentration value of 0.1% by weight or for cadmium exceed 0.01% by weight, per homogenous material. Homogenous material is defined as a substance or mixture of substances with uniform composition (such as solders, resins, plating, etc.). Lead-free solder is used for all terminations (Sn(96-96.5%), Ag(3.0-3.5%) and Cu(0.5%)).

**SVHC / REACH**

To minimize the environmental impact and take more responsibility to the earth we live, Arbor hereby confirms all products comply with the restriction of SVHC (Substances of Very High Concern) in (EC) 1907/2006 (REACH –Registration, Evaluation, Authorization, and Restriction of Chemicals) regulated by the European Union.

All substances listed in SVHC < 0.1 % by weight (1000 ppm)

### Important Safety Instructions

Read these safety instructions carefully

1. Read all cautions and warnings on the equipment.
2. Place this equipment on a reliable surface when installing. Dropping it or letting it fall may cause damage
3. Make sure the correct voltage is connected to the equipment.
4. For pluggable equipment, the socket outlet should be near the equipment and should be easily accessible.
5. Keep this equipment away from humidity.
6. The openings on the enclosure are for air convection and protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
7. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
8. Never pour any liquid into opening. This may cause fire or electrical shock.
9. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
10. If one of the following situations arises, get the equipment checked by service personnel:
  - a. The power cord or plug is damaged.
  - b. Liquid has penetrated into the equipment.
  - c. The equipment has been exposed to moisture.
  - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
  - e. The equipment has been dropped or damaged.
  - f. The equipment has obvious signs of breakage.
11. Keep this User's Manual for later reference.

### Product Heat

The computer generates heat during operation. Contact the computer's chassis with your body could cause discomfort or even a skin burn.





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## **Warning**

The Box PC and its components contain very delicately Integrated Circuits (IC). To protect the Box PC and its components against damage caused by static electricity, you should always follow the precautions below when handling it:

1. Disconnect your Box PC from the power source when you want to work on the inside.
2. Use a grounded wrist strap when handling computer components.
3. Place components on a grounded antistatic pad or on the bag that came with the Box PC, whenever components are separated from the system.

## **Replacing Lithium Battery**

Incorrect replacement of the lithium battery may lead to a risk of explosion.

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer.

Do not throw lithium batteries into the trash can. It must be disposed of in accordance with local regulations concerning special waste.

## **Technical Support**

If you have any technical difficulties, please consult the user's manual first at:  
<http://www.arbor-technology.com>

Please do not hesitate to e-mail our customer service when you still cannot find out the answer.

E-mail: [info@arbor.com.tw](mailto:info@arbor.com.tw)

### **Warranty**

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

Vendors disclaim all other warranties, either expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, with respect to the hardware, the accompanying product's manual(s) and written materials, and any accompanying hardware. This limited warranty gives you specific legal rights.

Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

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# Chapter 1

## Introduction

### 1.1. Product Highlights

- Intel® 11<sup>th</sup> Core i5-1135G7 Processor with Iris® Xe Graphics
- Dual DDR4 SODIMM up to 64GB
- 2 x HDMI 2.0b, 1 x DP1.4 from USB Type-C
- 1 x M.2 M-key (SATA / PCIe 4.0 x4) supports NVMe
- 1 x 2.5 GbE RJ45, 1 x GbE RJ45
- 4 x USB3.2 type A, 1 x USB Type-C
- 1 x RS-232, 1 x Audio Line out and MIC 2 in 1 jack
- 12V~24V DC-in lockable jack
- Operating temperature: 0~50°C



### 1.2. About this Manual

This manual is meant for the experienced users and integrators with hardware knowledge of personal computers. If you are not sure about the description herein, consult your vendor before further handling.

We recommend that you keep one copy of this manual for the quick reference for any necessary maintenance in the future. Thank you for choosing ARBOR products.

### 1.3. Specifications

System	
CPU	Soldered onboard Intel® 11 <sup>th</sup> Generation Core i5-1135G7 processor (Tiger Lake-UP3)
Memory	2 x 260-pin DDR4 SO-DIMM socket, supporting 3200MHz SDRAM up to 64GB
Graphics	Integrated Intel® Iris® Xe / UHD Graphic (depends on CPU SKU)
LAN Chipset	1 x Intel GbE controller, 1 x Intel 2.5GbE controller
Watchdog Timer	1~255 levels reset
Storage	
Storage	1 x M.2 2280 M-Key slot for SATA / PCIe4 NVMe
I/O	
Serial Port	1 x DB-9 male connector for RS-232
USB Port	4 x USB 3.2 ports type-A, 1 USB 3.2 type-C
LAN	1 x RJ-45 ports for GbE, 1 x RJ-45 ports for 2.5GbE

Video Port	2 x HDMI max resolution up to 4096*2160@60Hz
	1 x DisplayPort over USB-C port max resolution up to 4096*2160@60Hz
Audio	1 x Phone jack connector for Line-Out + MIC
<b>Environmental</b>	
Operating Temp.	0 ~ 50°C ( 32 ~ 122°F), ambient w/ air flow
Storage Temp.	-40 ~ 85°C (-40 ~ 185°F)
Operating Humidity	10 ~ 95% @ 60°C (non-condensing)
Vibration	1.0 Grms, IEC 60068-2-64, random, 5 ~500 Hz, 1 Oct./min, 1 hr/axis, operatio
Shock	Non-operating 20G
<b>Qualification</b>	
Certification	CE, FCC
<b>Power Requirement</b>	
Power Input	DC 12-24V input
Power Consumption	TBD
<b>Mechanical</b>	
Construction	Aluminum alloy
Weight	400g
Dimensions (W x D x H)	115.4 x 107.6 x 37 mm (4.55" x 4.24" x 1.46")
<b>OS Support</b>	
Windows 10 Linux Ubuntu	

### 1.4. Inside the Package

Upon opening the package, carefully inspect the contents. If any of the items is missing or appears damaged, contact your local dealer or distributor. The package should contain the following items:



1 x IEC-3702



1 x **Accessory Box** that contains the following items:

