

## QBiX-JMB-CMLA47EHG-A1

Industrial System with Intel® Q470E Chipset, Support for Intel® 10th Gen. Core™ i Processor and Discrete GFX card support

## Startup Manual

### Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

For Main system : 9BQJQ47EAMR-SI

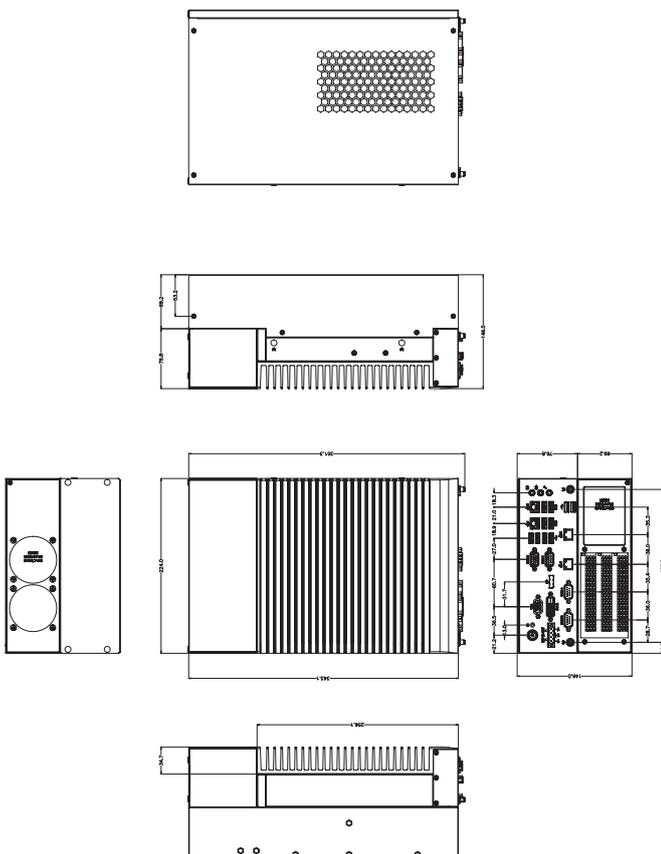
1. Terminal Blocks Male Plug x 1 (P/N: 25IO0-2ESDV0-D2R)
2. Screw M3x4L x 16 (P/N : 25984G-1C014-S00)

\*Quantity of the HDD screws in the accessory kit may decreased based on actual HDD assemble quantity.

For Expansion slot kit : 6BQJH310APR-SI

1. Screw #6-32x4L x11 (P/N: 25KS2-13004F-S0R)

### Dimension



Caution: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

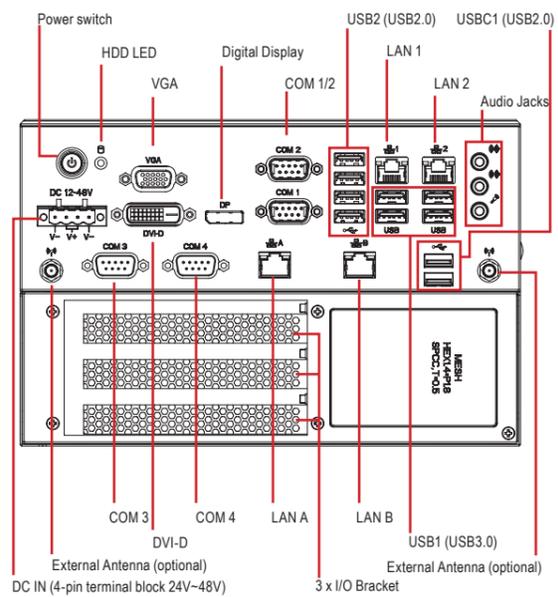
### Specifications

|                 |   |
|-----------------|---|
| Dimension       | System Size : 224W x 343D x 146H(mm) - Discrete GFX max 250W support.(Optional)   |
| CPU             | Support for 10th Generation Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processors in the LGA1200 package, TDP under 65W  |
| Chipset         | Intel® Q470E Express Chipset  |
| Memory          | 2 x DDR4 SO-DIMM sockets, Max. Capacity 64 GB<br>Support Dual channel DDR4 2933/2666 MHz memory modules   |
| Ethernet        | 1 x GbE LAN Port (Intel® I219V)<br>3 x GbE LAN Ports (Intel® I211AT)  |
| Graphic Support | Integrated Graphics Processor - Intel® HD Graphics support:<br>1 x DVI-D port, supporting a maximum resolution of 1920x1080 @60Hz<br>1 x D-Sub port, supporting a maximum resolution of 1920x1080 @60Hz<br>1 x DP port, supporting a maximum resolution of 4096x2160 @60Hz<br><br>(3 independent display outputs) |
| Audio           | Realtek® Audio Codec  |
| Storage         | 4 x 2.5" HDD/SSD (SATA 6Gb/s)   |
| Expansion Slots | 1 x 2280 M.2 M-Key (PCIe x4, SATA 6Gb/s)<br>1 x 2230 M.2 E-Key (WiFi/BT)<br>1 x Full-size Mini PCIe with SIM slot (PCIe x1 + USB2.0) -- support 3G/4G module<br>1 x PCIe slot -- Discrete riser card support  |

|                            |  |
|----------------------------|--|
| Front I/O                  | 1 x Power Switch/Power/HDD LED<br>3 x Audio Jacks (Line in, Line out, Mic in)<br>1 x Display port<br>1 x DVI-D<br>1 x VGA<br>2 x COM Ports (RS-232/422/485 & RI/5V/12V)<br>2 x COM Ports (RS-232)<br>4 x RJ45 LAN Ports<br>4 x USB 3.2 Gen 1<br>6 x USB 2.0<br>1 x 4-pin Terminal Block<br>2 x External Antenna Holes (Optional)   |
| Riser Card (Optional)      | 1 x PCIe x4 (Gen3 x4)<br>2 x PCIe x16<br>— Single at Gen3 x16 only<br>or<br>— Dual at Gen3 x8 + Gen3 x8  |
| Power                      | +24V~48VDC (full Range)<br>-- Support discrete GFX card  |
| Operation Temperature      | For Main system :<br>Operating temperature: -20°C to 50°C (CPU TDP 65W)<br>Operating temperature: -20°C to 60°C (CPU TDP 35W)<br><br>For Full system :<br>Depends on the Graphic cards installed in the system<br><br>Operating humidity: 0-90% (non-condensing)<br>Non-operating temperature: -40°C to 85°C<br>Non-operating humidity: 0%-95% (non-condensing)<br>Use wide temperature range memory and storage |
| Vibration During Operation | Operation: IEC 60068-2-64, 1 Grms, random, 5 ~ 500 Hz, 1 hr / Per Axis, With SSD/M.2 2280 & Without Graphics Cards<br>Non-operation: IEC 60068-2-6, 2 G, Sine, 10 ~ 500 Hz, 1 Oct/min, 1 hr / Per Axis   |
| Shock During Operation     | Operation: IEC 60068-2-27, 50 G, half sine, 11 ms duration, with SSD   |

|                   |  |
|-------------------|--|
| Packaging Content | For Main system : 9BQJQ47EAMR-SI<br>Carton size: 351 x 300 x 166 (mm)<br>Packing Capacity: 1pc<br>Including:<br>Terminal Blocks Male Plug x 1 (P/N: 25100-2ESDV0-D2R)<br>Screw M3x4L x 16 (P/N : 25984G-1C014-S00)<br>*Quantity of the HDD screws in the accessory kit may decreased based on actual HDD assemble quantity.<br><br>For Expansion slot kit : 6BQJH310APR-SI<br>Carton size: 460 x 315 x 279 (mm)<br>Packing Capacity: 1pc<br>Including:<br>Screw #6-32x4L x11 (P/N: 25KS2-13004F-S0R) |
| Oeder Information | System: 9BQJQ47EAMR-SI & 6BQJH310APR-SI<br><br>(Built in Components: Please contact with your sales representative for more information or e-mailed to : sales@gigaipc.com)  |

### System I/O Interface



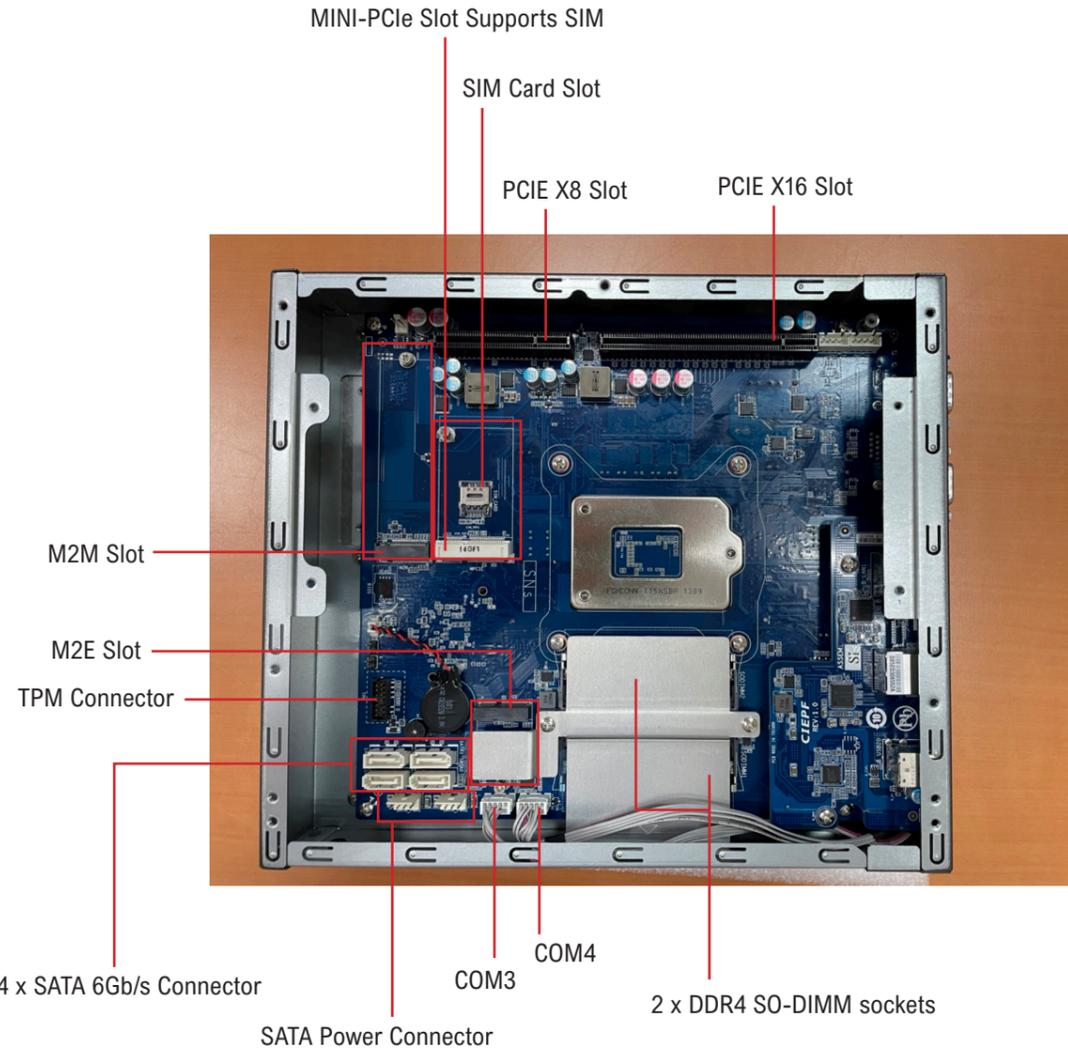
## Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the jumpers and connectors.

