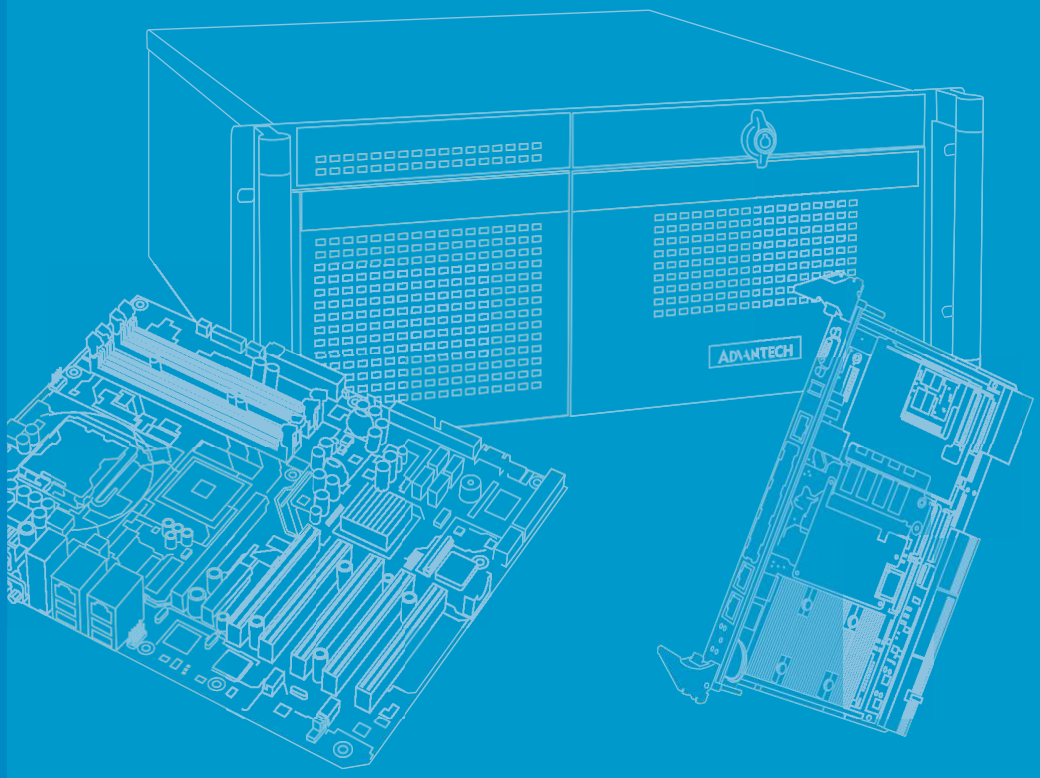
User Manual



SKY-622G4

2U 4GPU MGX Server, support up to 4x H200 NVL, RTX PRO 6000 Blackwell

ADVANTECH

Enabling an Intelligent Planet

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5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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A Message to the Customer

Advantech Customer Services

Each and every Advantech product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Advantech equipment is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Advantech has come to be known.

Your satisfaction is our primary concern. Here is a guide to Advantech's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone.

So please consult this manual first. If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Advantech products. In fact, most problems reported are minor and are easily solved over the phone.

In addition, free technical support is available from Advantech engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

Declaration of Conformity

FCC Class A

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.

Retain and follow all product safety and operating instructions provided with your equipment. In the event of a conflict between the instructions in this guide and the instructions in equipment documentation, follow the guidelines in the equipment documentation.

Observe all warnings on the product and in the operating instructions. To reduce the risk of bodily injury, electric shock, fire and damage to the equipment, observe all precautions included in this guide.

You must become familiar with the safety information in this guide before you install, operate, or service Advantech products.

Machine Room Environment

- Make sure that the area in which you install the system is properly ventilated and climate-controlled.
- Ensure that the voltage and frequency of your power source match the voltage and frequency inscribed on the electrical rating label of the equipment.
- Do not install the system in or near a plenum, air duct, radiator, or heat register.
- Never use the product in a wet location.

Equipment Chassis

- Do not block or cover the openings to the system.
- Never push objects of any kind through openings in the equipment.
- Dangerous voltages might be present.
- Conductive foreign objects can produce a short circuit and cause fire, electric shock, or damage to your equipment.
- Lift equipment using both hands and with your knees bent.

Rack Mount Instructions

The following or similar rack-mount instructions are included with the installation instructions:

- Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.
- Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring.

- Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

- Make sure only one component is extended at a time. A rack might become unstable if more than one component is extended.

Equipment Batteries

- The system battery contains lithium manganese dioxide. If the battery pack is not handled properly, there is risk of fire and burns.
- Do not disassemble, crush, puncture, short external contacts, or dispose of the battery in fire or water.
- Do not expose the battery to temperatures higher than 60°C (140°F).
- The system battery is not replaceable. If the battery is replaced by an incorrect type, there is danger of explosion. Replace the battery only with a spare designated for your product.
- Do not attempt to recharge the battery.
- Dispose of used batteries according to the instructions of the manufacturer.
- Do not dispose of batteries with the general household waste. To forward them to recycling or proper disposal, use the public collection system or return them to Advantech, your authorized Advantech partner, or their agents.

Equipment Modifications

- Do not make mechanical modifications to the system. Advantech is not responsible for the regulatory compliance of Advantech equipment that has been modified.

Equipment Repairs and Servicing

- The installation of internal options and routine maintenance and service of this product should be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with equipment containing hazardous energy levels.
- Do not exceed the level of repair specified in the procedures in the product documentation. Improper repairs can create a safety hazard.
- Allow the product to cool before removing covers and touching internal components.
- Remove all watches, rings, or loose jewelry when working before removing covers and touching internal components.
- Do not use conductive tools that could bridge live parts.
- Use gloves when you remove or replace system components; they can become hot to the touch.

- If the product sustains damage requiring service, disconnect the product from the AC electrical outlet and refer servicing to an authorized service provider. Examples of damage requiring service include:
- The power cord, extension cord, or plug has been damaged.
- Liquid has been spilled on the product or an object has fallen into the product.
- The product has been exposed to rain or water.
- The product has been dropped or damaged.
- The product does not operate normally when you follow the operating instructions.

Note! *Danger of explosion if battery is incorrectly replaced.*



Replace only with the same or equivalent type recommended by the manufacture. Discard used batteries according to the manufacture's instructions.

Danger d'explosion si la batterie est remplacée de façon incorrecte.

Remplacez-la uniquement avec le même type ou équivalent recommandé par la fabrication. Jetez les piles usagées selon les instructions du fabricant.

Initial Inspection

Before powering up the system, please make sure that the following materials have been shipped:

- 1 x SKY-622G4 barebone system
- 2 x CPU heatsink
- 4 x 12V2x6 GPU power cable

If any of these items are missing or damaged, contact distributor or sales representative immediately. We have carefully inspected the SKY-622G4 mechanically and electrically before shipment. It should be free of marks and scratches and in perfect working order upon receipt. When unpacking the SKY-622G4, check it for signs of shipping damage. (For example, damaged box, scratches, dents, etc.) If it is damaged or it fails to meet the specifications, notify our service department or local sales representative immediately. Also notify the carrier. Retain the shipping carton and packing material for inspection by the carrier. After inspection, we will make arrangements to repair or replace the unit.

Order Information

Ordering PN	CPU	Memory	Storage	Network	IPMI	System FAN	CPU Thermal solution	Power Supply
SKY-622G4-N08R60A1	Dual Intel® Xeon 6 processors	32x DDR5 6400 up to 4TB	2x M.2 2280 (PCIE) 8x E1.S NVMe at front	2x 10GbE RJ-45	Yes, Dedicate NIC	4x 8080 high speed fan	2U passive HS	6000W 3+1 redundant

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Chapter 1

Overview

1.1 Introduction

The **SKY-622G4** is a high-performance 2U GPU server designed for compute-intensive AI, HPC, and accelerated computing applications. Built on the NVIDIA MGX architecture, the system supports dual Intel® Xeon® 6 processors with TDPs of up to 350 W and 32 DDR5-6400 RDIMM slots, providing up to 4 TB of system memory.

For GPU acceleration and high-speed I/O expansion, the SKY-622G4 provides seven PCIe Gen5 x16 slots and supports up to four double-width NVIDIA PCIe GPUs, including NVIDIA H200 NVL and RTX PRO 6000 Blackwell Server Edition GPUs, with NVLink bridge support for applicable configurations. The system also provides three additional expansion positions for high-speed NICs, or DPUs.

For high-performance storage and networking, the SKY-622G4 integrates eight front-accessible PCIe Gen5 E1.S NVMe drive bays, two PCIe M.2 2280 slots, and dual 10GbE Ethernet ports. A dedicated management interface enables remote system monitoring and management through the onboard BMC.