- User's manual

### 1.5. Ordering Information

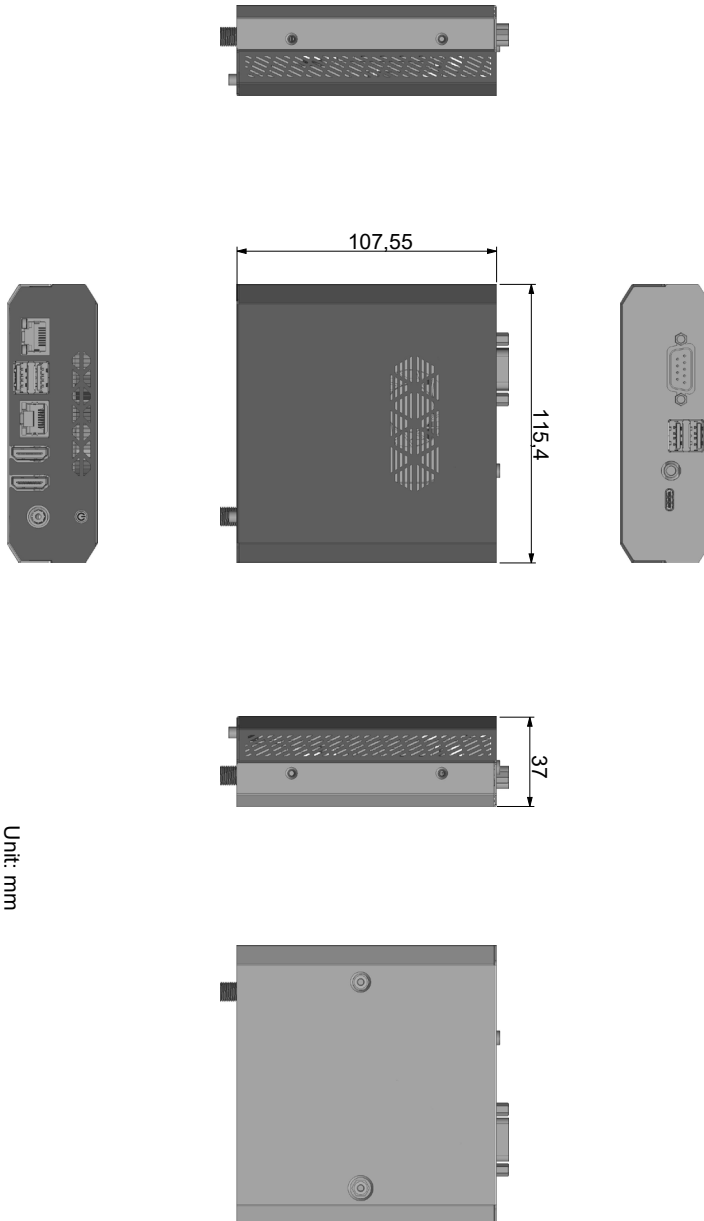
IEC-3702-1135G7	Intel® Core i5-1135G7 Processor, 8GB SDRAM, 128GB M.2 SSD
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# Chapter 2

## Getting Started

## 2.1. Dimensions

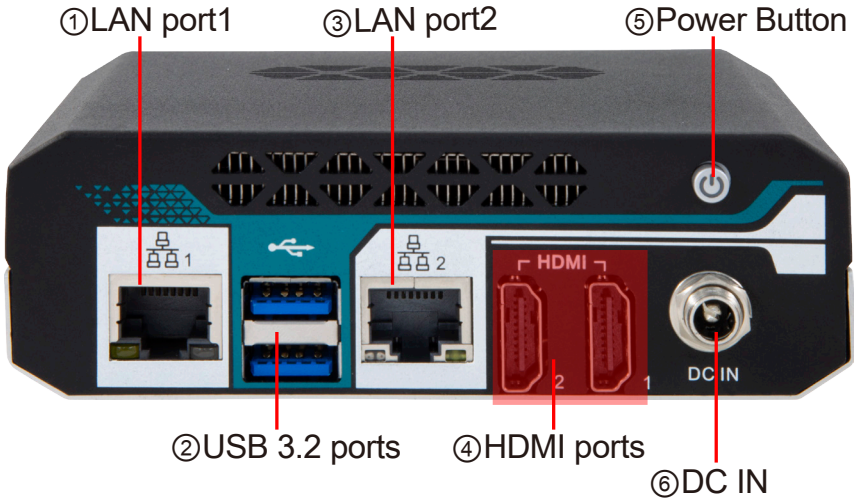


Unit: mm

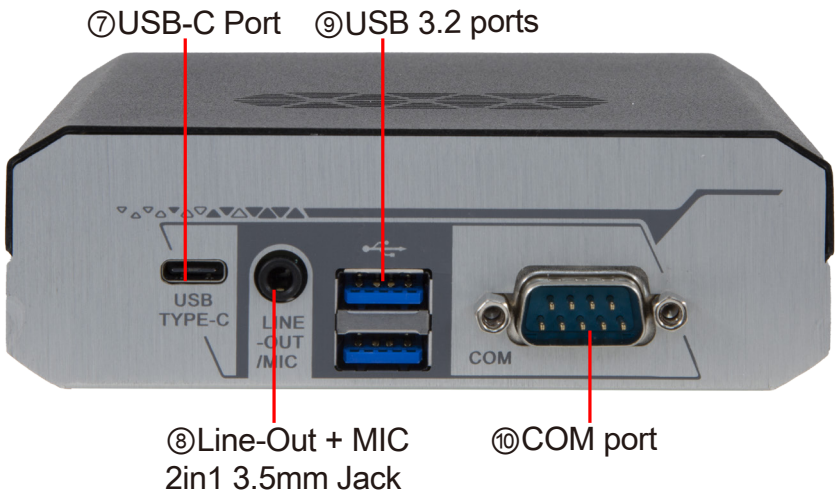


## 2.2. Take A Tour

### Front View



### Rear View



### Connectors Quick Reference

Label	Description
① LAN1	RJ-45 Connector
② USB ports	Stacked USB 3.0/2.0 Connector
③ LAN2	RJ-45 Connector
④ HDMI2, 1	HDMI Vertical Connector
⑤ Power Button	Power Button
⑥ DCIN1	DC jack
⑦ USB-C port	USB-C port
⑧ Audio jack	Line-Out + MIC 2in1 3.5mm Jack
⑨ USB ports	Stacked USB 3.0/2.0 Connector
⑩ COM port	RS-232 Serial Port

### 2.3. Driver Installation Notes

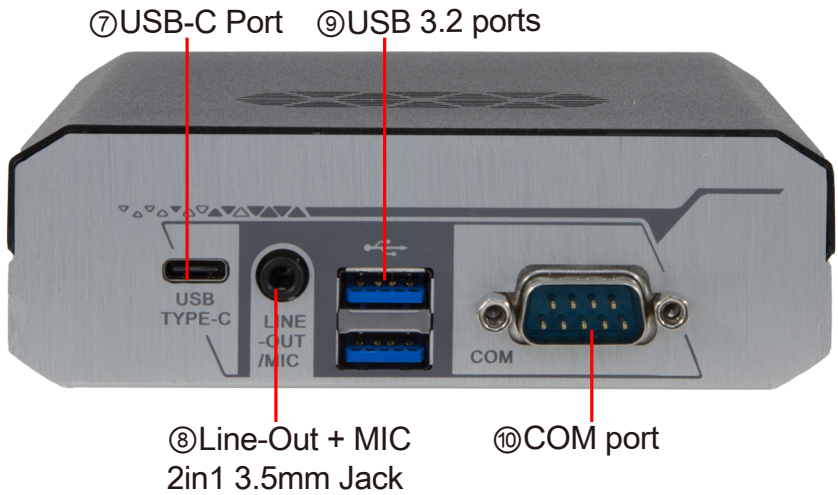
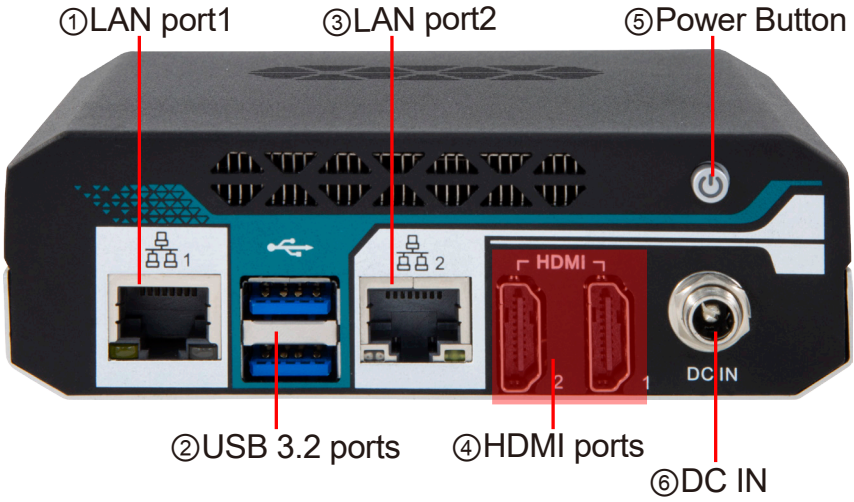
To install the drivers, please visit our website at <http://www.arbor-technology.com> and download the drivers from the **Download Center**.