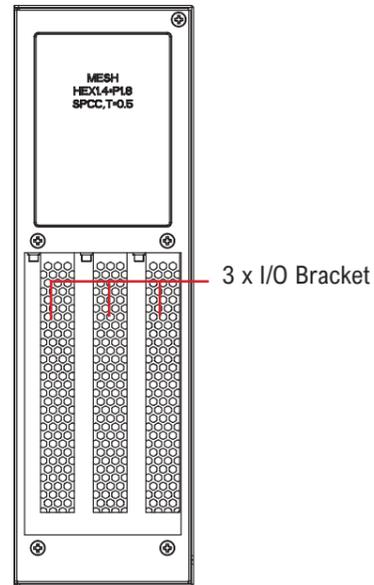
| Front I/O Connectors |         |                      |
|----------------------|---------|----------------------|
| No.                  | Code    | Scripton             |
| 1                    | VGA     | VGA Connector        |
| 2                    | DVI-D   | DVI-D Connector      |
| 3                    | DP      | Digital Display Port |
| 4                    | COM 1/2 | RS-232/422/485       |
| 5                    | COM 3/4 | RS-232               |
| 6                    | USB 1   | 4 x USB 3.0          |
| 7                    | USB 2   | 4 x USB 2.0          |

| Front I/O Connectors |           |  |
|----------------------|-----------|--|
| No.                  | Code      | Scripton                                 |
| 8                    | USB C1    | 2 x USB 2.0                              |
| 9                    | LAN 1     | Intel® i219V                             |
| 10                   | LAN 2     | Intel® i211AT                            |
| 11                   | LAN A     | Intel® i211AT                            |
| 12                   | LAN B     | Intel® i211AT                            |
| 13                   | LED       | Power and Storage Device Status LED      |
| 14                   | DC-12-48V | Power connector                          |
| 15                   | Audio     | Audio Jacks (Line in, Line out & Mic in) |

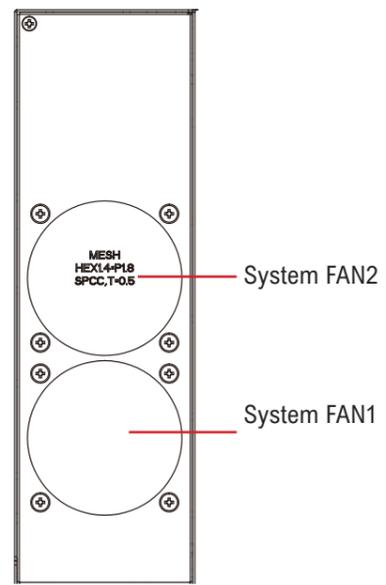
## Internal I/O Connectors



## Expansion Front View

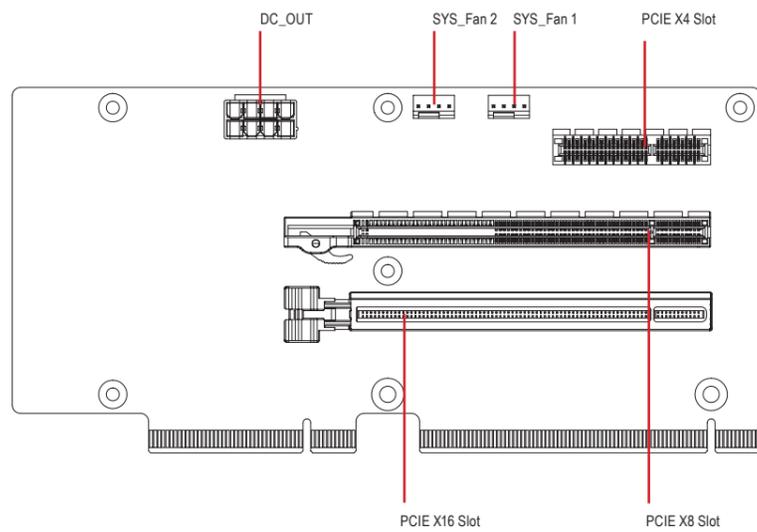


## Expansion Rear View

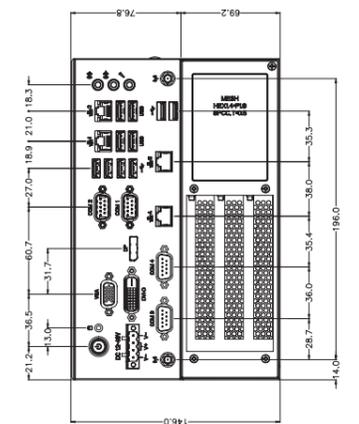
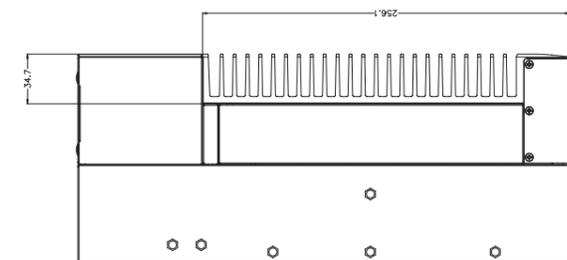
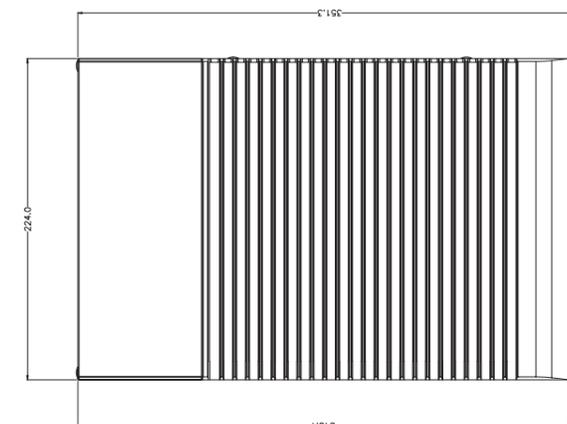
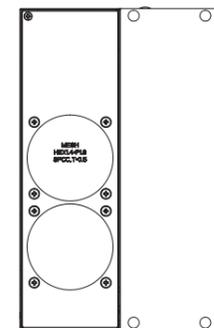
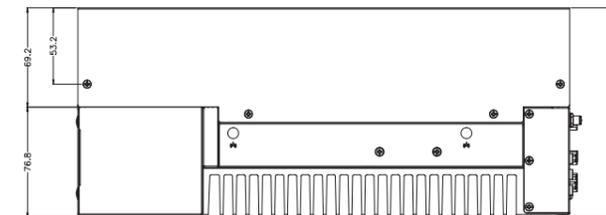
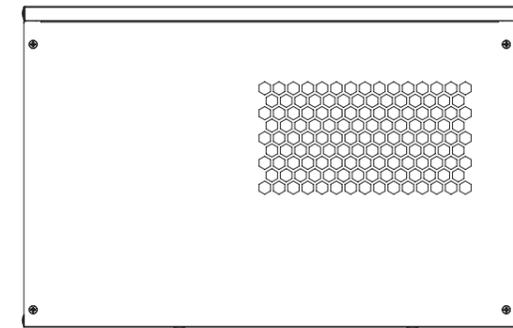


## Expansion I/O Connectors

| No. | Code     | Scripton                             |
|-----|----------|--------------------------------------|
| 1   | DC_OUT   | GPU Power Supply Connector DC Output |
| 2   | SYS_FAN1 | Fan1 Power Connector                 |
| 3   | SYS_FAN2 | Fan2 Power Connector                 |
| 4   | PCIEX4   | PCIe X4 Slot                         |
| 5   | PCIEX8   | PCIe X8 Slot                         |
| 6   | PCIEX16  | PCIe X16 Slot                        |



## System Dimensions



# Simple Installation Process

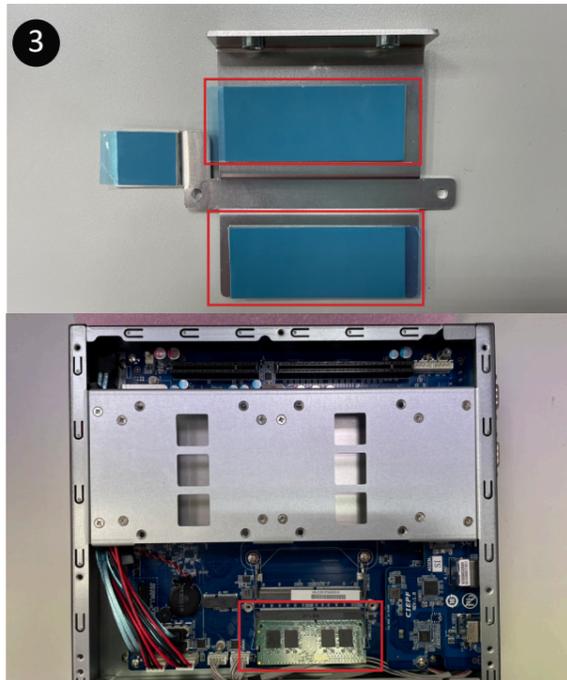
## Memory Installation

QBiX-JMB-CMLA47EH-A1 supports DDR4 SO-DIMM type memory module.

1. Loosen 7 screws and remove the bottom cover.
2. Loosen 4 screws to remove memory thermal cover.
3. Remove the release paper, and assemble memory.
4. Install 4 screws and memory thermal cover.

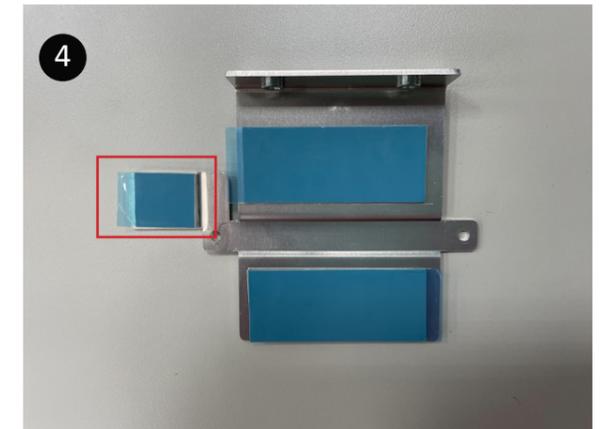
Note : Thermal pad and memory thermal cover must be fully mated and compacted.