To support demanding GPU workloads, the SKY-622G4 incorporates four high-speed system fans and a 6000 W 3+1 redundant 80 PLUS Titanium power supply, providing the power capacity, cooling capability, expandability, and serviceability required for enterprise AI and GPU computing deployments.

1.2 Features

- **High-performance dual-processor architecture:**
  Supports dual Intel® Xeon® 6 processors with TDP up to 350 W per processor and 32 DDR5-6400 RDIMM slots, providing up to 4 TB of system memory for compute-intensive AI and HPC workloads.

- **High-density GPU acceleration:**
  Supports up to four double-width NVIDIA PCIe GPUs in a compact 2U form factor, including NVIDIA H200 NVL and RTX PRO 6000 Blackwell Server Edition GPUs. NVLink bridge support (only for H200 NVL) is available for applicable GPU configurations.

- **High-bandwidth PCIe Gen5 expansion:**
  Provides seven PCIe Gen5 x16 slots directly connected to the dual processors, enabling flexible integration of GPUs, high-speed NICs, SmartNICs, DPUs, and other PCIe accelerator devices.

- **High-performance NVMe storage:**
  Provides eight front-accessible PCIe Gen5 E1.S NVMe drive bays and two PCIe M.2 2280 slots, delivering high-speed storage capability for operating systems, applications, datasets, and AI workloads.
- **Integrated high-speed networking and remote management:**
  Features dual 10GbE RJ-45 ports based on the Intel® X710-AT2 controller and a dedicated management LAN interface for BMC-based remote system monitoring and management.

- **High-capacity redundant power and cooling design:**
  Equipped with a 6000 W 3+1 redundant 80 PLUS Titanium power supply and four 80 × 80 mm high-speed system fans to support the power and thermal requirements of high-density GPU configurations.

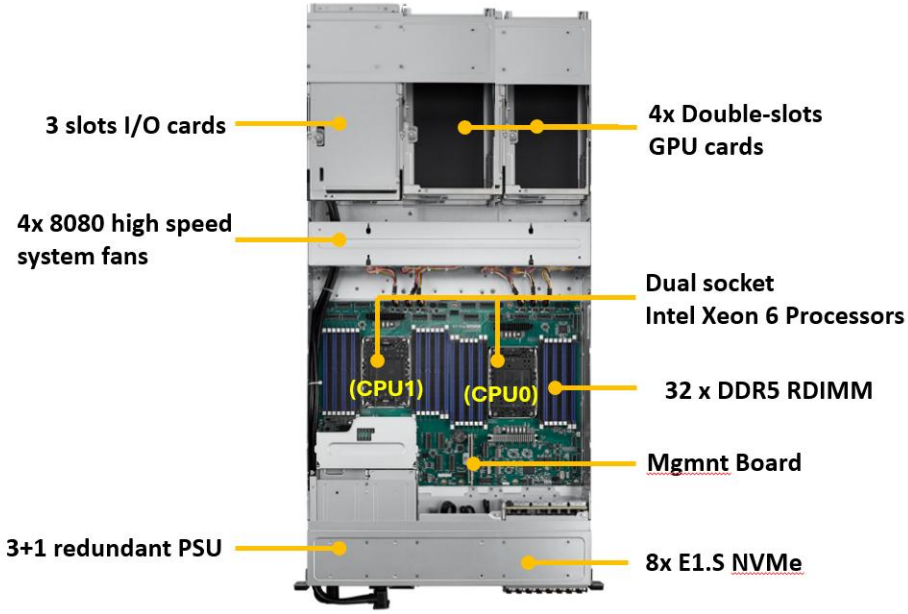
1.3 System Specifications

Processor System	CPU Technology	Intel® LGA4710	
	CPU Type	Dual Intel® Xeon 6 processors, TDP up to 350W	
	Memory Type	4TB	
Graphics	Controller	Aspeed AST2600	
	VRAM	64 MB	
Expansion Slots	Slot 1	PCIe 5.0 x16 slot (from CPU0)	
	Slot 2	PCIe 5.0 x16 slot (from CPU0)	
	Slot 3	PCIe 5.0 x16 slot (from CPU1)	
	Slot 4	PCIe 5.0 x16 slot (from CPU1)	
	Slot 5	PCIe 5.0 x16 slot (from CPU0)	
	Slot 6	PCIe 5.0 x16 slot (from CPU0)	
	Slot 7	PCIe 5.0 x16 slot (from CPU1)	
Drive Bay	2.5" (Internal)	-	
	E1.S (Front)	8 (PCIe 5.0)	
	M.2 (2280)	2 (PCIe)	
Ethernet	Interface	2 x 10GbE	
	Controller	Intel X710-AT2 (dual 10GbE port)	
Front I/O Interface	USB	1 (USB2.0)	
	COM	1	
	Display	1 x VGA	
Rear I/O Interface	USB	2 x USB3.2 Gen1	
	RJ-45	3 (1 x dedicated NIC for IPMI)	
Internal Connector	USB 2.0 Pin Header	1 (single port)	
	COM	1	
	VGA	1	
Watchdog Timer	Output	System reset	
	Interval	Programmable, 1~255 sec/min	
Power Supply	Power Output Wattage	80+ platinum 3+1 power supply 6000 W @ 100-240 V_{AC}	
	Input Range	AC 100 ~ 240 V	
Cooling	Chassis Fan	4x 8080 mm high speed fans	
	Dust Filter	-	
Miscellaneous	LED Indicators	Power status, LAN status, information LED	
	Remote Management	Advantech Remote Monitoring Utility	
Environment		Operating	Non-Operating
	Temperature	0 ~ 35°C (32 ~ 85°F)	-40 ~ 60°C (-40 ~ 140°F)
	Humidity	95% @ 40°C	95% @ 60°C
	Vibration (5 ~ 500 Hz)	0.3 Grms	1.88 Grms
	Shock	10G (with 11ms duration, half since wave)	Optional
Physical Characteristics	Dimensions (W x H x D)	438 x 88 x 900 mm (17.24" x 3.46" x 35.43")	
	Package Dimensions (W x H x D)	600 x 155 x 1070 mm	
	Weight (N.W. / G.W.)	35 / - Kg	
	Installation	Rack mount	

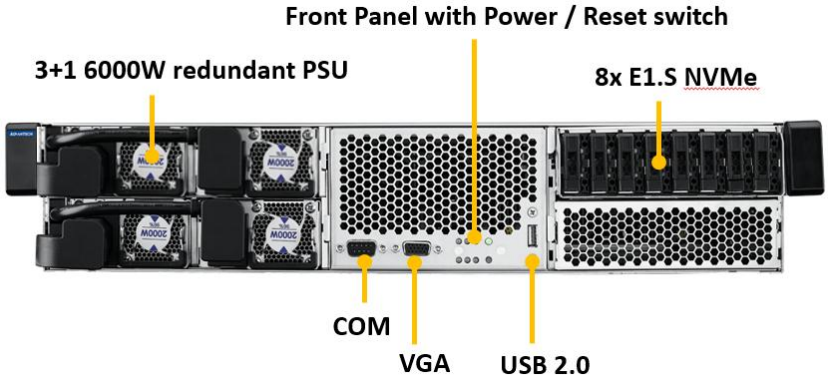
1.4 System Layout, LED, Jumpers and Connectors

Connectors on the SKY-622G4 are linked to external devices such as hard disk drives. In addition, SKY-622G4 has a jumper that is used to clean CMOS for BIOS. The tables below list the functions of each jumper and connector. Later sections in this chapter give instructions for setting jumpers.

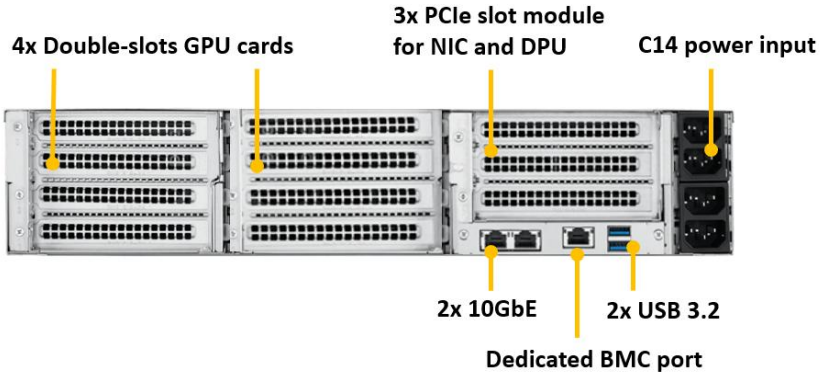
System top view
(Figure 1.4.1 System top view)



Front IO view
(Figure 1.4.2 Front IO view)



Rear IO View
(Figure 1.4.3 Rear IO view)



1.4.1 LED Definitions

Front I/O LED

LED	State	Color	Description
Power LED	On	Green	System is turned on
	Blinking	Green	System is under S4
	state Off	Off	Power off
LAN1 ~ LAN2 LED	Blinking	Green	LAN
	active On	Green	LAN
	linked		
	Off	Off	LAN unlinked
Information LED	On	Red	Hardware monitor fail*; Location
	function** Off		Off No failure

*The causes of hardware monitoring failure can be over temperature, fan failure, over voltage, case intrusion etc. Please check BMC web UI for more information.