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# Chapter 3

## Engine of the Computer

### 3.1. Connectors



Connector	Description
①③ <b>RJ-45 LAN Port</b>	This connector is standard RJ-45 LAN jack for Network connection.
②⑨ <b>USB 3.2 Port</b>	To connect USB keyboard, mouse or other devices compatible with USB specification. USB 3.2 ports supports up to 5Gbps data transfer rate
④ <b>HDMI Ports</b>	To the system to corresponding display device with compatible HDMI cable.
⑤ <b>Power Button</b>	Power On/Off Button
⑥ <b>DC IN</b>	12-24V DC-in system power connector For user to connect compatible power adapter to provide power supply for the system.
⑦ <b>USB-C Port</b>	USB 3.2 type-C port
⑧ <b>Line-Out/MIC Combo Connector</b>	This connector can function as audio Line-Out jack and MIC jack with compatible cables & devices.
⑩ <b>COM Port</b>	This connector is a COM port for console function.

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# Chapter 4

## Installation and Maintenance

### 4.1. Disassemble the Computer

1. Place the computer upside down on a flat surface. Loosen and remove the 4 screws from the computer's left and right side.



2. Loosen 2 screws from the computer's COM port on rear side, then the remove bottom cover completely from the computer.

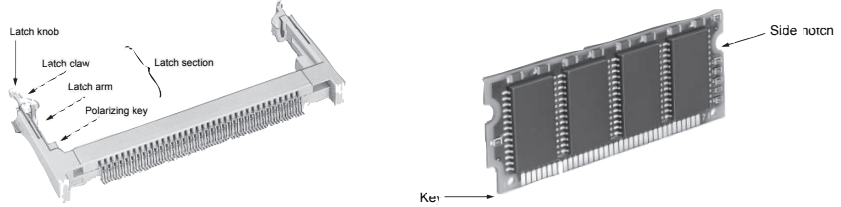
### 4.2. Install Memory Module

The main board has one dual inline memory module (DIMM) socket. Load the computer with a memory module to make the computer run programs. The memory module for the computer's SO-DIMM socket should be a 260-pin DDR4 with a "key notch" off the centre among the pins, which enables the memory module for particular applications. There are another two notches at each left and right side of the memory module to help fix the module in the socket.





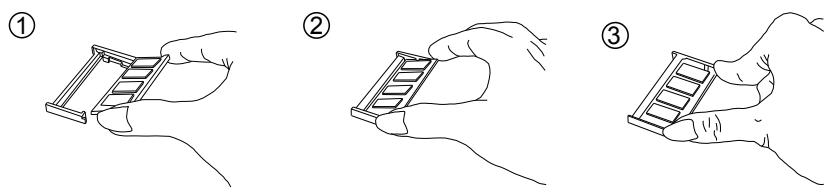
**To install a memory module:**



To install the Memory module, locate the Memory SO-DIMM slot on the board and perform as below:

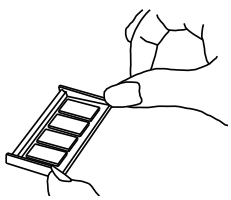
Adjust the socket polarizing key and the board key to the same direction. Insert the board obliquely. Moreover, lay the board in parallel to the opening at angle of 20° to 30°, and softly insert the board so as to hit the socket bottom. Stopping insertion halfway will result in improper insertion.

Applying the board side notch in parallel to the socket bottom so that the board position cannot be displaced, press the board side notch up, and fix it to the latch portion at both socket edges. Press the board side notch, and release the notch with a snap “click” tone, if the printed board exceeds the latch claw head.



**Procedures for board extraction**

Apply the thumb nail to the latch knob at both socket edges. Forcibly widen the latch knobs to right and left ways, and release the latch. Then draw the board out along an angle where the board is raised.



### 4.3. Install M.2 Module

1. Plug the M.2 module to the socket's connector by a slanted angle. Fully plug the module, and note the notch on the module should meet the break of the connector.



2. Press the module down and fix the module in place using one screw.



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# Chapter 5

## BIOS

The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization. Only when these tasks are completed does it give up control of the computer to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in ensuring that your system performance as its best.

## 5.1. Entering Setup

The AMI BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS RAM of the system stores the Setup utility and configurations. When you turn on the computer, the AMI BIOS is immediately activated. To enter the BIOS SETUP UTILITY, press “**Delete**” once the power is turned on.

The **Main Setup** screen lists the following information:



### 5.1.1. Function Keys

In the above BIOS Setup main menu of, you can see several options. We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

Keystroke	Function
◀ ▶	Move to highlight a particular configuration screen from the top menu bar / Move to highlight items on the screen
▼ ▲	Move to highlight previous/next item
Enter	Select and access a setup item/field
Esc	On the Main Menu – Quit the setup and not save changes into CMOS (a message screen will display and ask you to select “OK” or “Cancel” for exiting and discarding changes. Use “←” and “→” to select and press “Enter” to confirm) On the Sub Menu – Exit current page and return to main menu
Page Up / +	Increase the numeric value on a selected setup item / make change
Page Down / -	Decrease the numeric value on a selected setup item / make change
F1	Activate “General Help” screen
F2	Previous Values
F3	Optimized Defaults
F4	Save & Exit

## 5.1.2. Menu Bars

There are six menu bars on top of BIOS screen:

<b>Main</b>	To change system basic configuration
<b>Advanced</b>	To change system advanced configuration
<b>Chipset</b>	To change chipset configuration
<b>Security</b>	Password settings
<b>Boot</b>	To change boot settings
<b>Save &amp; Exit</b>	Save setting, loading and exit options.

User can press the right or left arrow key on the keyboard to switch from menu bar. The selected one is highlighted.

## 5.2. Main Menu

Main menu screen includes some basic system information. Highlight the item and then use the <+> or <-> and numerical keyboard keys to select the value you want in each item.