5. Replace the bottom cover and secure with screws.



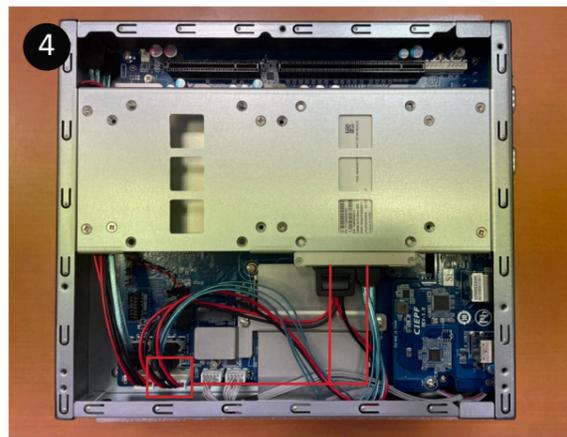
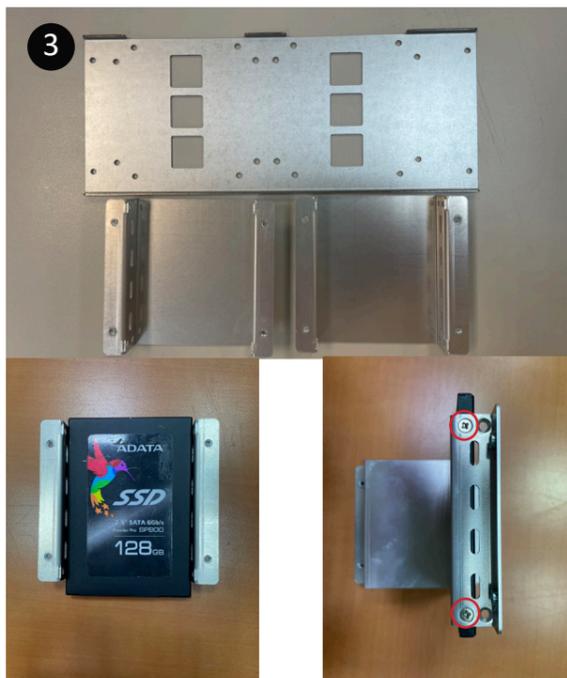
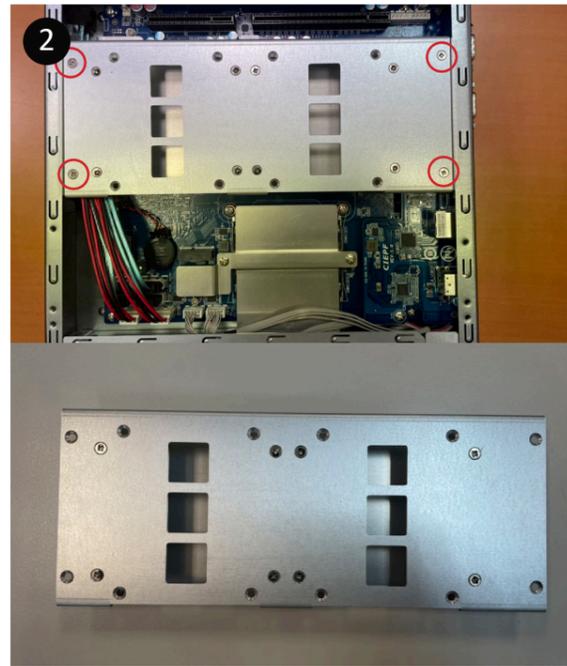
# M2E (Support NGFF-2230 Wifi/BT) Installation

1. Loosen 7 screws and remove the bottom cover.
2. Loosen 4 screws to remove M2E thermal cover.
3. Install the module in the M2E (Support NGFF-2230 Wifi/BT) slot and secure with screws.
4. Remove the release paper on the thermal pad.
5. Install 4 screws and M2E thermal cover.
6. Replace the bottom cover and secure with screws.



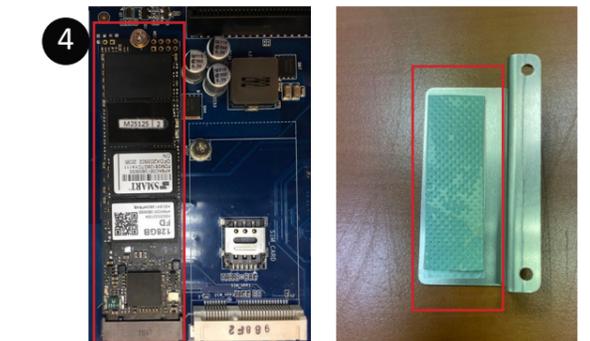
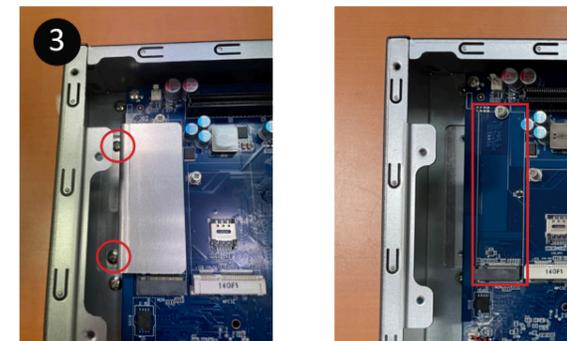
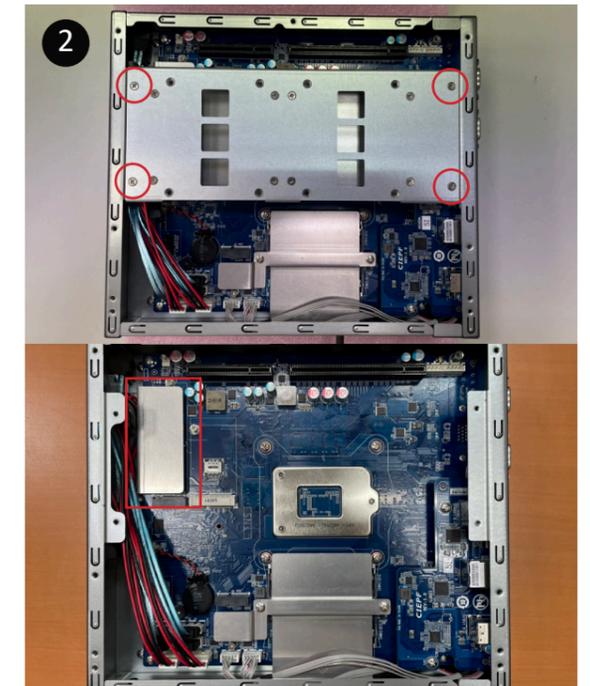
## Storage Installation 1 (2.5" HDD/SSD)

1. Loosen 7 screws and remove the bottom cover.
2. Loosen 4 screws to remove storage tray.
3. Secure storage with 4 x screws.
4. Assemble SATA cable/power cable and replace storage tray securely with 4 x screws.
5. Replace the bottom cover and secure with screws.



## Storage Installation 2 (M2M Storage)

1. Loosen 7 screws, and then remove the bottom cover.
2. Loosen 4 screws to remove storage tray.
3. Loosen the 2 screws to remove the aluminum heat sink.
4. Assemble the M2M (NGFF-2280 SATA) storage hard drive and remove the release paper which is on the aluminum heat sink.
5. Install the 2 screws to securely replace the aluminum heat sink and heat sink paste.
6. Install 4 screws to firmly install storage tray.
7. Replace the bottom cover and secure with screws.



## Mini-PCle Slot (PCIex1 + USB2.0) and SIM Card Slot Installation

QBiX-JMB-CMLA47EH-A1 supports one full size Mini-PCle.

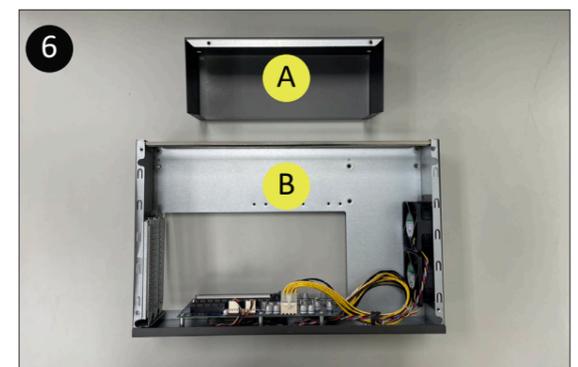
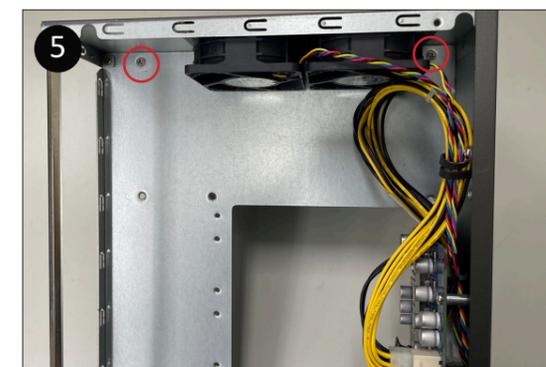
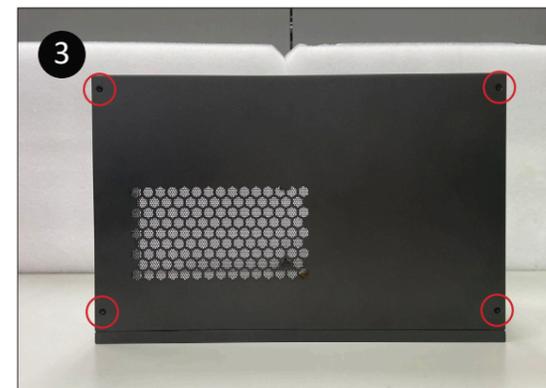
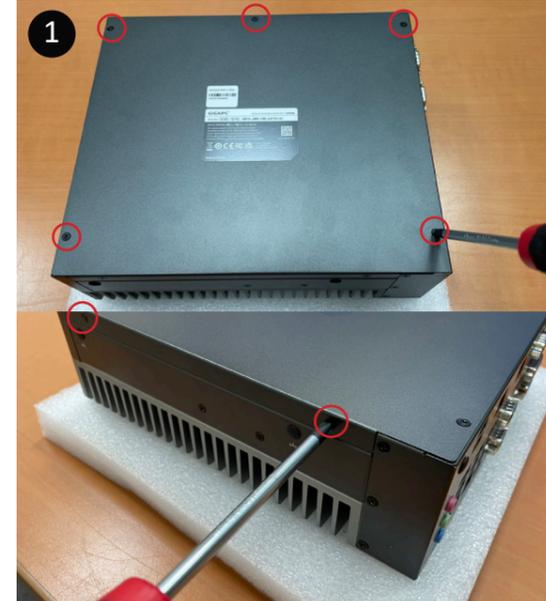
1. Loosen 7 screws, and then remove the bottom cover.
2. Loosen 4 screws to remove storage tray.
3. Assemble the Mini-PCle expansion Card (Mini-PCIex1 + USB2.0) or 3G/4G SIM Card in SIM Slot.
4. Install 4 screws to firmly install storage tray.
5. Replace the bottom cover and secure with screws.