**Location function is used to locate the server on a rack from remote location.

HDD LED

HDD status		Status LED Color: Amber	Activity LED Color: Green
No drive present or power disconnected		Off	Off
Driver present	No activity	Off	On
	Access activity	Off	Blinking
HDD fail*		On	-
Identify (locate the HDD)*		4 Hz Blinking	4 Hz
NVMe (VMD/VROC)*		1 Hz Blinking	-
Hot-spare*		Off	-

* Fail, Identify, Rebuild, Hot-spare only work under RAID mode.

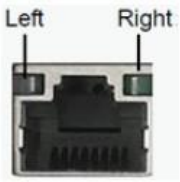
On-Board LED

LED	State	Color	Description
5V LED1	On	Green	System power on
	Off	Off	Power off
5VSB LED1	On	Green	System power on, in sleep mode or in soft-off mode
	Off	Off	No AC power input
BMC LED1	Blinking	Green	BMC controller is working normally

Rear I/O LED (1)

Table 1.1: Onboard LAN LED Color Definition

1G & 10G bps LAN Link/Activity LED Scheme



LAN1 & LAN2 (10G)

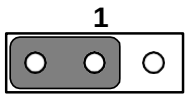
		Left LED	Right LED
1 Gbps	Link	Amber	Green
	Active	Amber Green	Blinking green
10 Gbps	Link	Green	Green
	Active		Blinking green
No Link		Off	Off

Rear I/O LED(2)

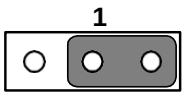
Power module LED	Blinking	Amber	No AC power to this module while other PSU with AC input
	1Hz Blinking	Green	AC present standby output on
	1Hz Blinking	Amber	Power supply warning events where the power supply continues to operate; high temp, high power, high current, slow fan
	On	Amber	Power supply critical event causing a shutdown; failure, OCP, OVP, fan fail
	On	Green	Power supply DC output ON and
	Off	Off	No AC power to all power
	OK Off		modules

1.4.2 Jumpers

Label	Function	Default
JCMOS1	CMOS clear	1-2



Keep CMOS data



Clear CMOS data

(Figure 1.4.1.1 JCMOS location)



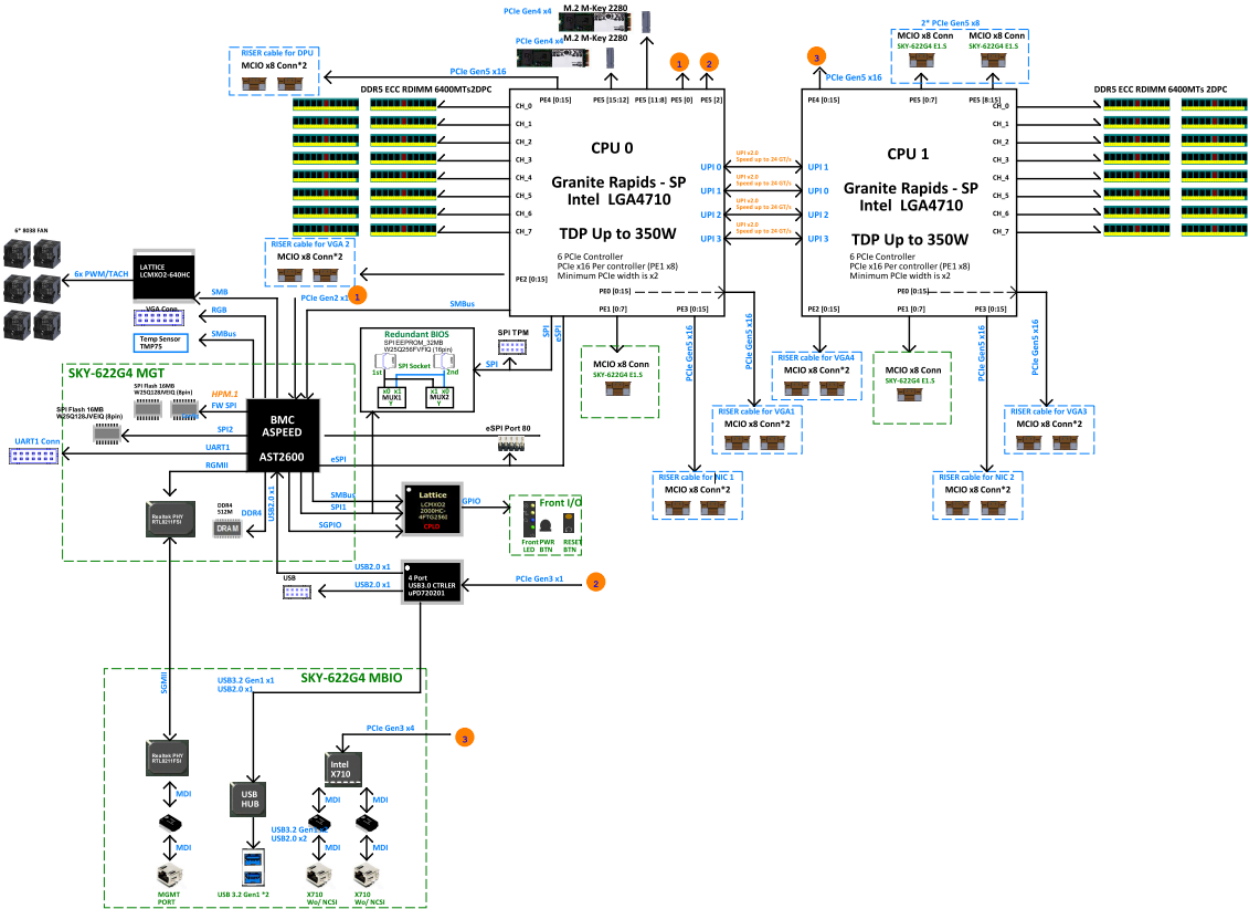
1.4.3 Connectors

CPU0	Intel LGA4710 CPU0 socket
CPU1	Intel LGA4710 CPU1
socket FAN1 ~ FAN4	System fan connector (8-
pin) DIMMA1, DIMMA2,DIMMB1, DIMMB2,DIMMC1, DIMMC2,DIMMD 1, DIMMD2,DIMME1, DIMME2,DIMMF1, DIMMF2, DIMMG1, DIMMG2,DIMMH 1, DIMMH2,	DIMM channel of CPU0
DIMMI1, DIMMI2,DIMMJ1, DIMMJ2,DIMMK1, DIMMK2,DIMML1 , DIMML2, DIMMM1, DIMMM2,DIMMN 1, DIMMN2,DIMMO 1, DIMMO2,DIMMP1 , DIMMP2,	DIMM channel of CPU1

CMEPOWER 1~8	12V and 3.3V power output connector for CME cable
BMC1	SCM connector for BMC module
M.2_2280_1, M.2_2280_2	M.2 2280 connector (B+M key) for PCIEX4
MCIO1 ~MCIO4	PCIE X8 for E1.S BP
MCIO_RISER1 A/B ~ MCIO_RISER8 A /B	PCIE X16 for CME cable