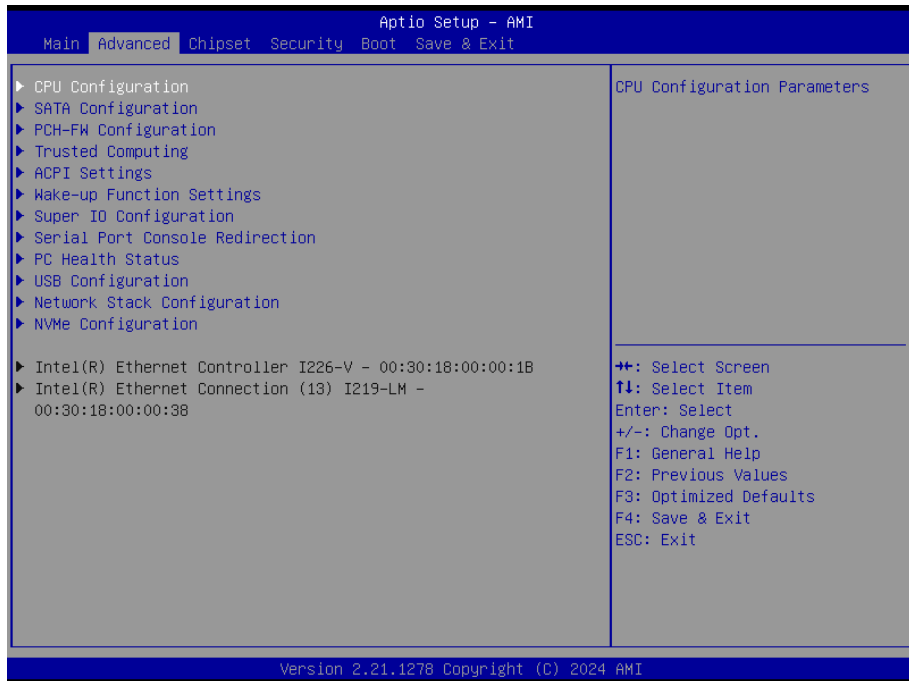
### System Date

Set the date. Please use [Tab] to switch between date elements.

### System Time

Set the time. Please use [Tab] to switch between time elements.

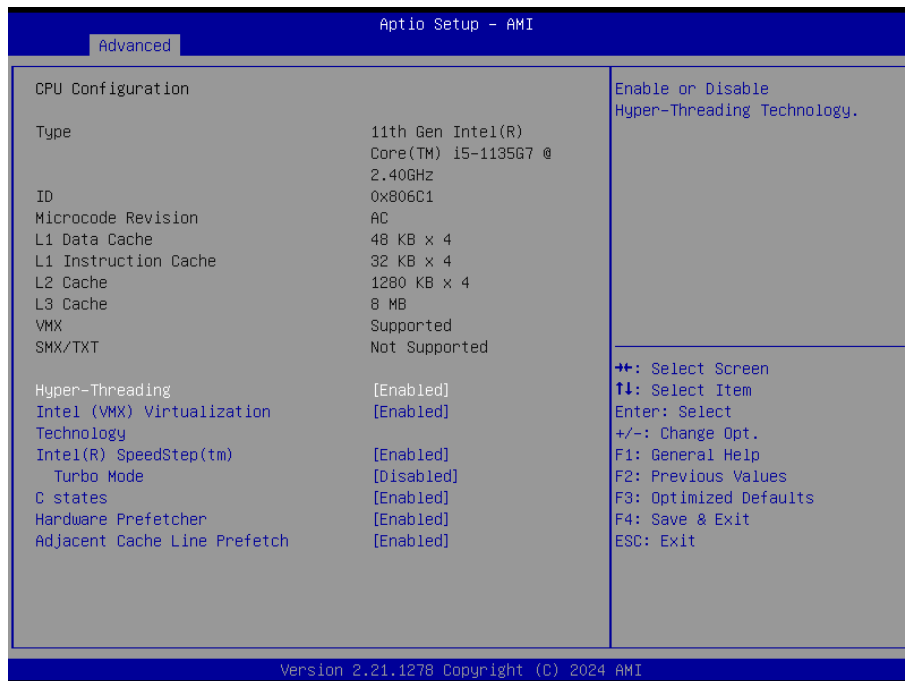
### 5.3. Advanced Menu



Setting	Description
CPU Configuration	See <a href="#">5.3.1 CPU Configuration on page 23</a>
SATA Configuration	See <a href="#">5.3.2 SATA Configuration on page 25</a>
PCH-FW Configuration	See <a href="#">5.3.3 PCH-FW Configuration on page 26</a>
Trusted Computing	See <a href="#">5.3.4 Trusted Computing on page 27</a>
ACPI Settings	See <a href="#">5.3.5 ACPI Settings on page 28</a>
Wake-up Function Settings	See <a href="#">5.3.6 Wake-up Function Settings on page 29</a>
Super IO Configuration	See <a href="#">5.3.7 Super IO Configuration on page 30</a>
Serial Port Console	See <a href="#">5.3.8 Serial Port Console on page 31</a>
PC Health Status	See <a href="#">5.3.9 Hardware Monitor on page 32</a>
USB Configuration	See <a href="#">5.3.10 USB Configuration on page 33</a>
Network Stack Configuration	See <a href="#">5.3.11 Network Stack Configuration on page 34</a>
NVMe Configuration	See <a href="#">5.3.12 NVME Configuration on page 35</a>



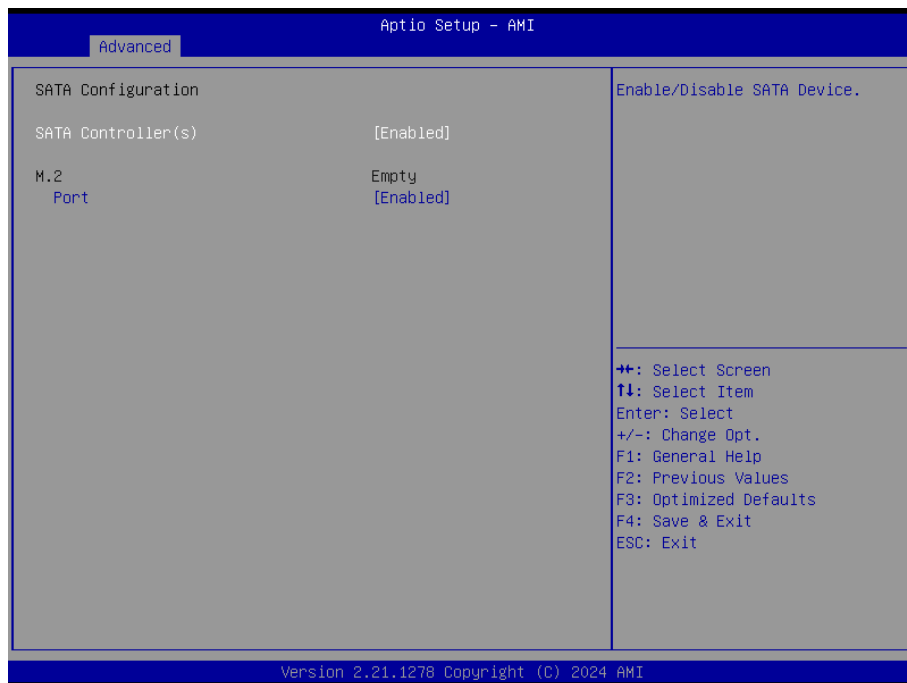
### 5.3.1 CPU Configuration



Setting	Description
Hyper-threading	<b>Enabled</b> (default) for Windows and Linux (OS optimized for Hyper-Threading Technology) and <b>Disabled</b> for other OS (OS not optimized or Hyper-Threading Technology). When disabled only one thread per enabled core is enabled.
Intel (VMX) Virtualization Technology	Enable or disable Intel virtualization technology. When enabled, a VMM can utilize the additional hardware capabilities provide by Vanderpool Technology. ▶ Options: <b>Enabled</b> (default) or <b>Disabled</b>
Intel(R) SpeedStep(tm)	Allow more than two frequency ranges to be supported. ▶ Options: <b>Enabled</b> (default) or <b>Disabled</b>
Turbo Mode	<b>Enable/Disable</b> processor Turbo Mode (requires EMTTM enabled too). AUTO means enabled.
C States	<b>Enable/Disable</b> CPU Power Management. Allows CPU to go to C state when it's not 100% utilized.