## How to combine the QBiX-JMB-CMLA47EH-A1 system & PCI-E extension chassis

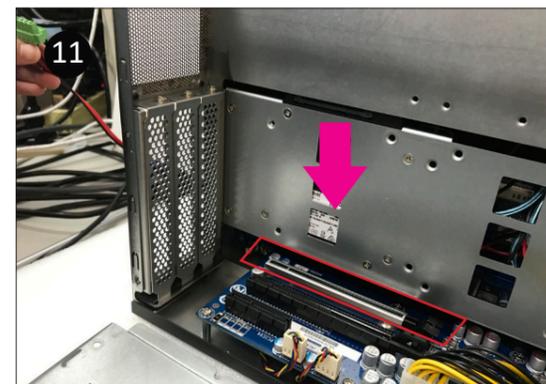
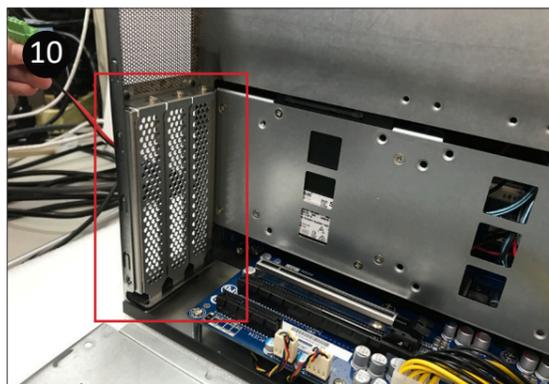
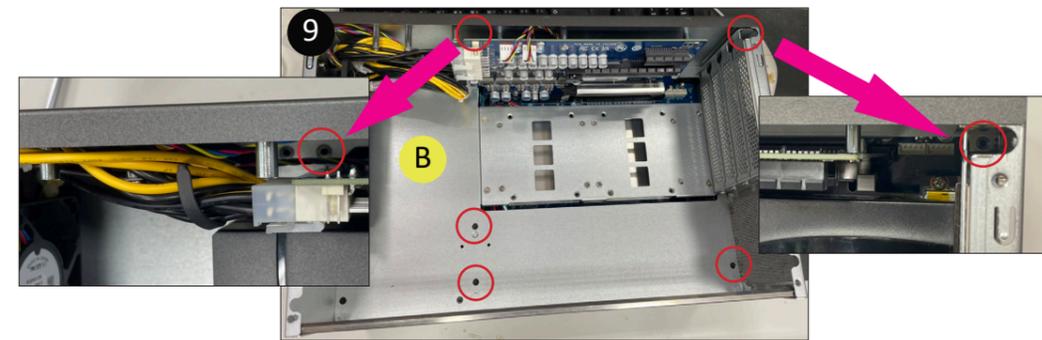
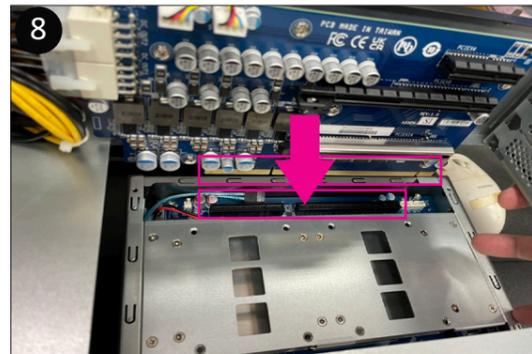
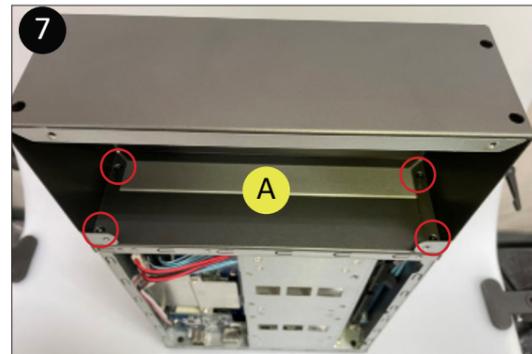
QBiX-JMB-CMLA47EHG-A1 is combined with QBiX-JMB-CMLA47EH-A1 and Expansion PCIE Slot Chassis.

1. Loosen 7 screws and remove the bottom cover of QBiX-JMB-CMLA47EH-A1. (refer Figure 1 and 2)
2. Loosen 6 screws and remove the cover of Expansion PCIE Slot Chassis. (refer Figure 3 and 4)
3. Loosen 2 screws on the system fan side of Expansion PCIE Slot Chassis to separate into 2 parts as below A & B parts. (refer Figure 5 and 6)



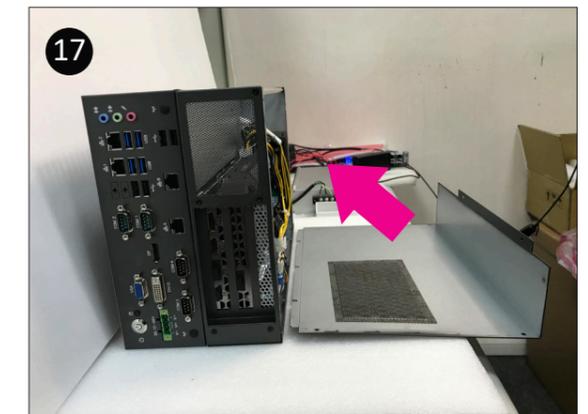
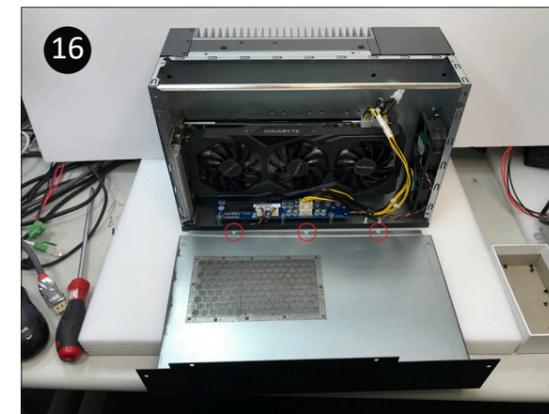
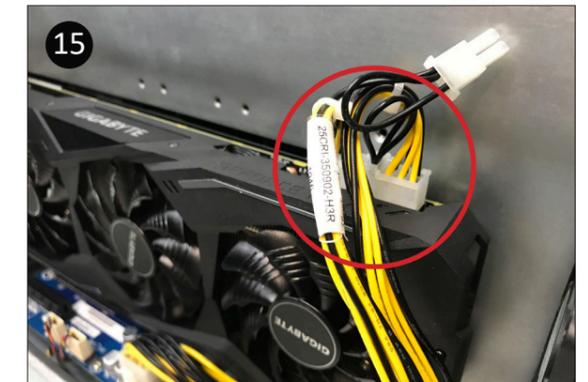
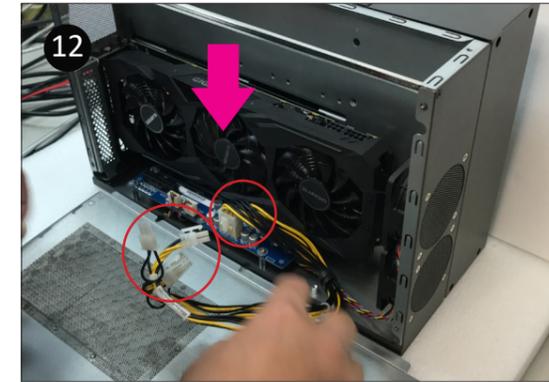
## How to combine the QBiX-JMB-CMLA47EH-A1 system & PCI-E extension chassis (Cont.)

4. Assemble 4 screws (Torsion : 4 - 5 kgf.cm) to fix A parts on the QBiX-JMB-CMLA47EH-A1 system (refer Figure 7)  
 ※ Recommend to use at least 15cm length screwdriver.
5. Insert the PCIe riser card into PCI-E slot of QBiX-JMB-CMLA47EH-A1 system from Top to Bottom. (refer Figure 8)
6. Assemble 5 screws (Torsion : 4 - 5 kgf.cm) to fix B parts on the QBiX-JMB-CMLA47EH-A1 system. (refer Figure 9)
7. Remove the screws on the IO Bracket, and then insert the graphic card into the PCI-E slot of PCI-E extension chassis from top to bottom. Connect the power cord in the extension card to the power connector of the graphics card (refer Figure 10 to 15)



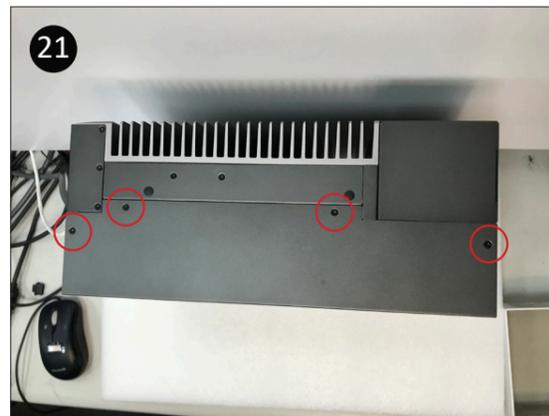
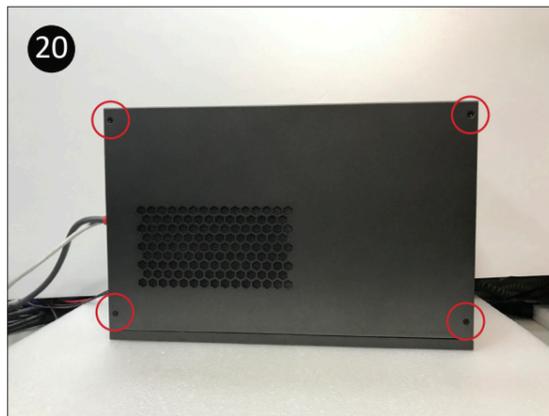
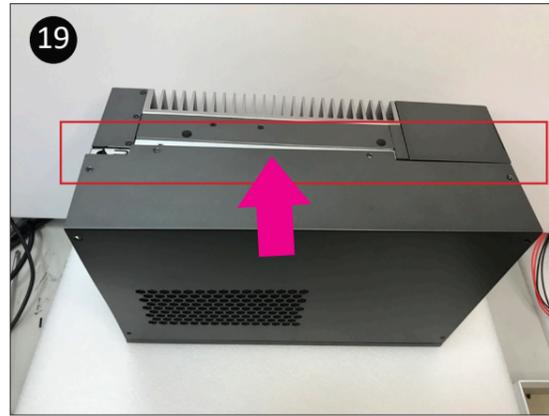
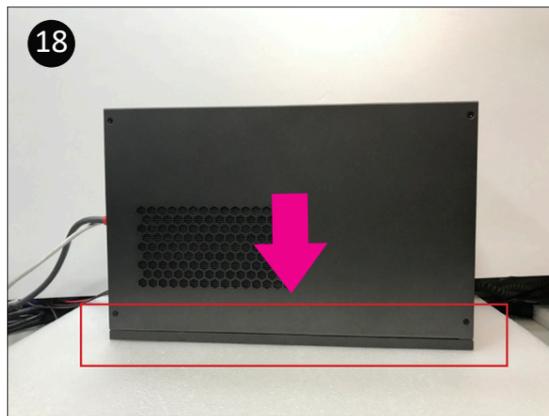
## How to combine the QBiX-JMB-CMLA47EH-A1 system & PCI-E extension chassis (Cont.)

8. Align the three grooves at the bottom of the case with the three iron posts in the fuselage (refer Figure 16 and 17), and place them from top to bottom. (refer Figure 18)



## How to combine the QBiX-JMB-CMLA47EH-A1 system & PCI-E extension chassis (Cont.)

9. Place the upper edge of the iron shell against the upper edge of the fuselage iron sheet, align the screw holes, and lock 8 screws (refer Figure 20 and 21) to complete the installation.



## Safety Instructions

1. Read these safety instructions carefully.
2. Keep this Startup Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment does not work well, or you cannot get it to work according to the user's manual.
  - The equipment has been dropped and damaged.
  - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -40°C (-40°F) OR ABOVE 85°C (185°F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**
17. **RESTRICTED ACCESS AREA:** The equipment should only be installed in a Restricted Access Area.
18. **DISCLAIMER:** This set of instructions is given according to IEC 704-1. GIGAIPC disclaims all responsibility for the accuracy of any statements contained here in.

## QBiX-JMB-CMLA47EHG-A1

### Industrial System with Intel® Q470E Chipset, Support for Intel® 10th Gen. Core™ i Processor and Discrete GFX card support BIOS Manual

#### Introduction

BIOS (Basic input/output system) provides hardware detailed information and boot-up options, which include firmware to control, set-up and test all hardware settings. Therefore, BIOS is the communication bridge between OS/application software and hardware.