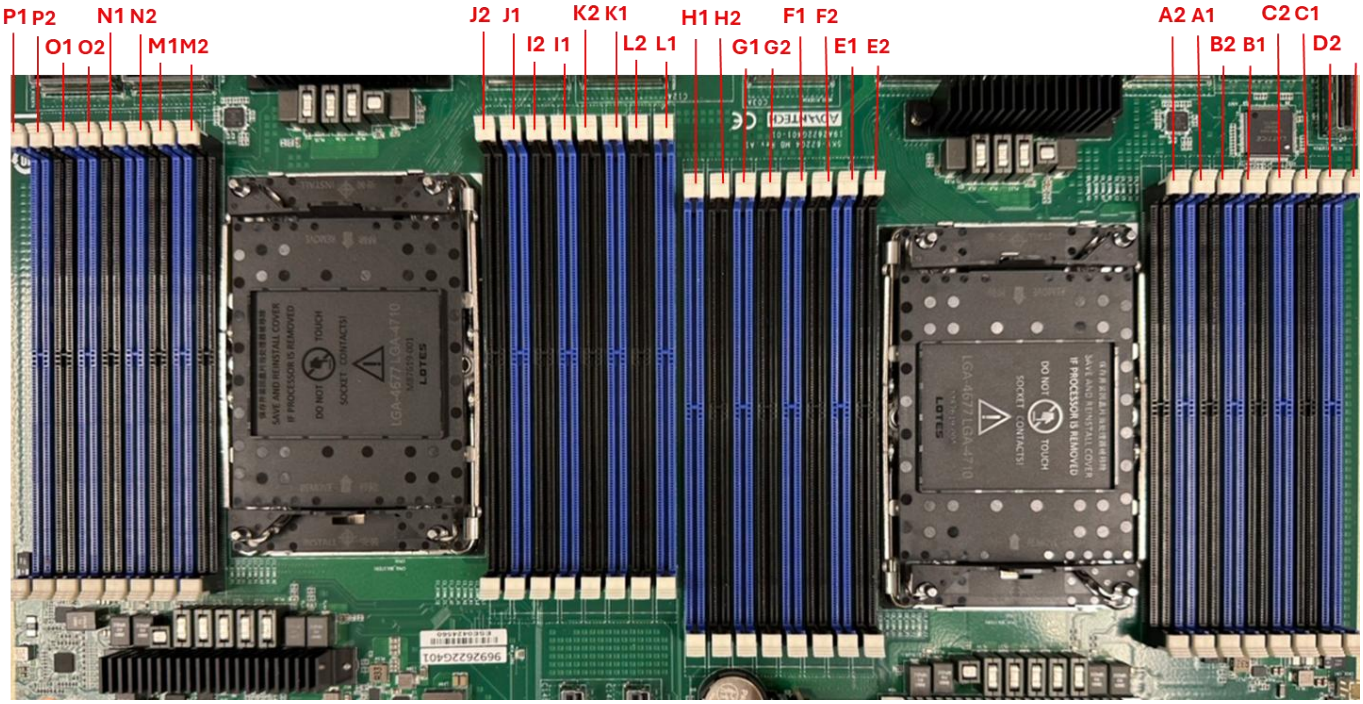
MBIO1	MBIO board signal
SLOT12V1, SLOT12V2	12V input from POWER board
PMSMB1	power side band bus
12V_AUX1	12V_AUX input from POWER board
COM1	Serial port : RS-232
SKY_SB1	For HDD status monitoring
BP P1 ~ P3	5V power output connector for HDD back
plane VGA1	for front VGA port
JFP1	front IO
USB1	USB port (front panel USB2.0)

1.5 Block Diagram



1.6 System Memory

The SKY-622G4 provides 32 DDR5 DIMM slots and supports up to 4 TB of DDR5-6400 RDIMM memory. The memory slots are distributed across the two Intel® Xeon® 6 processors, with each processor providing dedicated memory channels for high-bandwidth memory access. For optimal system performance and memory bandwidth, DIMMs should be installed according to the recommended population sequence and distributed evenly across the CPU memory channels. The SKY-622G4 supports registered DIMMs (RDIMMs) only.



1.7 Memory Installation

1.7.1 Memory Installation with P-cores CPU

	DIMM Population Guideline with CPU0																
Channel	DIMM	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
Quantity of Memory Installation (Whole System)	1	V															
	2	V															
	8	V				V				V				V			
				V				V				V				V	
	16	V		V		V		V		V		V		V		V	
		V	V			V	V			V	V			V	V		
				V	V			V	V			V	V			V	V
	24	V	V	V		V	V	V		V	V	V		V	V	V	
	32	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

	DIMM Population Guideline with CPU1																
Channel	DIMM	L1	L2	K1	K2	I1	I2	J1	J2	M1	M2	N1	N2	O1	O2	P1	P2
Quantity of Memory Installation (Whole System)	2	V															
	8	V				V				V				V			
				V				V				V				V	
	16	V		V		V		V		V		V		V		V	
		V	V			V	V			V	V			V	V		
				V	V			V	V			V	V			V	V
	24	V	V	V		V	V	V		V	V	V		V	V	V	
	32	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

1.7.2 Memory Installation with E-cores CPU

	DIMM Population Guideline with CPU0																
Channel	DIMM	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
Quantity of Memory Installation (Whole System)	1	V															
	2	V															
	8	V				V				V				V			
				V				V				V				V	
	16	V		V		V		V		V		V		V		V	
		V	V			V	V			V	V			V	V		
				V	V			V	V			V	V			V	V
	32	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

	DIMM Population Guideline with CPU1																
Channel	DIMM	L1	L2	K1	K2	I1	I2	J1	J2	M1	M2	N1	N2	O1	O2	P1	P2
Quantity of Memory Installation (Whole System)	2	V															
	8	V				V				V				V			
				V				V				V				V	
	16	V		V		V		V		V		V		V		V	
		V	V			V	V			V	V			V	V		
				V	V			V	V			V	V			V	V
	32	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Note! *5, 7, 9, 10, 11 DIMMs are not supported DIMM population.*

When dual CPUs are required, then you need to consider both CPU0 and CPU1 configurations.

Chapter 2

Setting up

2.1 Before you Begin

This chapter explains how to install the CPUs, CPU heatsinks, memory modules, and hard drives.

2.1.1 Work Area

Make sure you have a stable, clean working environment. Dust and dirt can get into components and cause malfunctions. Use containers to keep small components separated. Putting all small components in separate containers prevents them from becoming lost. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components.

2.1.2 Tools

The following procedures require only a few tools, including the following:

- A cross head (Phillips) screwdriver
- A T-30 Torx driver
- A 7-mm Hex Socket Wrench
- A grounding strap or an anti-static pad

Most of the electrical and mechanical connections can be disconnected with your hands. It is recommended that you do not use pliers to remove connectors as it may damage the soft metal or plastic parts of the connectors.

2.1.3 Precautions

Components and electronic circuit boards can be damaged by discharges of static electricity. Working on a system that is connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to SKY-622G4 or injury to yourself.

- Ground yourself properly before removing the top cover of the system. Unplug the power from the power supply and then touch a safely grounded object to release static charge (i.e. power supply case). If available, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Avoid touching motherboard components, IC chips, connectors, memory modules, and leads.
- The motherboard is pre-installed in the system. When removing the motherboard, always place it on a grounded anti-static surface until you are ready to reinstall it.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress circuit boards.
- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.
- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.

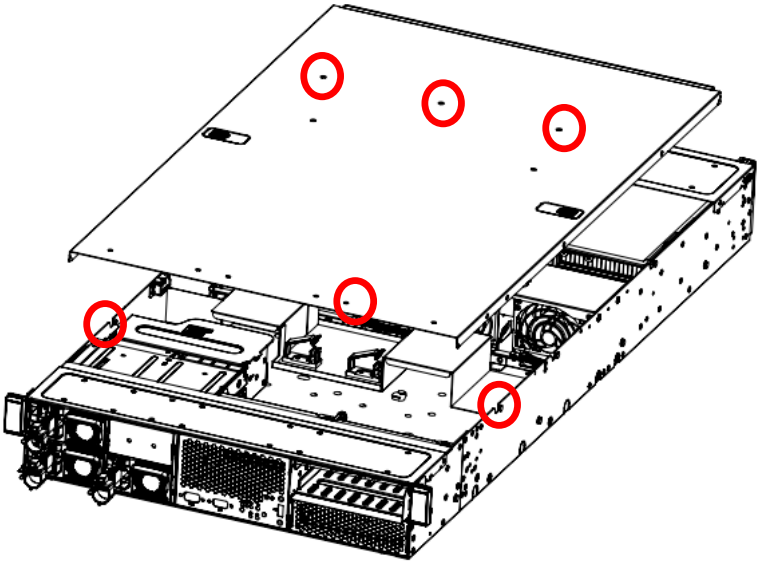
2.2 Installing Motherboard Components

This section describes how to install components on to the mainboard, including CPUs, memory modules and etc.

2.2.1 Removing the Chassis Cover

Follow these instructions to remove SKY-622G4 chassis cover.

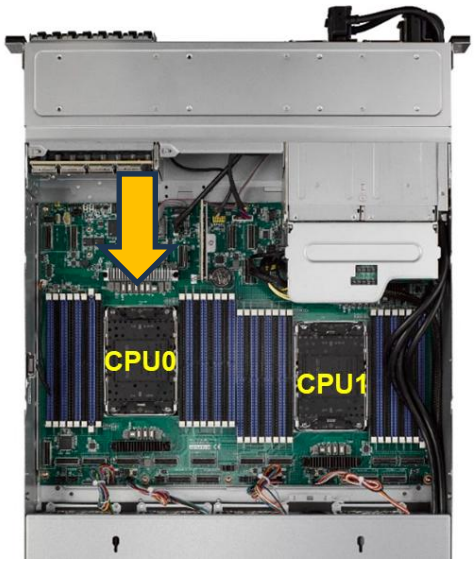
1. Unscrew the screws of top cover and chassis side as shown.
2. Remove top cover



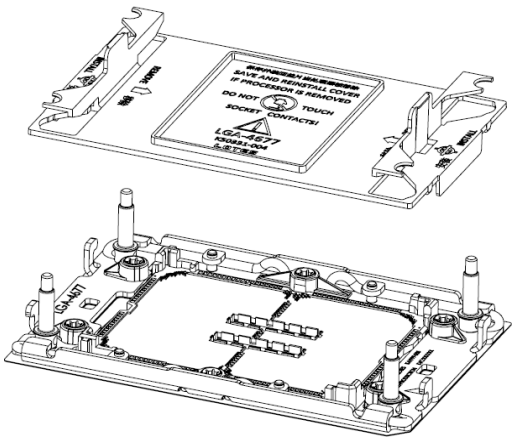
2.2.2 Installing the CPU and Heatsink

Follow the steps below to install CPUs and CPU heatsinks.