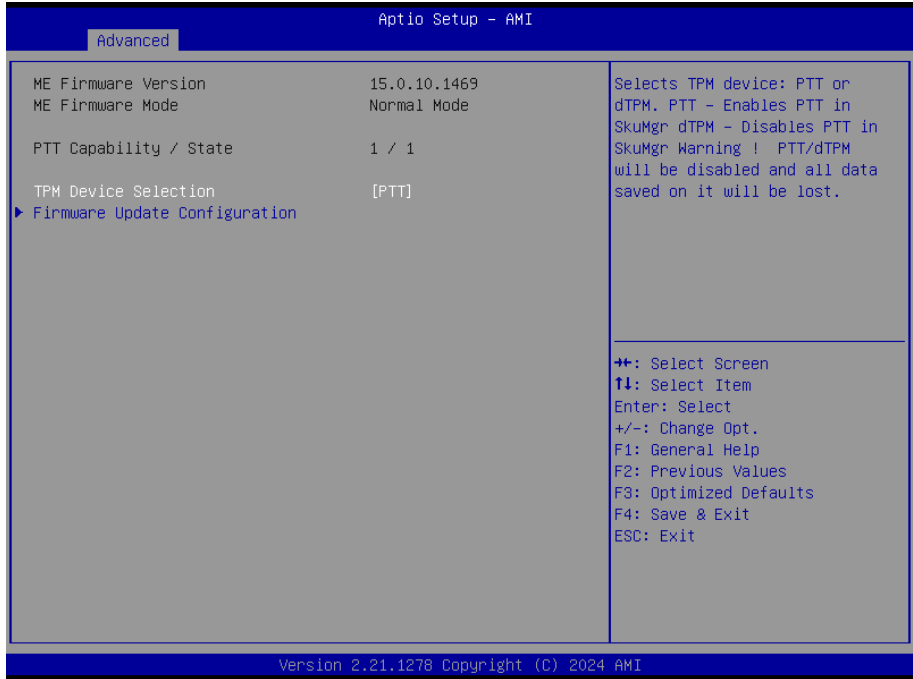
Hardware Prefetcher	To Turn on/off the MLC streamer prefetcher. ▶ Options: <b>Enabled</b> (default) or <b>Disabled</b>
Adjacent Cache Line Prefetch	To Turn on/off prefetching of adjacent cache lines. ▶ Options: <b>Enabled</b> (default) or <b>Disabled</b>

## 5.3.2 SATA Configuration



Setting	Description
<b>SATA Configuration</b>	<b>Enable/Disable</b> SATA Device. ▶ Options: <b>Enabled</b> (default) or <b>Disabled</b>
<b>M.2 Port</b>	<b>Enable/Disable</b> M.2 Port. ▶ Options: <b>Enabled</b> (default) or <b>Disabled</b>

### 5.3.3 PCH-FW Configuration



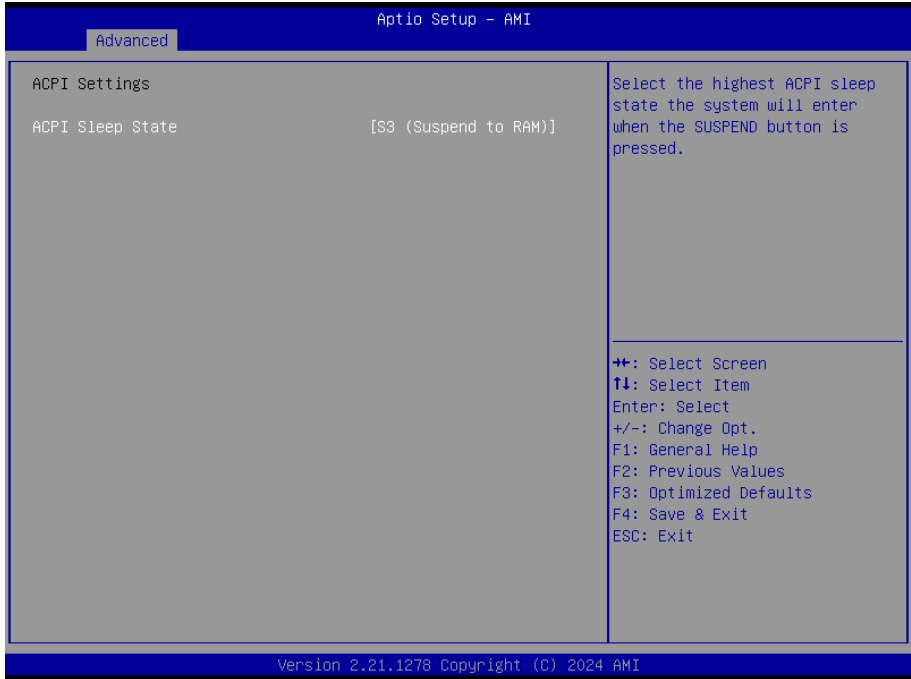
Setting	Description
<b>TPM Device Selection</b>	Selects TPM device PTT or dTPM. PTT - Enable in SkuMgr dTPM - Disables PTT in SkuMgr warning! PTT/ dTPM will be disabled and all data saved on it will be lost.
<b>Firmware Update Configuration</b>	Enable or Disable Firmware Image Re-flash function. ▶ Options for ME FW Image Re-Flash function: <b>Enabled/ Disabled(default)</b>

### 5.3.4 Trusted Computing



Setting	Description
<b>Security Device Support</b>	<b>Enable</b> (default) or <b>Disable</b> BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.
<b>Pending operation</b>	Select <b>None</b> (default) or <b>TPM Clear</b> for Security Device
<b>TPM 2.0 UEFI Spec Version</b>	Select <b>TCG_1_2</b> or <b>TCG_2</b> (default) Spec Version support ▶ Options: <b>TCG_1_2</b> or <b>TCG_2</b> (default)
<b>Disable Block Sid</b>	Override to allow SID authentication in TCG Storage device. ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)

### 5.3.5 ACPI Settings



Setting	Description
ACPI Sleep State	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed. ► Options: <b>Suspend Disabled</b> and <b>S3 (Suspend to RAM)</b> (default).