#### How to Entering into BIOS menu

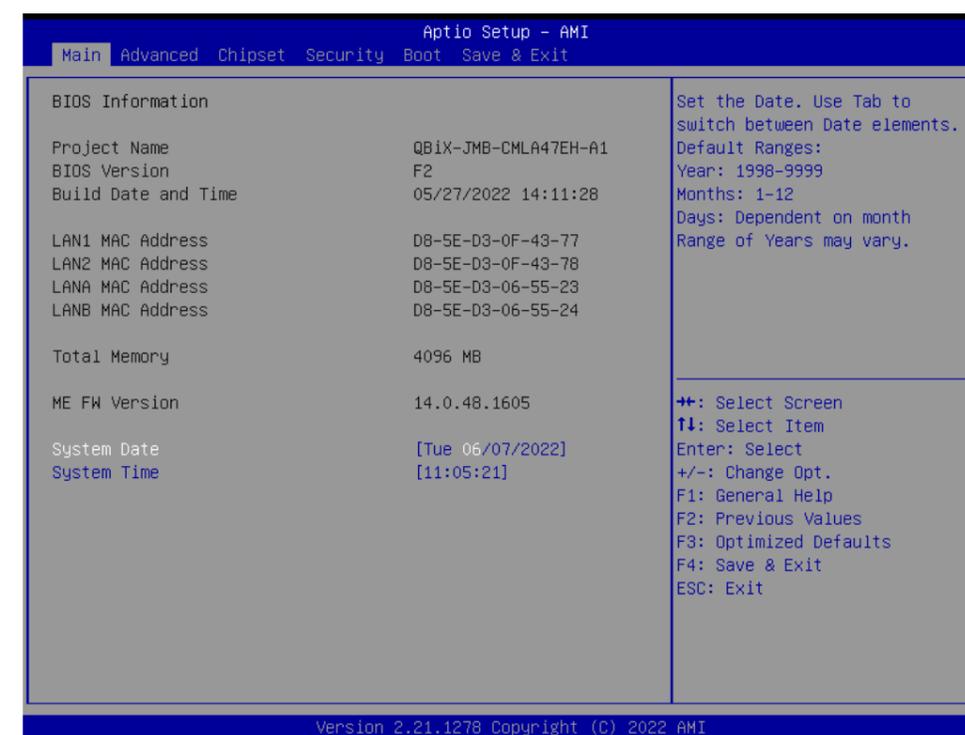
Once the system is power on, press the <DEL> key as soon as possible to access into BIOS Setup program.

#### Function Keys to setup in BIOS Setup program

| Function keys | Description                                |
|---------------|--|
| →←            | Select Screen                              |
| ↑↓            | Select Item                                |
| Enter         | Execute command or enter the submenu       |
| +             | Increase the numeric value or make changes |
| -             | Decrease the numeric value or make changes |
| F1            | General Help                               |
| F2            | Previous Values                            |
| F3            | Load Optimized Defaults Settings           |
| F4            | Save changes & Exit the BIOS Setup program |
| ESC           | Exit the BIOS Setup program                |

## 1. The Main Menu

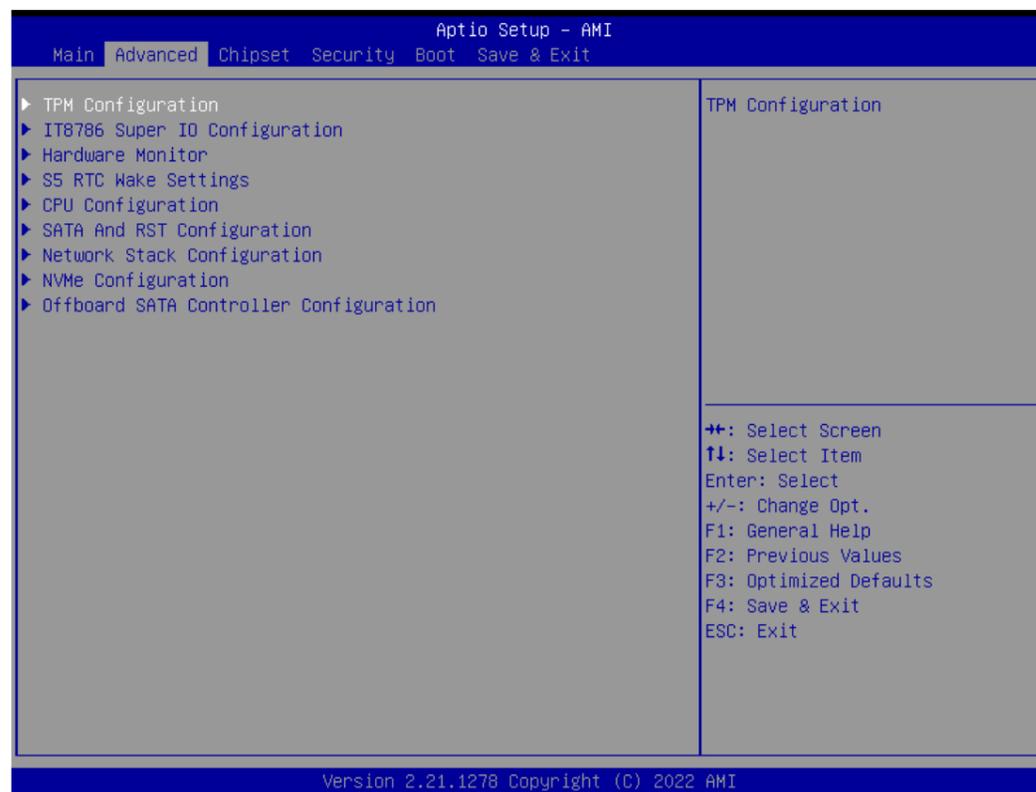
The main menu shows the basic system information. Use arrow keys to move among the items.



| Items               | Description   |
|---------------------|---|
| Project Name        | Shows Project name information                                      |
| BIOS Version        | Shows the BIOS version of the system                                |
| Build Date and Time | Shows the Build Date and Time when the BIOS was created.            |
| LAN1 MAC Address    | Shows LAN1 MAC Address information                                  |
| LAN2 MAC Address    | Shows LAN2 MAC Address information                                  |
| LANA MAC Address    | Shows LANA MAC Address information                                  |
| LANB MAC Address    | Shows LANB MAC Address information                                  |
| Total Memory        | Shows the total memory size of the installed memory                 |
| ME FW version       | Shows ME firmware version   |
| System Date         | Set the Date for the system<br>(Format : Week - Month - Day - Year) |
| System Time         | Set the time for the system<br>(Format : Hour - Minute - Second)    |

## 2. Advanced

The Advanced menu is to configure the functions of hardware settings through submenu. Use arrow keys to move among the items, and press <Enter> to access into the related submenu.



## 2.1 TPM configuration

Use TPM Configuration submenu to choose TPM interface.



| Item                        | Description   |
|-----------------------------|---|
| <b>TPM Device Selection</b> | <b>PTT : Internal TPM (Default setting)</b><br><b>dTPM : External TPM (When using External TPM module or having TPM chip on MB)</b> |

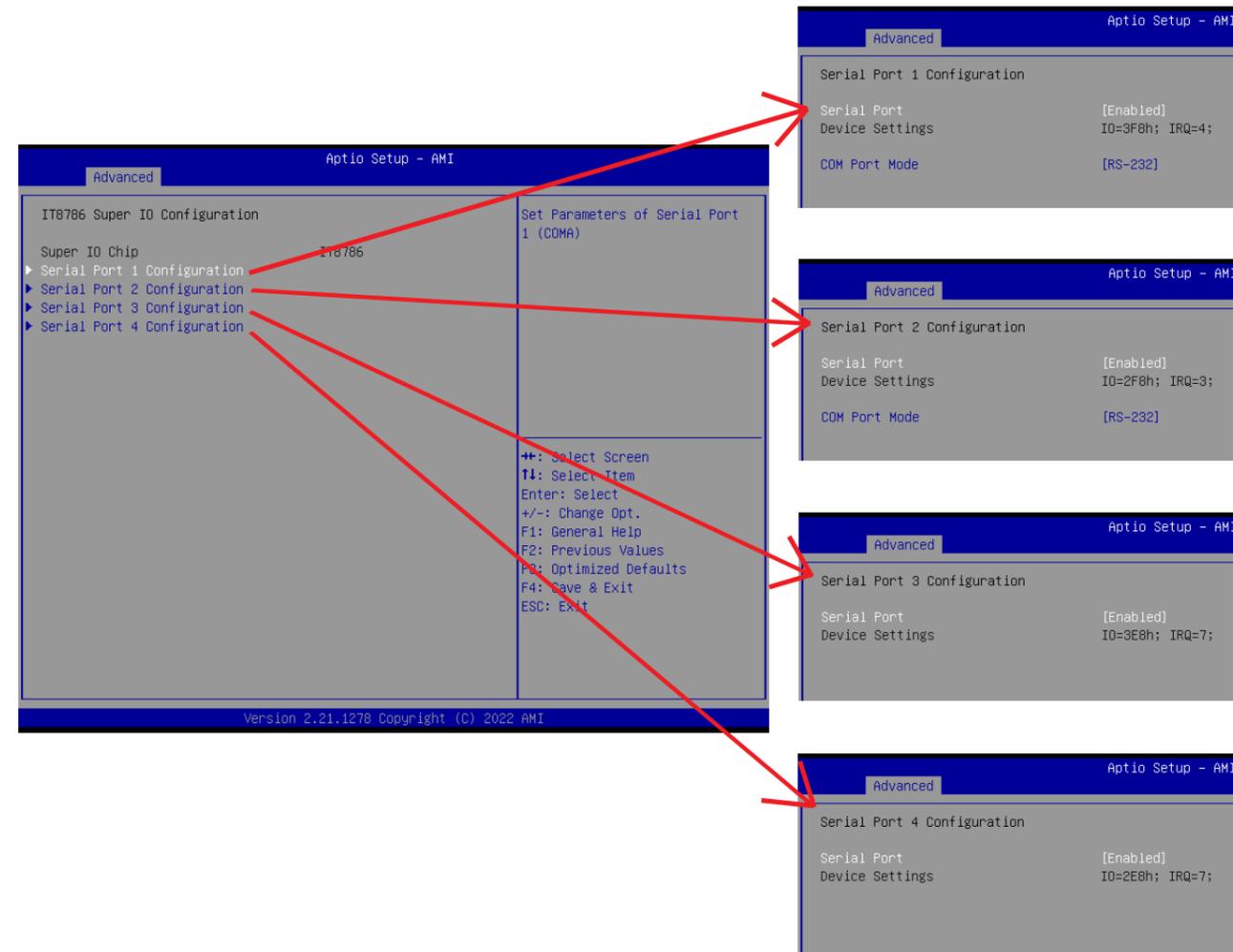
# Trusted Computing

Trusted Computing : Shows TPM information, and TPM module configuration setting.