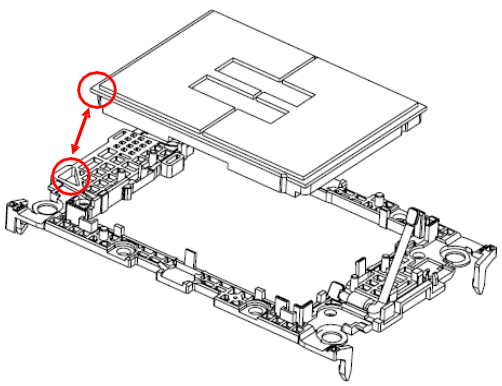
1. Locate the CPU sockets - you must install in the CPU0 socket first.



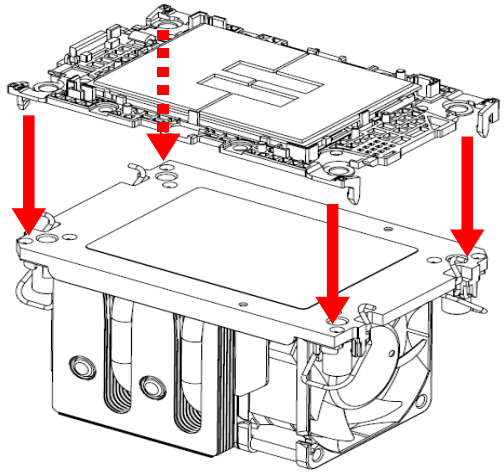
2. Remove dust cover.



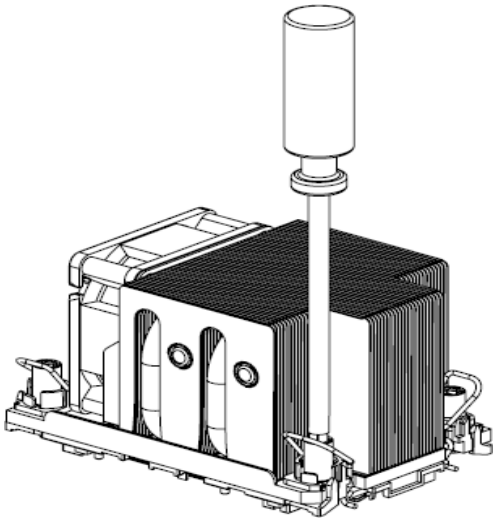
3. Install CPU on CPU clip and align pin 1 mark.



4. Install the CPU clip assembly on the heatsink as a processor + heatsink module.



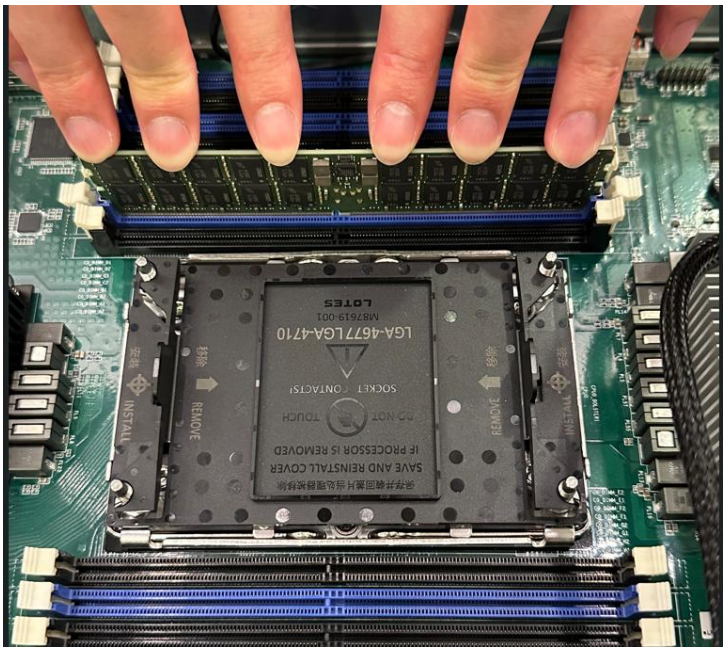
5. Put the processor heatsink module into the motherboard bolster plate by using a T-30 screw driver (follow heatsink label direction 1-2-3-4). For best durability, 8.0 in-lbf torque is recommended.



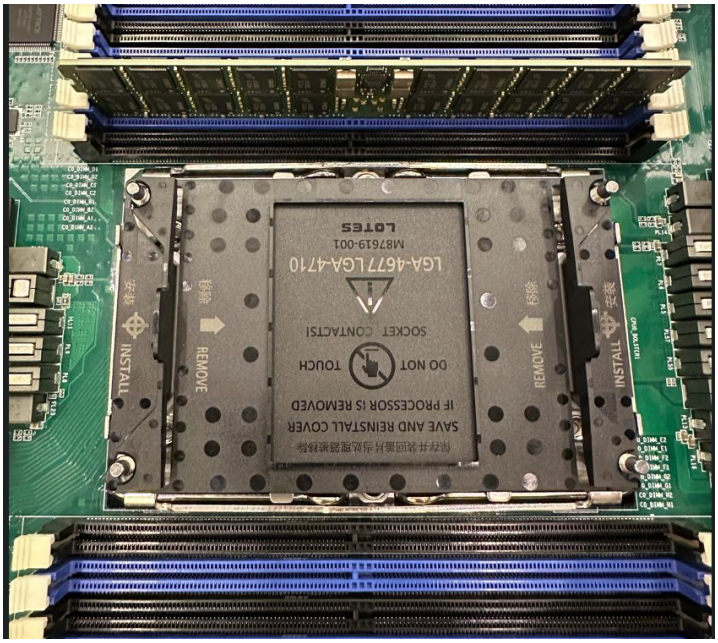
2.2.3 Installing the Memory

Follow these instructions to install the memory modules onto the motherboard.

1. Locate the memory slots on the motherboard.
2. Press the memory slot locking levers in the direction of the arrows as shown in the following illustration.



3. Align the memory module with the slot. When inserted properly, the memory slot locking levers lock automatically onto the indentations at the ends of the module. Follow the recommended memory population table to install the other memory modules.



2.2.4 Installing Hard Drives

The SKY-622G4 supports 8 pcs E1.S NVMe drives. Follow these instructions to install a hard drive.

1. Pull E1.S drive tray from the chassis

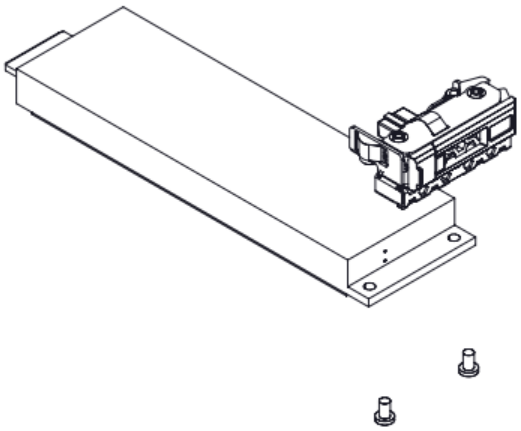


2. Remove E1.S tray dummy cover



3. Tighten E1.S storage drive with E1.S tray per 2 screws





2.3 Rack Mounting

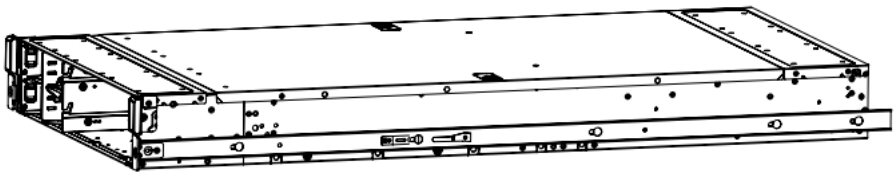
After installing the necessary components, the SKY-622G4 can be mounted in a rack using the supplied rack mounting kit.

Rack mounting kit

- Sliding Rails x 2
- Screws Kit x 1

2.3.1 Installing the Server in a Rack

Before mounting the SKY-622G4 in a rack, ensure that all internal components have been installed and that the unit has been fully tested. Both sides of chassis the ear must be assembled before you assemble the slide rail kit.



Follow these instructions to mount the SKY-622G4 into an industry standard rack.