### 5.3.6 Wake-up Function Settings



Setting	Description
<b>Wake-up System with Fixed Time</b>	Enable or disable system wake on alarm event. When disabled, system will wake on the hr:min:sec specified ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)
<b>Wake-up System with Dynamic Time</b>	Enable or disable system wake on alarm event. When disabled, system will wake on the current time + Increase minute(s). ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)
<b>PCIe Wake-up from S3-S5</b>	Note: This function is supported when "ERP Support" is set as <b>Disabled</b> (default)
<b>USB S3/S4 Wake-up</b>	Enable or disable USB S3/S4 Wake-up Support only Disable ERP Function. ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)
<b>USB S5 Power</b>	USB Power after system shutdown Support only Disable ERP Function. ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)

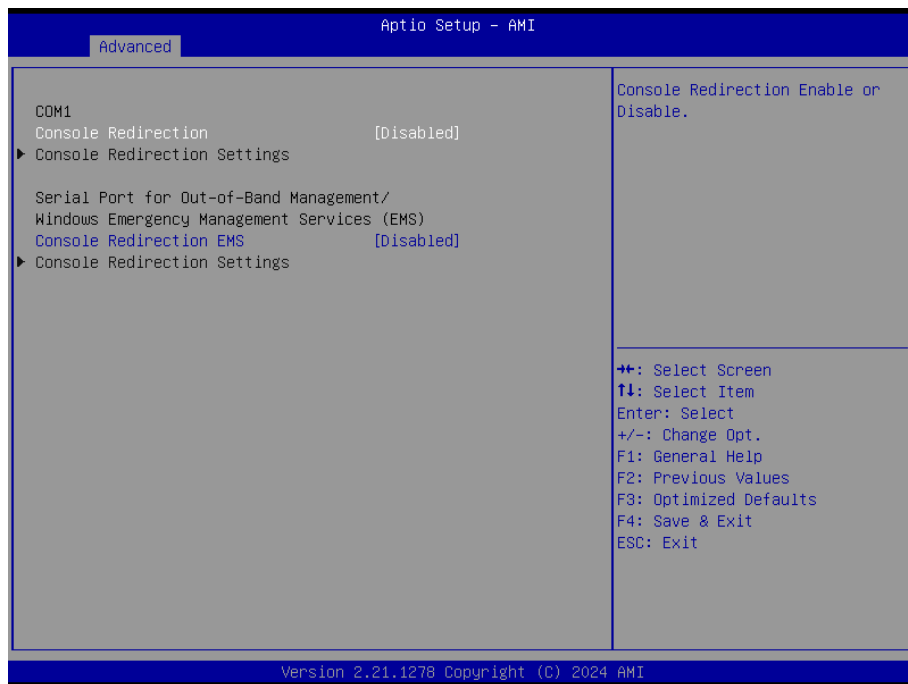
### 5.3.7 Super IO Configuration



Setting	Description
<b>ERP Support</b>	Energy-Related Products function. Disable ERP to active all wake-up function. ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)
<b>Serial Port 1 Configuration</b>	Serial Port 1 Configurations ▶ <b>Enabled</b> or <b>Disabled</b> (default) Serial Port(COM) Change optimal settings for Super IO device. ▶ <b>Options:</b> IO=3F8h; IRQ=4 IO=3F8h; IRQ=3, 4, 5, 7, 10, 11; IO=2F8h; IRQ=3, 4, 5, 7, 10, 11; IO=3E8h; IRQ=3, 4, 5, 7, 10, 11; IO=2E8h; IRQ=3, 4, 5, 7, 10, 11;
<b>Watchdog Reset Timer</b>	Support WDT reset function ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)
<b>Watchdog Wake-up Timer</b>	Support WDT wake-up ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)
<b>Case Open Detect</b>	Detect if case have ever been opened. Show message in POST.

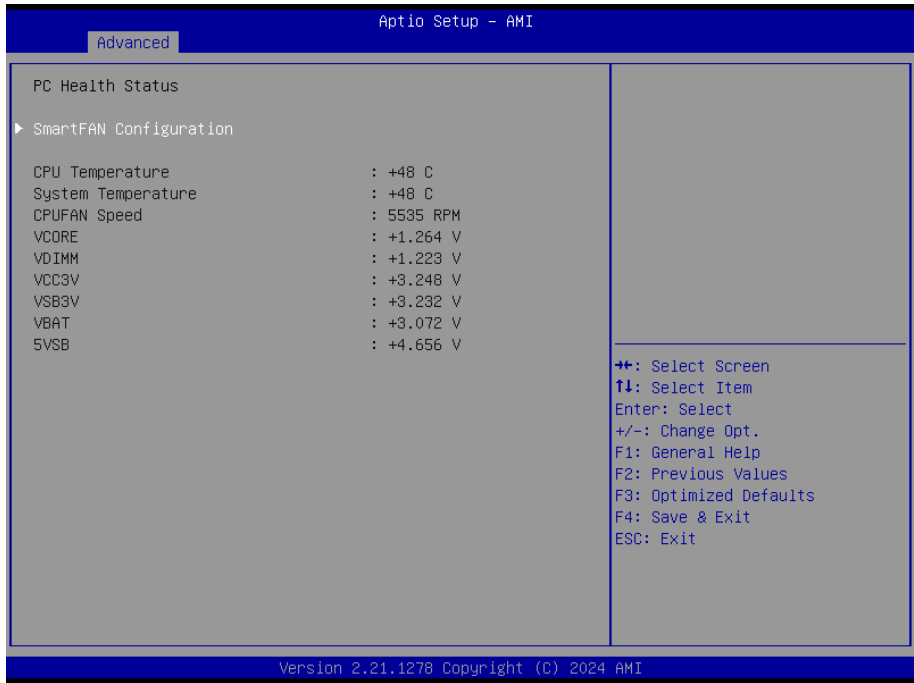


## 5.3.8 Serial Port Console



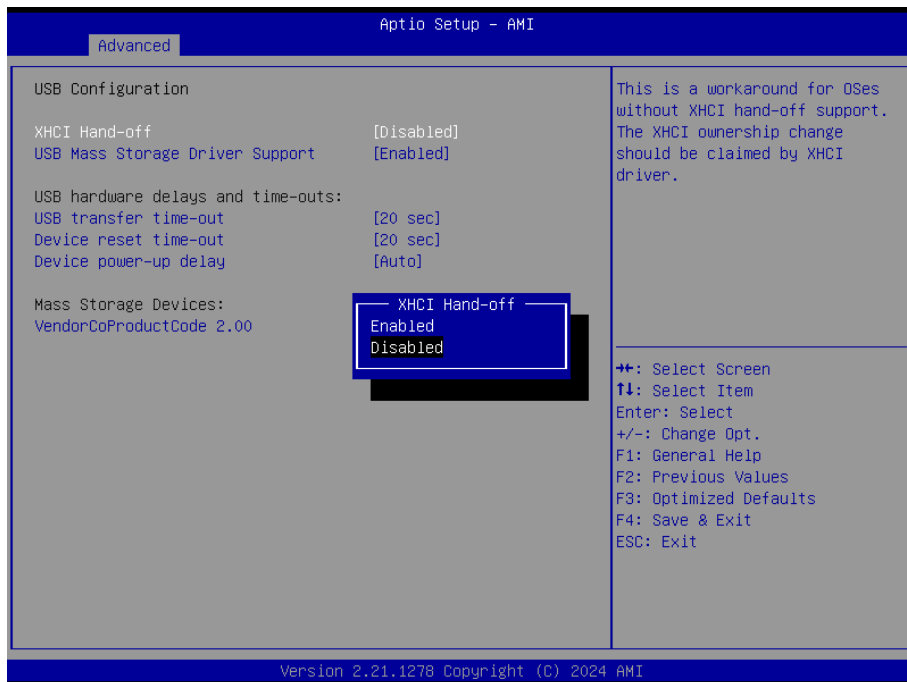
Setting	Description
Console Redirection	Console Redirection Enable or Disable. ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)
Console Redirection EMS	Console Redirection Enable or Disable. ▶ Options: <b>Enabled</b> or <b>Disabled</b> (default)