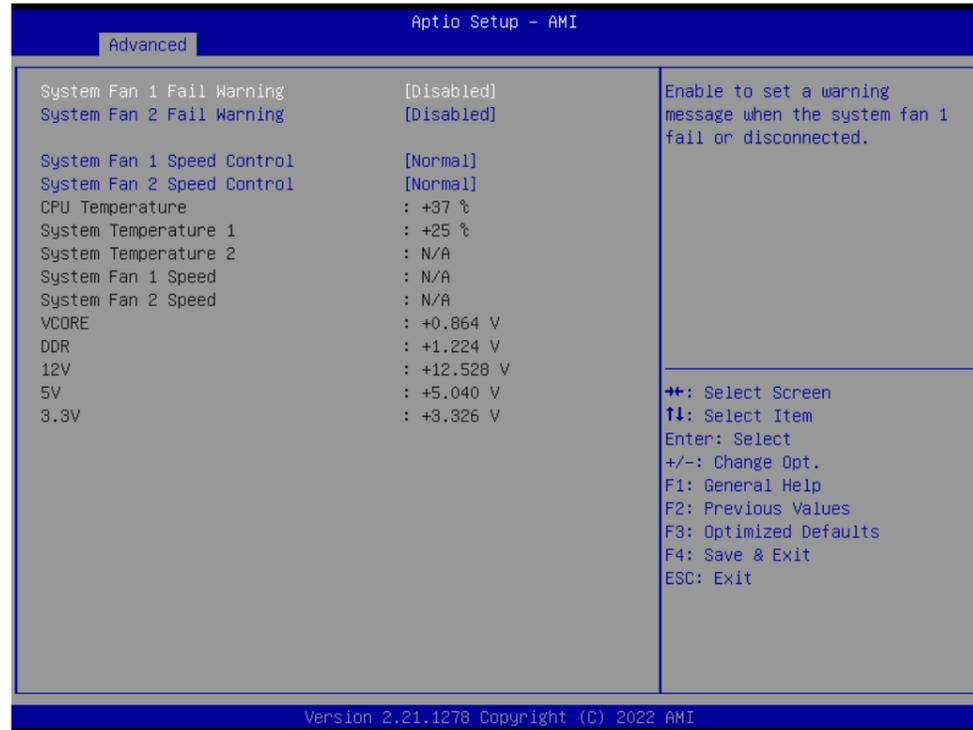
| Item                           | Description   |
|--------------------------------|---|
| <b>Security Device Support</b> | <b>Enabled : Enables TPM feature (Default setting)</b><br><b>Disabled : Disables TPM feature</b>              |
| <b>Pending operation</b>       | <b>None : No execution will be conducted (Default setting)</b><br><b>TPM clear : Set to clear data on TPM</b> |

# 2.2 IT8786 Super IO Configuration

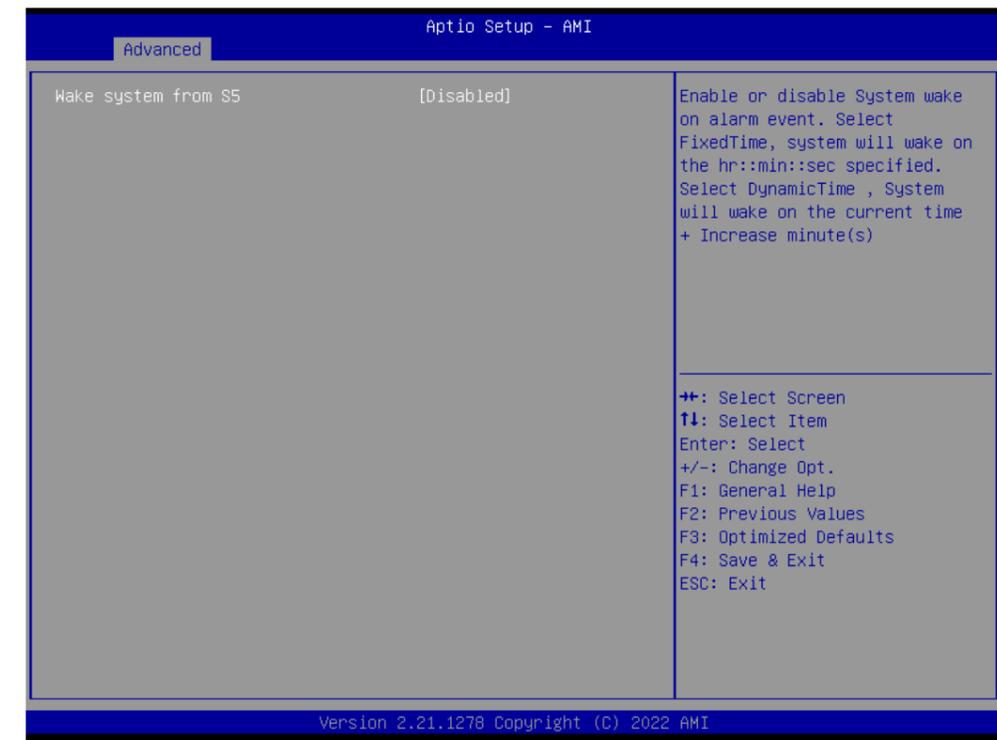


| Item   | Description   |
|--|---|
| <b>Super IO Chip</b>   | Shows Super I/O chip model  |
| <b>Serial Port 1 Configuration<br/>Serial Port 2 Configuration</b> | Press [Enter] to configure advanced items :<br><br>Serial Port :<br><b>Enabled : Enables allows you to configure the serial port settings</b><br><b>Disabled : if Disabled, displays no configuration for the serial port</b><br><br>Device settings :<br>Display the specified Serial Port base I/O address and IRQ<br><br>COM Port Mode :<br>Choose RS-232, RS-422, or RS-485 feature |
| <b>Serial Port 3 Configuration<br/>Serial Port 4 Configuration</b> | Press [Enter] to configure advanced items :<br><br>Serial Port :<br><b>Enabled : Enables allows you to configure the serial port settings</b><br><b>Disabled : if Disabled, displays no configuration for the serial port</b><br><br>Device settings :<br>Display the specified Serial Port base I/O address and IRQ  |

## 2.3 Hardware Monitor



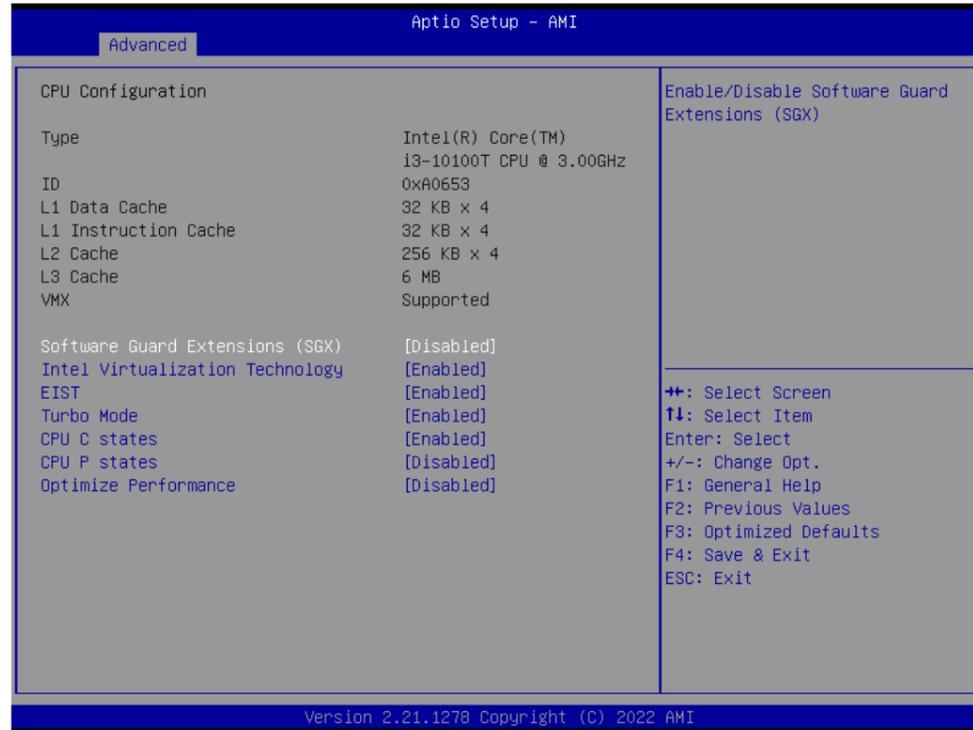
## 2.4 S5 RTC Wake Settings



| Item                              | Description   |
|-----------------------------------|---|
| <b>System Fan 1 Fail Warning</b>  | <b>Enabled : Enables System FAN 1 Fail warning alert function</b><br><b>Disabled : Disables System FAN 1 Fail warning alert function (Default setting)</b><br>(This setting will effect only if you add the extend kit on the system) |
| <b>System Fan 2 Fail Warning</b>  | <b>Enabled : Enables System FAN 2 Fail warning alert function</b><br><b>Disabled : Disables System FAN 2 Fail warning alert function (Default setting)</b><br>(This setting will effect only if you add the extend kit on the system) |
| <b>System Fan 1 Speed Control</b> | <b>Normal : Fan speed set by BIOS default (Default setting)</b><br><b>Full Speed : Set Fan operates at full speed</b><br>(This setting will effect only if you add the extend kit on the system)                                      |
| <b>System Fan 2 Speed Control</b> | <b>Normal : Fan speed set by BIOS default (Default setting)</b><br><b>Full Speed : Set Fan operates at full speed</b><br>(This setting will effect only if you add the extend kit on the system)                                      |
| <b>CPU Temperature</b>            | Shows current CPU temperature   |
| <b>System Temperature 1</b>       | Shows current System temperature  |
| <b>System Temperature 2</b>       | Shows current System temperature for the extend kit of the system<br>(This numerical value will shows only if you add the extend kit on the system)   |
| <b>System Fan 1 Speed</b>         | Shows current System fan 1 Speed for the extend kit of the system<br>(This numerical value will shows only if you add the extend kit on the system)   |
| <b>System Fan 2 Speed</b>         | Shows current System fan 2 Speed for the extend kit of the system<br>(This numerical value will shows only if you add the extend kit on the system)   |

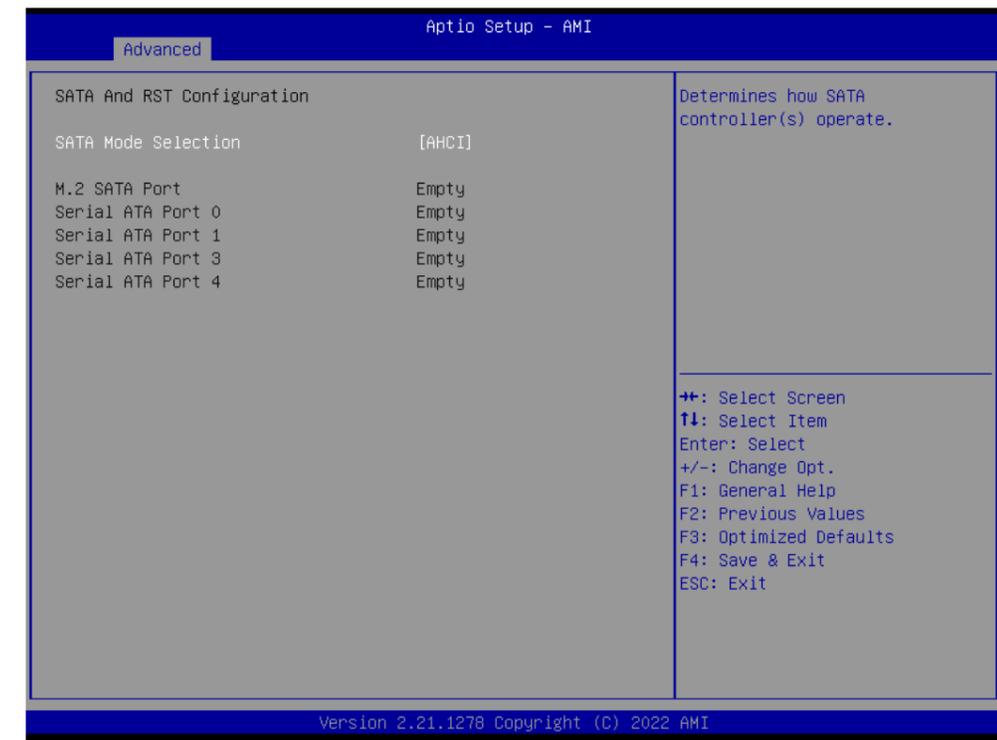
| Item                       | Description   |
|----------------------------|---|
| <b>Wake system from S5</b> | Enable or Disable System to wake on a specific time.<br><b>Disabled : Disables system to wake on a specific time (Default setting)</b><br><b>Fixed Time : Enables system to wake on a specific time (Format : hr : min : sec)</b> |