Installation Instructions

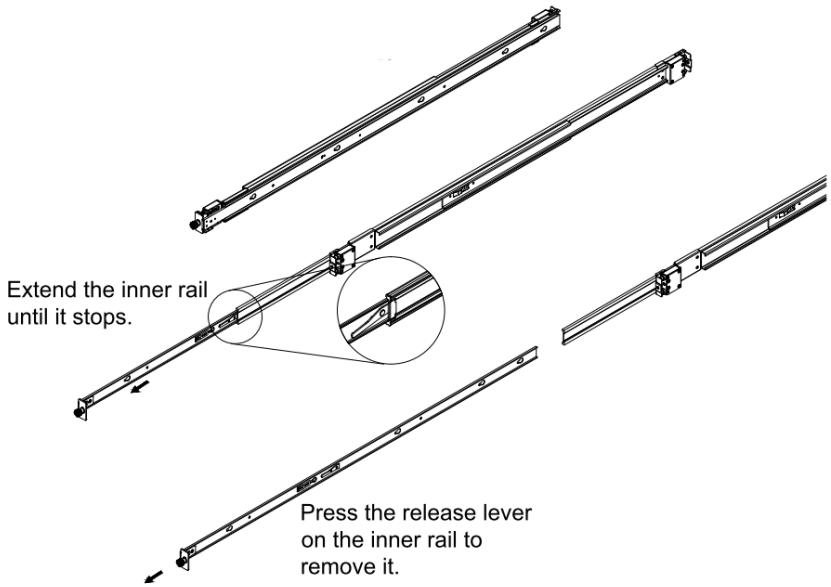
SB tool-less server slide, 180 pounds (80kg) loading.

Note! Please note that the 180lb-grade SB Tool-less is designed and built for 2U chassis or above. Not recommended for 1U applications.

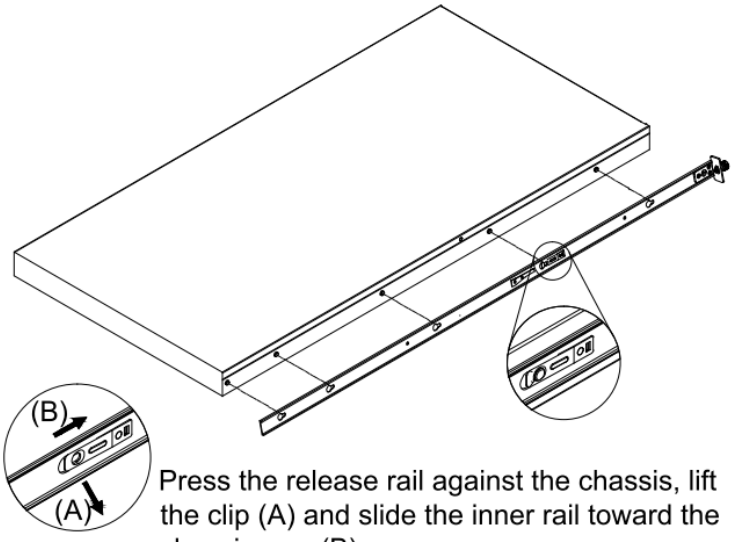
The SB bracket is for EIA rail with hole pitch as shown on fig-1 and square holes, and can only be mounted behind the rail. You will need to purchase transfer bracket in order to mount SB bracket on the rail with round holes. The standard retail packaging shall include one piece of left hand, one piece of right hand, 4 pieces of H-370 screws for ear plate fastening and 2 pieces of H-315 screws for chassis fastening.

Note! The 180lb-grade SB tool-less is not designed to be screw mounted. You must mount the slides with the bayonet fitting pre-formed on the chassis.

Step 1. Release the inner rail from the outer rail.

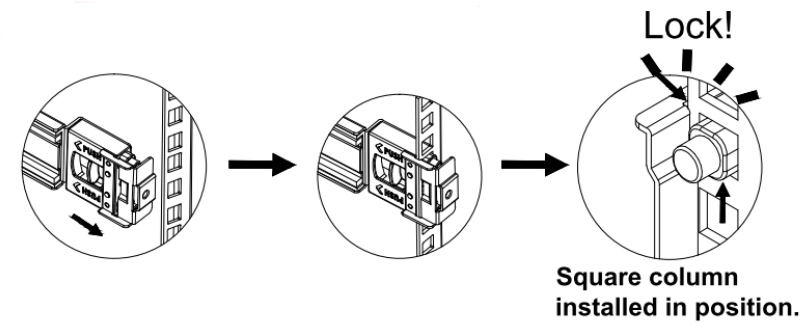


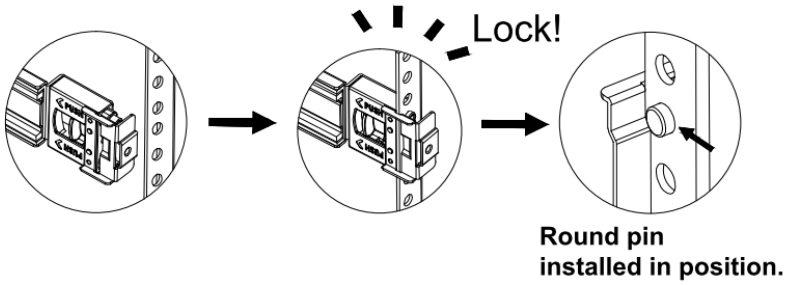
Step 2. Attach the inner rail to the chassis.



Press the release rail against the chassis, lift the clip (A) and slide the inner rail toward the chassis rear (B).

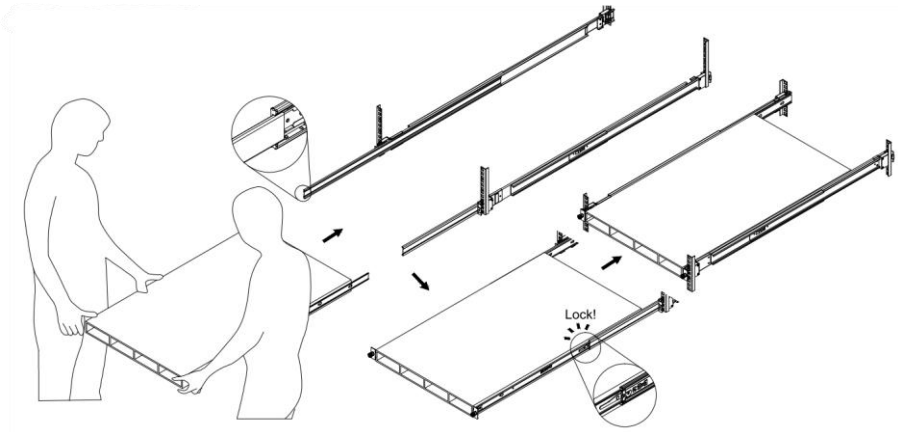
Step 3. Attach the outer rail to the square-hole rack, and attach the outer rail to the round hole rack.



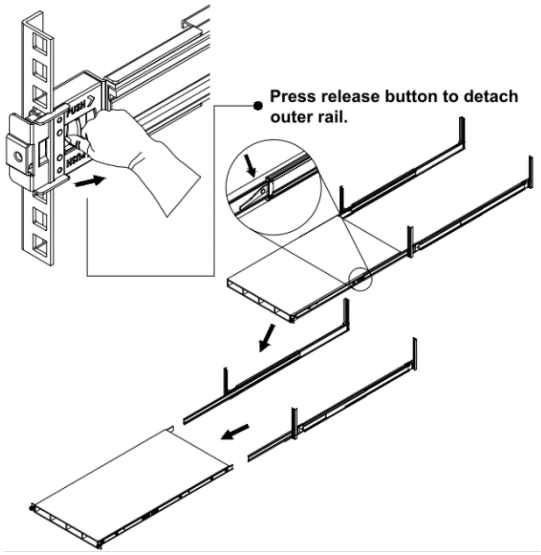


Step 4. Mount system in rack

(1) Be sure the ball bearing retainer is locked forward.
(2) Pull the middle rall out of the outer rall until locked.
(3) Push system into rack.



To detach outer rail from rack



Note! *Rack Mount Instructions - The following or similar rackmount instructions are included with the installation instructions:*

- *Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.*
- *Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.*
- *Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.*
- *Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.*
- *Reliable Earthing - Reliable earthing of rackmounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).*

Instructions de montage en rack - Le rack en suivant ou similaire - monter instructions sont incluses avec les instructions d'installation:

- *Température de fonctionnement élevée - il est installé dans une unité fermée ou plusieurs Ensemble formant bâti, la température ambiante de fonctionnement de l'environnement de*

l'armoire peut être supérieure à la chambre ambiante. Par conséquent, il devrait être donnée à l'installation de l'équipement dans un environnement compatible avec la température ambiante maximale (Tma) spécifiée par le fabricant.