### 5.3.9 Hardware Monitor



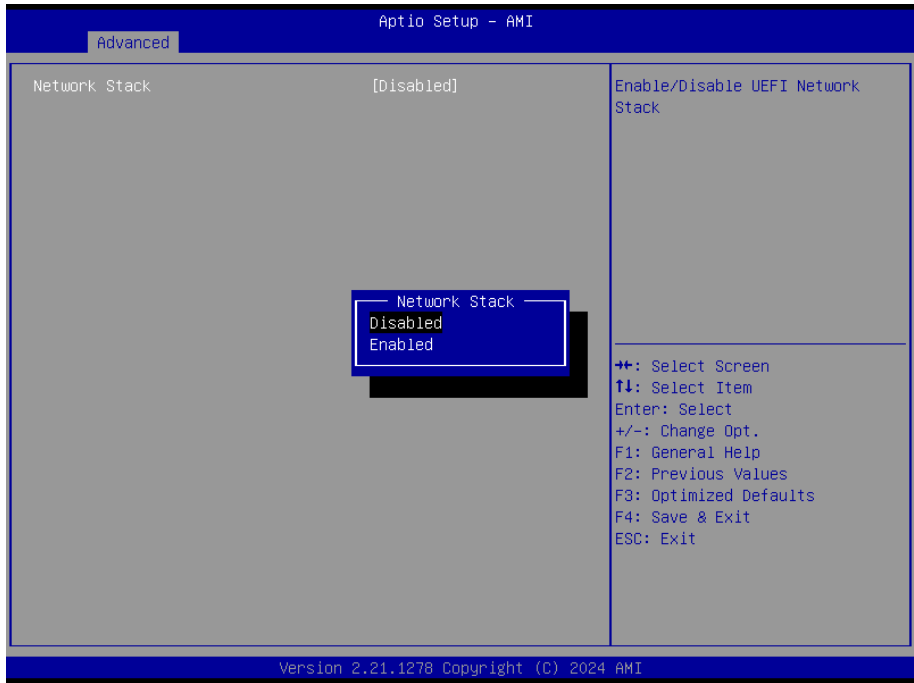
Access this submenu to monitor the hardware status.

### 5.3.10 USB Configuration



Setting	Description
<b>XHCI Hand-off</b>	Select to <b>Enable</b> or <b>Disable</b> (default) for XHCI Hand-off function
<b>USB Mass Storage Driver Support</b>	Select to <b>Enable</b> (default) or <b>Disable</b> for USB Mass storage driver support
<b>USB transfer time-out</b>	Select USB transfer time-out value from <b>1, 5, 10 to 20</b> sec
<b>Device reset time-out</b>	Select device reset time-out value from <b>10, 20, 30 to 40</b> sec
<b>Device power-up delay</b>	Select to <b>Auto</b> (default) or <b>Manual</b> for the device power up delay
<b>Mass Storage Devices</b>	Mass storage device emulation type. ▶ Options <b>Auto</b> (default), <b>Floppy</b> , <b>Forced FDD</b> , <b>Hard Disk</b> or <b>CD-ROM</b>

### 5.3.11 Network Stack Configuration



Setting	Description
Network Stack	Enables/disables UEFI network stack. ▶ <b>Disabled</b> is the default.

## 5.3.12 NVMe Configuration



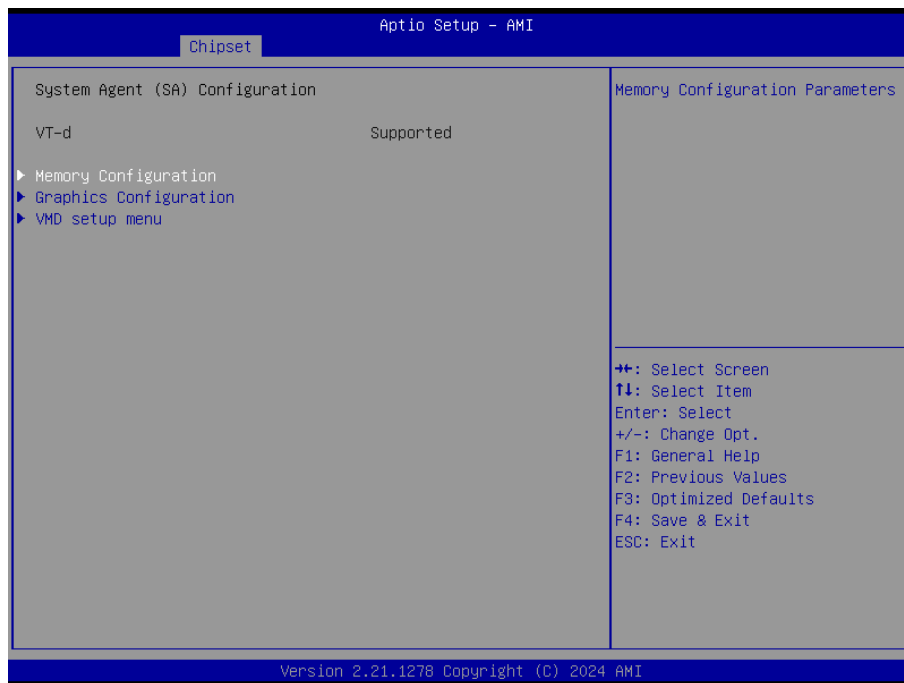
Access this submenu to view the NVMe controller and driver information.

## 5.4 System Agent(SA) Configuration



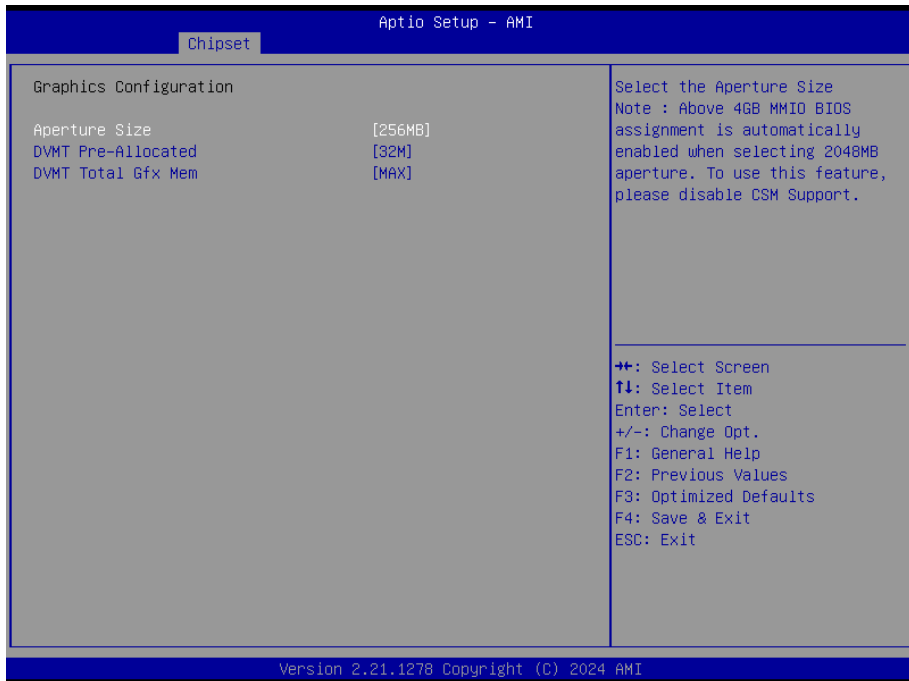
Setting	Description
System Agent(SA) Configuration	See <a href="#">5.4.1.1 System Agent (SA) Configuration on page 37</a>
PCH-IO Configuration	See <a href="#">5.4.2.1 PCH-IO Configuration on page 39</a>