## 2.5 CPU Configuration



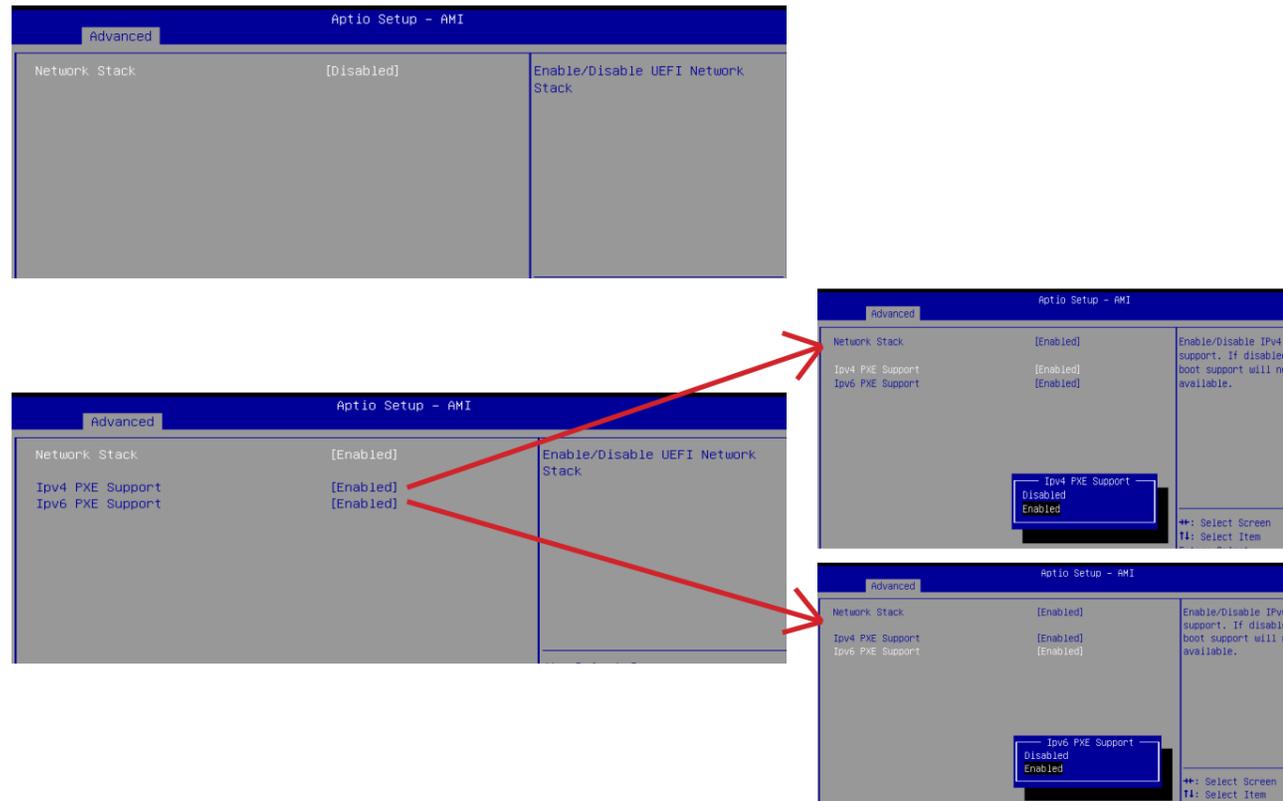
| Item                                   | Description  |
|--|--|
| <b>Software Guard Extensions (SGX)</b> | <b>Disabled : Disables Software Guard Extensions (SGX) (Default setting)</b><br><b>Enabled : Enables Software Guard Extensions (SGX)</b><br><b>Software Controlled : If this item is selected, SGX will be controlled by SGX application for UEFI boot OS</b>  |
| <b>Intel Virtualization Technology</b> | Virtualization enhanced by Intel® Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems.<br><b>Enabled : Enables Intel Virtualization Technology (Default setting)</b><br><b>Disabled : Disables Intel Virtualization Technology</b> |
| <b>EIST</b>                            | According to System loading, Enhanced Intel SpeedStep Technology (EIST) will automatically adjust the CPU voltage and core frequency to decrease heat and power consumption for power saving.<br><b>Enabled : Enables EIST Technology (Default setting)</b><br><b>Disabled : Disables EIST Technology</b>  |
| <b>CPU C states</b>                    | Command CPU to enter into low power consumption mode when CPU is under idle mode.<br><b>Enabled : Enables CPU C states function (Default setting)</b><br><b>Disabled : Disables CPU C states function</b>  |
| <b>CPU P states</b>                    | CPU will adjust frequency depends on it's loading.<br><b>Enabled : Enables CPU P states function</b><br><b>Disabled : Disables CPU P states function (Default setting)</b>   |
| <b>Optimize Performance</b>            | To optimize CPU performance.<br><b>Enabled : Enables optimize performance function</b><br><b>Disabled : Disables optimize performance function (Default setting)</b>   |

## 2.6 SATA And RST Configuration



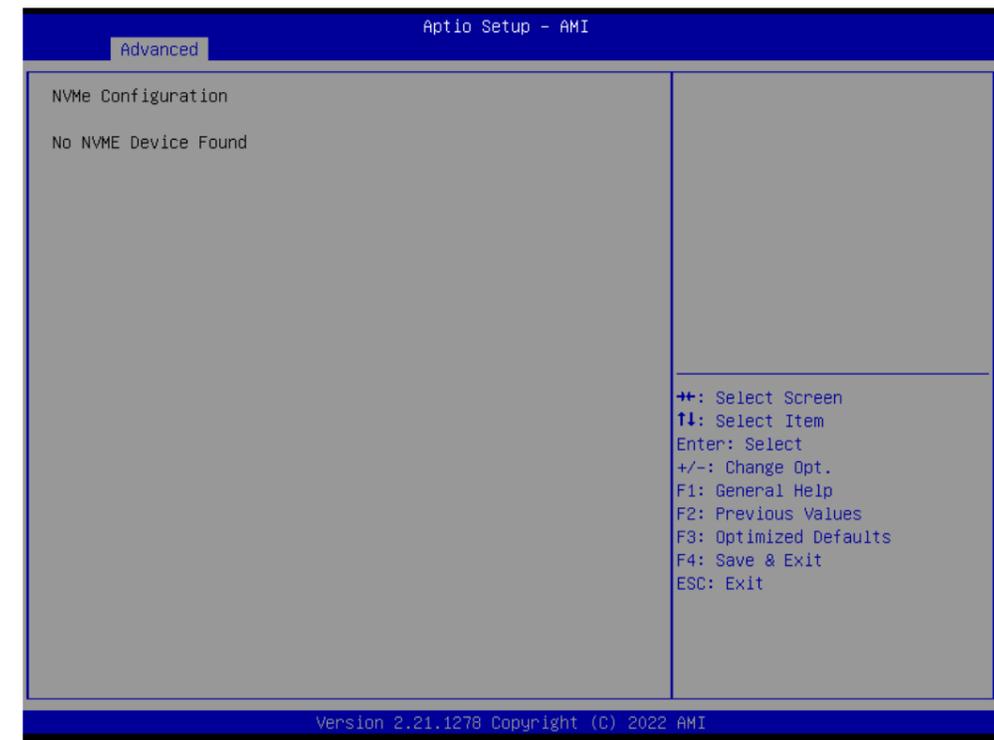
| Item                       | Description                         |
|----------------------------|-------------------------------------|
| <b>SATA Mode Selection</b> | Set SATA controller to AHCI mode    |
| <b>M.2 SATA Port</b>       | shows M.2 SSD information           |
| <b>Serial ATA Port 0</b>   | shows 2.5" SATA HDD/SSD information |
| <b>Serial ATA Port 1</b>   |                                     |
| <b>Serial ATA Port 3</b>   |                                     |
| <b>Serial ATA Port 4</b>   |                                     |

## 2.7 Network Stack Configuration

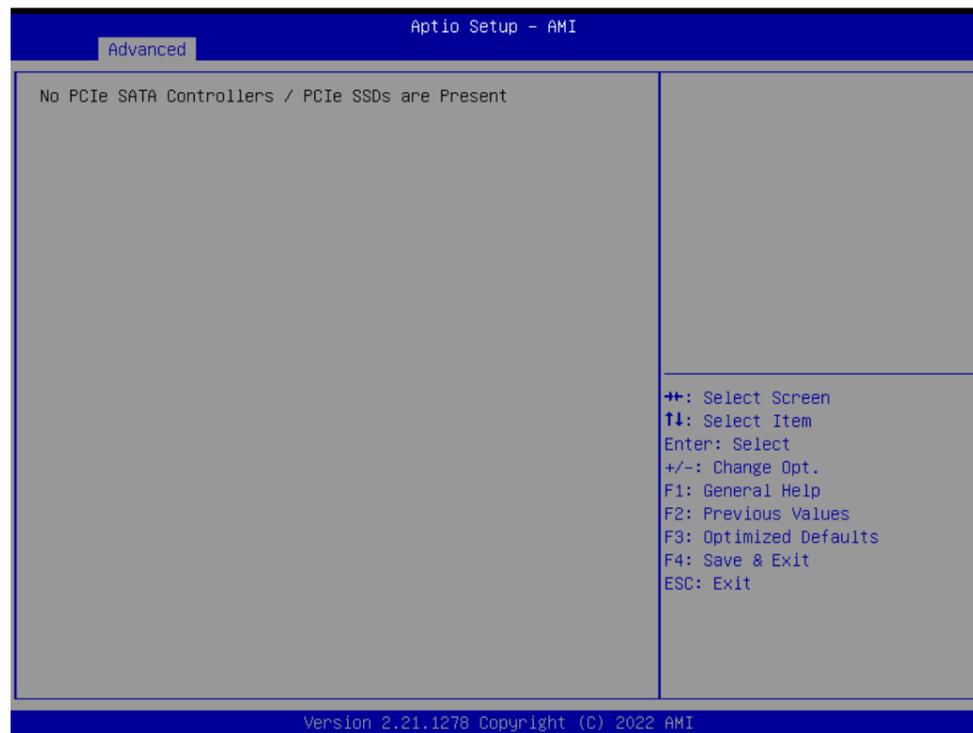


| Item                    | Description   |
|-------------------------|---|
| <b>Network Stack</b>    | When system is power on, install LAN driver under UEFI mode<br><b>Disabled : Disables UEFI Network Stack (Default setting)</b><br><b>Enabled : Enables UEFI Network Stack</b> |
| <b>Ipv4 PXE Support</b> | When Network stack is enabled :<br><b>Disabled : Disables Ipv4 PXE Support</b><br><b>Enabled : Enables Ipv4 PXE Support</b>   |
| <b>Ipv6 PXE Support</b> | When Network stack is enabled :<br><b>Disabled : Disables Ipv6 PXE Support</b><br><b>Enabled : Enables Ipv6 PXE Support</b>   |