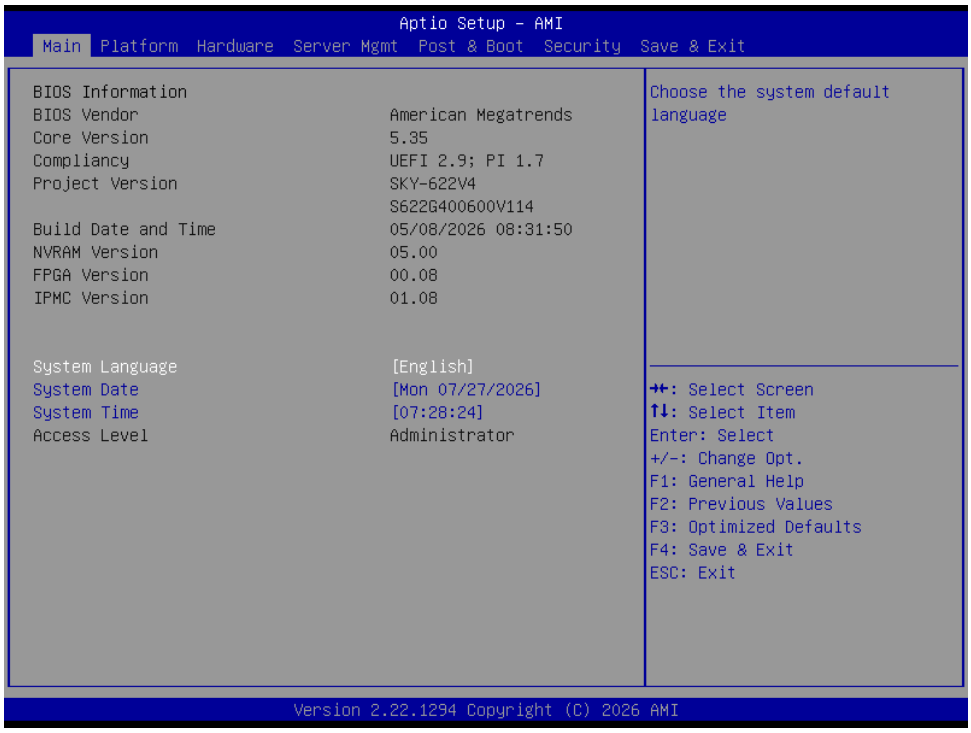
- *Débit d'air réduit - Installation de l'équipement dans un rack doit être tel que la quantité de flux d'air nécessaire au bon fonctionnement de l'appareil ne soit pas compromise.*
- *Chargement mécanique - Le montage de l'équipement dans le rack doit être telle qu'une situation dangereuse ne soit générée à inégale chargement mécanique.*
- *Surcharge du circuit - Il faut tenir compte à la connexion de l'équipement au circuit d'alimentation et l'effet que la surcharge des circuits pourrait avoir sur la protection contre les surintensités et le câblage d'alimentation. Considération appropriée de l'équipement plaque signalétique évaluations doivent être utilisés pour répondre à cette préoccupation.*
- *Fiabilité de la mise - Fiable mise à la terre de l'équipement monté en rack doit être maintenue. Une attention particulière devrait être accordée à fournir connexions autres que les connexions directes sur le circuit de branche (par exemple l'utilisation de multiprises).*

Chapter 3

AMI BIOS

Introduction

With the AMI BIOS Setup program, you can modify BIOS settings and control the special features of your system. The Setup program uses a number of menus for making changes and turning the special features on or off. This chapter describes the basic navigation of the SKY-622G4 setup screens.

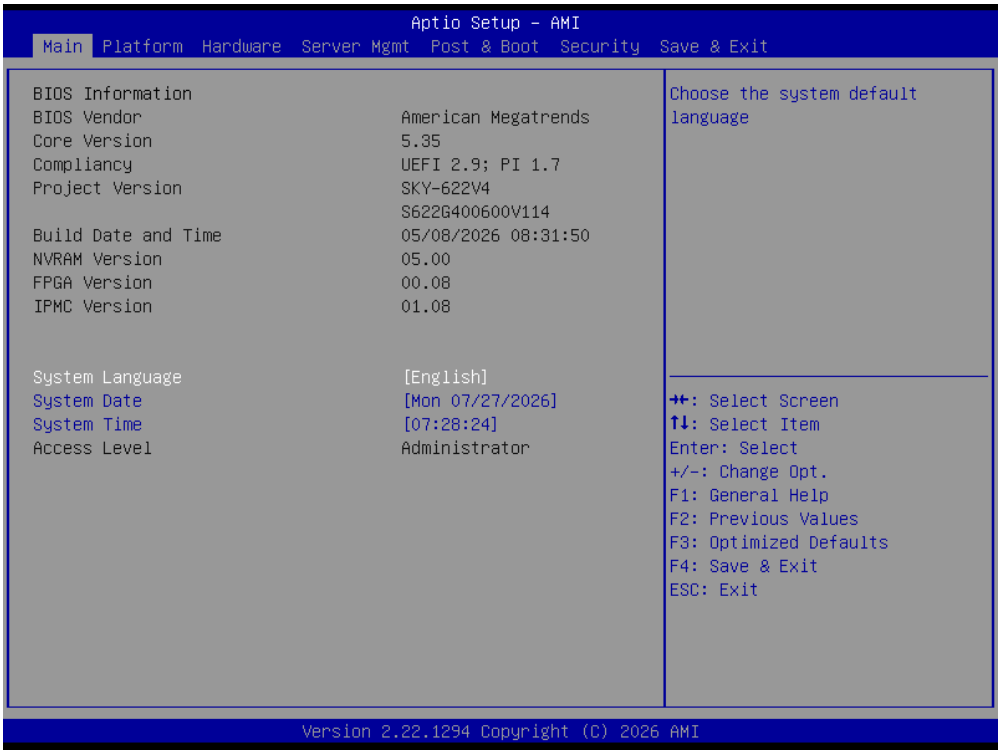


AMI's BIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed up CMOS so it retains the Setup information when the power is turned off.

Note! *The BIOS setup screens shown in this chapter are for reference only, they may not exactly match what you see on your display devices.*

3.1 Main Menu

Press <Del> during bootup to enter AMI BIOS CMOS Setup Utility; the Main Menu will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

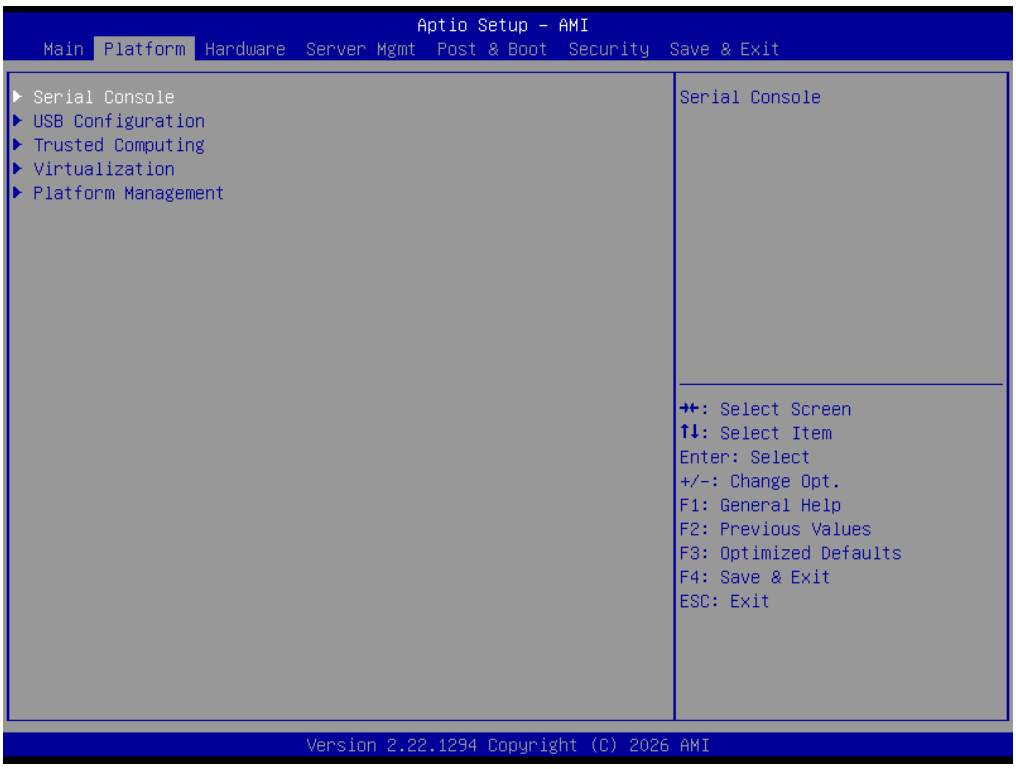


The Main BIOS setup screen has two main frames. The left frame displays all the options that can be configured. Grayed-out options cannot be configured; options in blue can be. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it.