### 5.4.1.1 System Agent (SA) Configuration



Setting	Description
Memory Configuration	Monitor Memory Frequency Configuration.
Graphic Configuration	See <a href="#">5.4.1.2 Graphic Configuration on page 38</a>
VMD Setup menu	Enable/Disable to VMD controller

### 5.4.1.2 Graphic Configuration

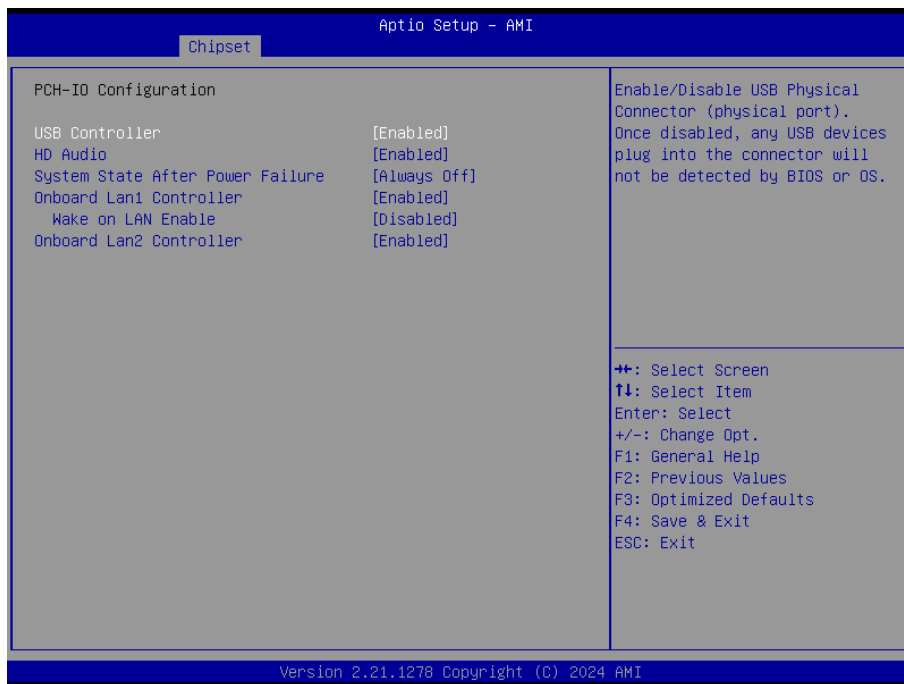


The features settings are:

Setting	Description
<b>Aperture Size</b>	Select the Aperture Size. Note that above 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature, please disable CSM support. ▶ Options: <b>128MB, 256MB</b> (default), <b>512MB, 1024MB</b> and <b>2048MB</b>
<b>DVMT Pre-Allocated</b>	Select the DVMT 5.0 Pre-allocated (Fixed) Graphic Memory size used by the Internal Graphic Device. ▶ 32M is the default.
<b>DVMT Total Gfx Mem</b>	Select the DVMT 5.0 Total Graphic Memory size used by the Internal Graphic Device. ▶ Options: <b>128M, 256M</b> (default) and <b>Max</b> .



## 5.4.2.1 PCH-IO Configuration



Setting	Description
<b>USB Controller</b>	Enable/Disable USB Physical connector (Physical port). Once disabled, any USB devices plug into the connector will not be detected by BIOS or OS. Options: <b>Enabled</b> (default) or <b>Disabled</b>
<b>HD Audio</b>	Select <b>Enabled</b> (default) or <b>Disabled</b> for HD Audio device
<b>System State After Power Failure</b>	Specify what state to go to when power is re-applied after a power failure (G3 state) Options: <b>Always On</b> (default), <b>Always Off</b> , <b>Former State</b>
<b>Onboard Lan1 Controller</b>	Enable/Disable onboard NIC. Options: <b>Enabled</b> (default) or <b>Disabled</b>
<b>Wake on LAN Enable</b>	Enable/Disable integrated LAN to wake the system. Options: <b>Enabled</b> or <b>Disabled</b> (default)
<b>Onboard LAN2 Controller</b>	Controller the PCI Express Root Part. Options: <b>Enabled</b> (default) or <b>Disabled</b>

## 5.5 Security



Setting	Description
<b>Administrator Password</b>	To set up an administrator password: 1. Select <b>Administrator Password</b> . The screen then pops up an <b>Create New Password</b> dialog. 2. Enter your desired password that is no less than 3 characters and no more than 20 characters. 3. Hit [Enter] key to submit.
<b>User Password</b>	To set up an User password: 1. Select <b>User Password</b> . The screen then pops up an <b>Create New Password</b> dialog. 2. Enter your desired password that is no less than 3 characters and no more than 20 characters. 3. Hit [Enter] key to submit.
<b>Secure Boot</b>	Secure Boot Configuration

## 5.6 Boot



Setting	Description
Setup Prompt Timeout	Select the keyboard NumLock state. ► Options: <b>On</b> (default) and <b>Off</b> .
Bootup Numlock State	<b>On</b> or <b>Off</b> (default) boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.
Quiet Boot	Enables or disables Quiet Boot option Options: <b>Enabled</b> or <b>Disabled</b> (default)
Boot Option Pries	Set the system boot priorities.

## 5.7 Save & Exit



Setting	Description
<b>Save Changes and Exit</b>	Exit system setup after saving the changes. ▶ Enter the item and then a dialog box pops up: <b>Save configuration and exit? (Yes/ No)</b>
<b>Discard Changes and Exit</b>	Exit system setup without saving the changes. ▶ Enter the item and then a dialog box pops up: <b>Quit without saving? (Yes/ No)</b>
<b>Restore Defaults</b>	Restore/Load Default values for all the setup options. ▶ Enter the item and then a dialog box pops up: <b>Load Optimized Defaults? (Yes/ No)</b>
<b>Save as User Defaults</b>	Save changes done so far to any of the setup options.
<b>Restore User Defaults</b>	Restore the user defaults to all the setup options.
<b>Launch UEFI Shell from filesystem device</b>	Attempts to launch UEFI shell application (Shell.efi) from one of the available filesystem devices.