## 2.8 NVMe Configuration



## 2.9 Offboard SATA Controller Configuration

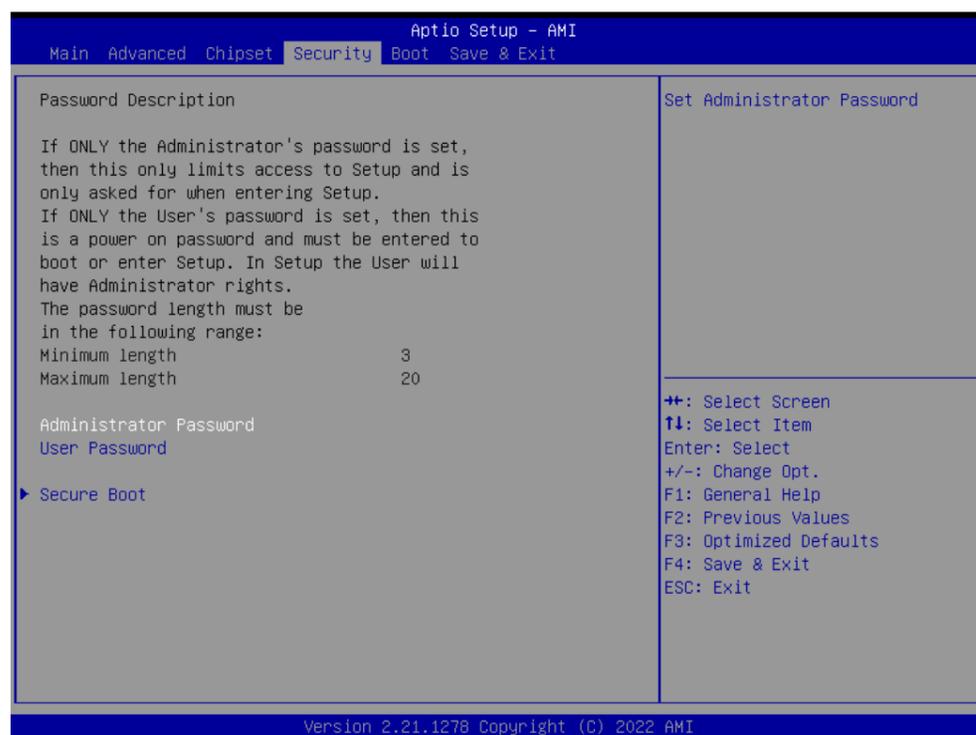


## 3 Chipset



| Item  | Description   |
|---|---|
| Primary Display                                     | <b>Auto</b> : When detects PCIe Graphic card, primary display will set to PCIe (Default setting)<br><b>IGFX</b> : Force IGFX Graphic card as the primary display device<br><b>PEG</b> : Force PEG Graphic card as the primary display device  |
| Internal Graphics                                   | Enables or disables the onboard graphics function<br><b>Auto</b> : Detects display device automatically (Default setting)<br><b>Enabled</b> : Enables onboard graphics<br><b>Disabled</b> : Disables onboard graphics   |
| VT-d  | <b>Enabled</b> : Enables VT-d function (Default setting)<br><b>Disabled</b> : Disables VT-d function  |
| DVMT Pre-Allocated                                  | Use DVMT Pre-Allocated to set the amount of system memory which is installed to the integrated graphics processor<br><b>Option items</b> : 32M , 64M(Default setting), 128M, 256M   |
| Above 4GB MMIO BIOS assignment                      | Enable or disable to re-allocate memory space for device cards when more than one external graphic cards installed.<br>(This function could be only used under 64 bit operating system with above 4 GB address space)<br><b>Enabled</b> : Enables Above 4GB MMIO BIOS assignment function<br><b>Disabled</b> : Disables Above 4GB MMIO BIOS assignment function (Default setting) |
| HD Audio  | Enable/Disable onboard audio controller<br><b>Enabled</b> : Enables onboard audio controller (Default setting)<br><b>Disabled</b> : Disables onboard audio controller   |
| Onboard LAN1<br>Onboard LAN2<br>Onboard LANA & LANB | Enable/Disable onboard LAN controller<br><b>Enabled</b> : Enables onboard LAN controller (Default setting)<br><b>Disabled</b> : Disables onboard LAN controller   |
| Restore AC Power Loss                               | To set which option the system should returns if a sudden power loss occurred<br><b>Power off</b> : Do not power on when the power is back (Default setting)<br><b>Power on</b> : System power on when the power is back<br><b>Last state</b> : Restore the system to the state before power loss occurs  |
| Watchdog Timer                                      | Enable/Disable Watchdog Timer function<br><b>Disabled</b> : Disabled Watchdog Timer function (Default setting)<br><b>30s</b> : delay watchdog for 30 seconds.<br><b>60s</b> : delay watchdog for 60 seconds.  |
| XHCI Hand-off                                       | Enable/Disable XHCI Hand-off function<br><b>Enabled</b> : Enables XHCI Hand-off function (Default setting)<br><b>Disabled</b> : Disables XHCI Hand-off function   |
| BIOS Lock   | Enable/Disable BIOS Lock function<br><b>Enabled</b> : Enables BIOS Lock function (Default setting)<br><b>Disabled</b> : Disabled BIOS Lock function   |

## 4 Security



| Item                          | Description   |
|-------------------------------|---|
| <b>Administrator Password</b> | To set up Administrator's password<br><b>Minimum length : 3</b><br><b>Maximum length : 20</b> |
| <b>User Password</b>          | To set up User's password<br><b>Minimum length : 3</b><br><b>Maximum length : 20</b>          |
| <b>Secure Boot</b>            | Press <Enter> to configure the advanced items   |



| Item                        | Description  |
|-----------------------------|--|
| <b>Secure Boot</b>          | Secure Boot requires all the applications that are running during the booting process to be pre-signed with valid digital certificates<br><b>Enabled : Enables Secure Boot function</b><br><b>Disabled : Disables Secure Boot function (Default setting)</b> |
| <b>Secure Boot Mode</b>     | <b>Standard : Standard mode</b><br><b>Custom : Custom mode (Default setting)</b>   |
| <b>Restore Factory Keys</b> | To restore factory settings<br><b>Yes : Agree to restore factory settings</b><br><b>No : Cancel to restore factory settings</b>  |
| <b>Reset To Setup Mode</b>  | <b>Yes : Agree to setup mode</b><br><b>No : Cancel to setup mode</b>   |
| <b>Key Management</b>       | Enables expert users to modify Secure boot policy variables without full authentication<br>Press <Enter> to configure the advanced items   |

## 5 Boot

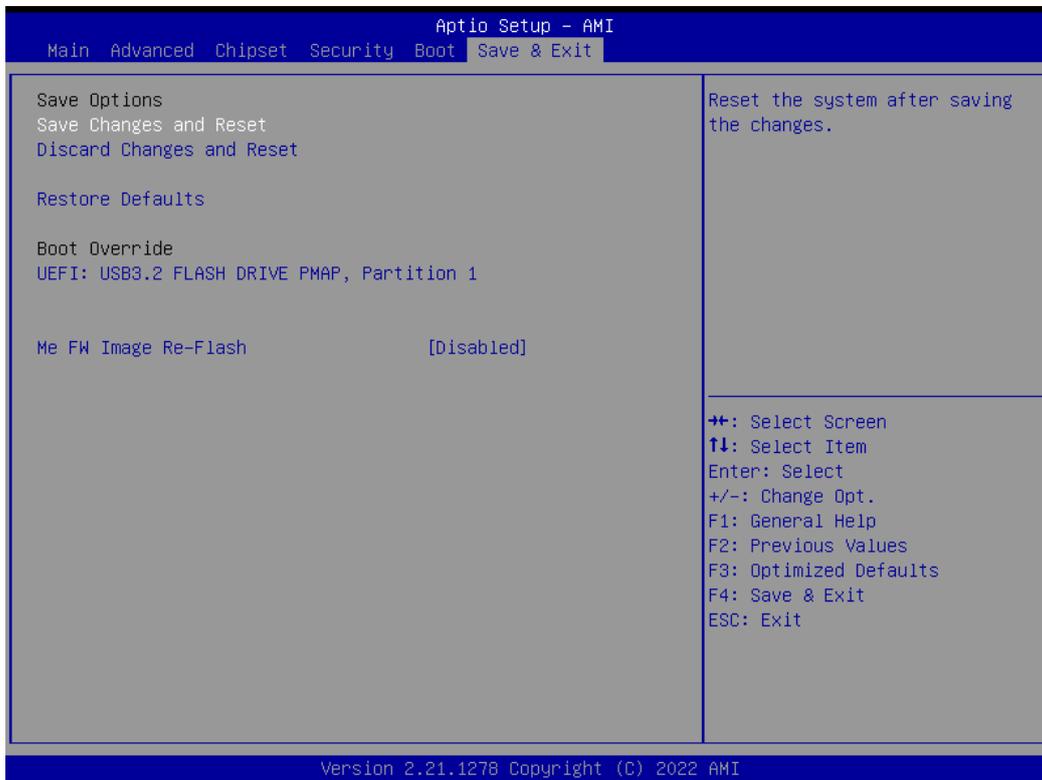


| Item                                | Description   |
|-------------------------------------|---|
| <b>Factory Key Provision</b>        | Install factory default Secure Boot keys after the platform reset and while the system is in Setup mode<br><b>Enabled : Enables Factory Key Provision (Default setting)</b><br><b>Disabled : Disables Factory Key Provision</b> |
| <b>Restore Factory Keys</b>         | To restore factory settings<br><b>Yes : Agree to restore factory settings</b><br><b>No : Cancel to restore factory settings</b>   |
| <b>Reset To Setup Mode</b>          | <b>Yes : Agree to setup mode</b><br><b>No : Cancel to setup mode</b>  |
| <b>Export Secure Boot variables</b> | Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device   |
| <b>Enroll Efi Image</b>             | Allow the image to run in Secure Boot mode  |
| <b>Remove 'UEFI CA' from DB</b>     | To remove 'UEFI CA' from database<br><b>Yes : Agree to remove 'UEFI CA' from database</b><br><b>No : Cancel to remove 'UEFI CA' from database</b>   |
| <b>Restore DB defaults</b>          | Restore DB variables to factory defaults<br><b>Yes : Agree to restore DB defaults</b><br><b>No : Cancel to restore DB defaults</b>  |

| Item                         | Description   |
|------------------------------|---|
| <b>Platform Key (PK)</b>     | These items allows you to enroll factory defaults or load Certificates from a file. |
| <b>Key Exchange Keys</b>     |   |
| <b>Authorized Signatures</b> |   |
| <b>Forbidden Signatures</b>  |   |
| <b>Authorized TimeStamps</b> |   |
| <b>OsRecovery Signatures</b> |   |

| Item   | Description   |
|--|---|
| <b>Full Screen LOGO Show</b>                   | Enable/Disable full screen LOGO show on POST screen<br><b>Enabled : Enables Full screen LOGO Show on POST screen (Default setting)</b><br><b>Disabled : Disables Full screen LOGO Show on POST screen</b> |
| <b>Boot Option #1</b><br><b>Boot Option #2</b> | Shows the information of the storage that be installed in the system<br><b>Choose/set the boot priority</b>   |

## 6 Save & Exit



| Item                             | Description   |
|----------------------------------|---|
| <b>Save Changes and Reset</b>    | After configuring all the options that you wish to change, choose this option to save all the changes and reboot the system<br><b>Yes : Agree to save and reset</b><br><b>No : Cancel to save and reset</b> |
| <b>Discard Changes and Reset</b> | Choose this option to reboot the system without saving any changes<br><b>Yes : Agree to discard changes and reset</b><br><b>No : Cancel to discard changes and reset</b>                                    |
| <b>Restore Defaults</b>          | Restore/Load default values for all the setup options<br><b>Yes : Agree to load optimized defaults</b><br><b>No : Cancel to load optimized defaults</b>   |
| <b>Me FW Image Re-Flash</b>      | Enable/Disable Me FW image re-flash function<br><b>Enabled : Enables Me FW image re-flash function</b><br><b>Disabled : Disables Me FW image re-flash function (Default setting)</b>                        |