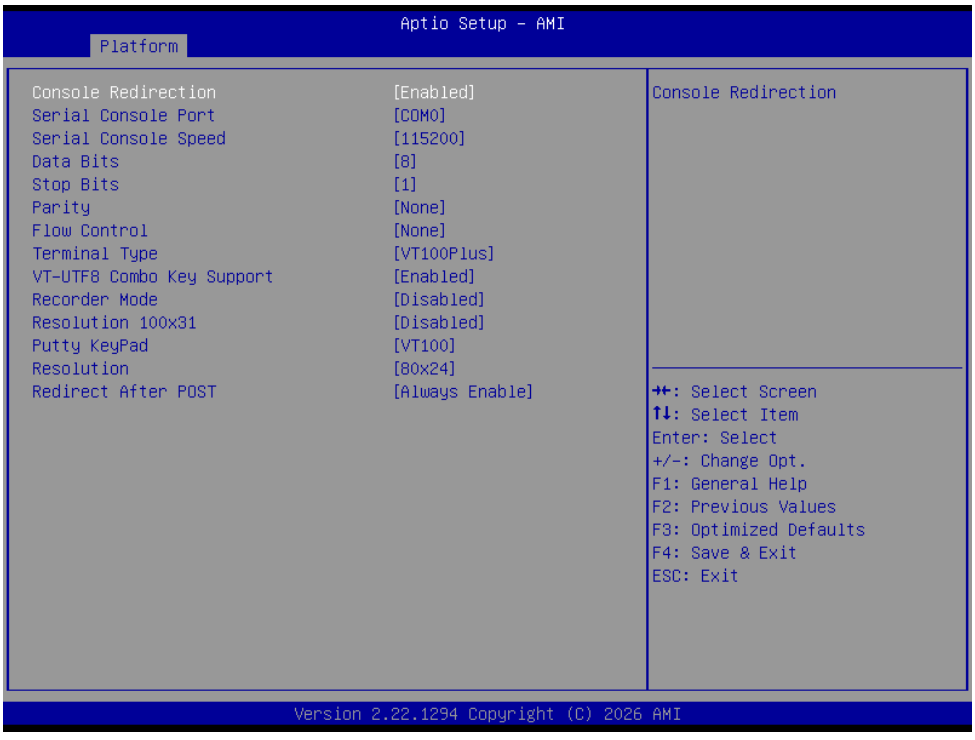
- **System Time / System Date**

  Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time must be entered in HH:MM:SS format.

3.2 Platform Configuration



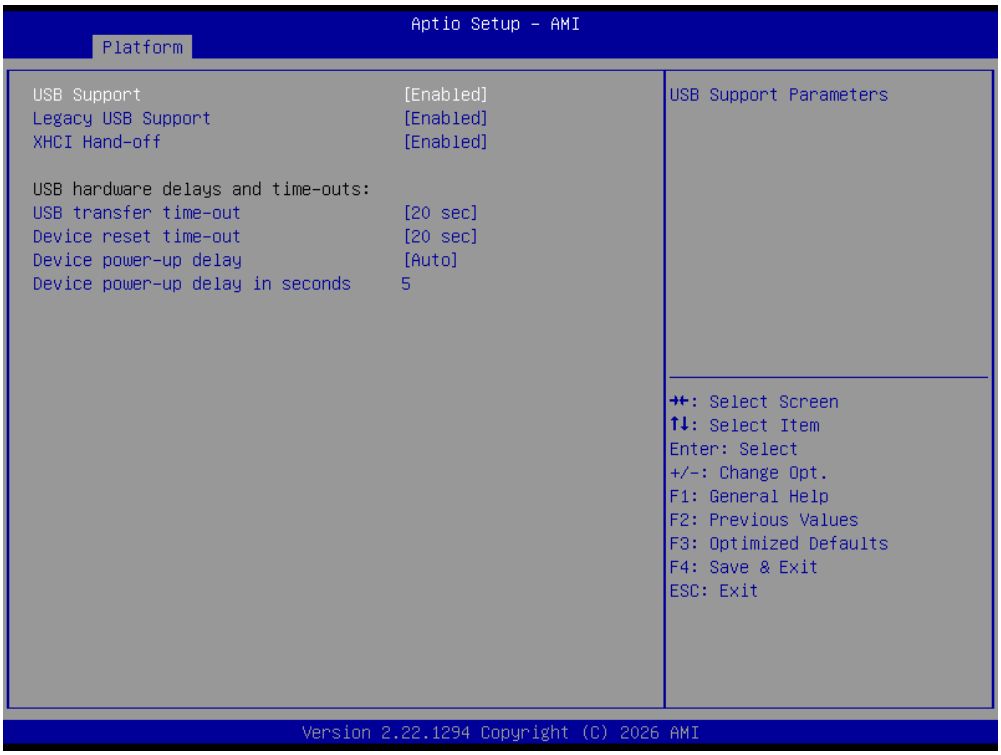
3.2.1 Serial_Console



Setup Item	Access / Options	Description
Console Redirection	**Enabled** Disabled	Console Redirection
Serial Console Port	**COM0**	Serial Console Port
Serial Console Speed	9600 19200 38400 57600 **115200**	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Data Bits	7 **8**	Data Bits
Stop Bits	**1** 2	Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.
Parity	**None** Even Odd Mark Space	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection. They can be used as an additional data bit.
Flow Control	**None** Hardware RTS/CTS	Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.
VT-UTF8 Combo Key Support	VT100 **VT100Plus** VT-UTF8 ANSI	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100Plus: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
Recorder Mode	**Disabled** Enabled	With this mode enabled only text will be sent. This is to capture Terminal data.
Resolution 100x31	**Disabled** Enabled	Enables or disables extended terminal resolution
Putty KayPad	**VT100** LINUX XTERMR6 SCO ESCN VT400	Select FunctionKey and KeyPad on Putty.

Resolution	**80x24** 80x25	On Legacy OS, the Number of Rows and Columns supported redirection
Redirect After POST	**Always Enable** BootLoader	When Bootloader is selected, then Legacy Console Redirection is disabled before booting to legacy OS. When Always Enable is selected, then Legacy Console Redirection is enabled for legacy OS. Default setting for this option is set to Always Enable.

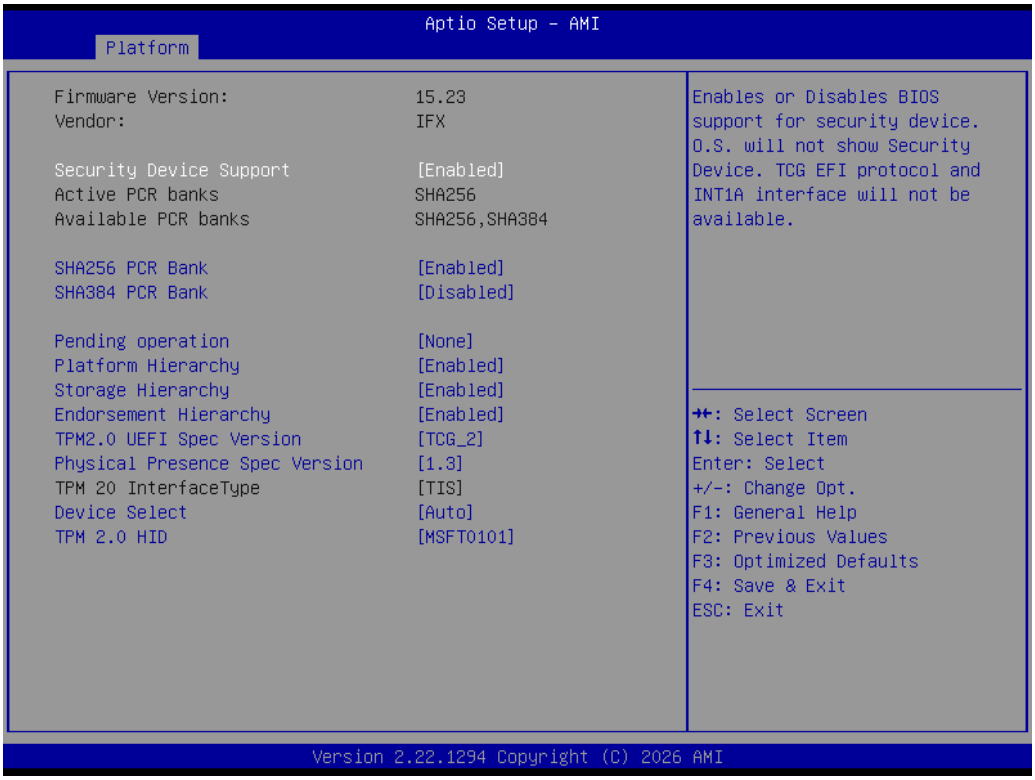
3.2.2 USB Configuration



Setup Item	Access / Options	Description
USB Support	**Enabled** Disabled	USB Support Parameters
Legacy USB Support	**Enabled** Disabled Auto	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.
XHCI Hand-off	**Enabled** Disabled	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

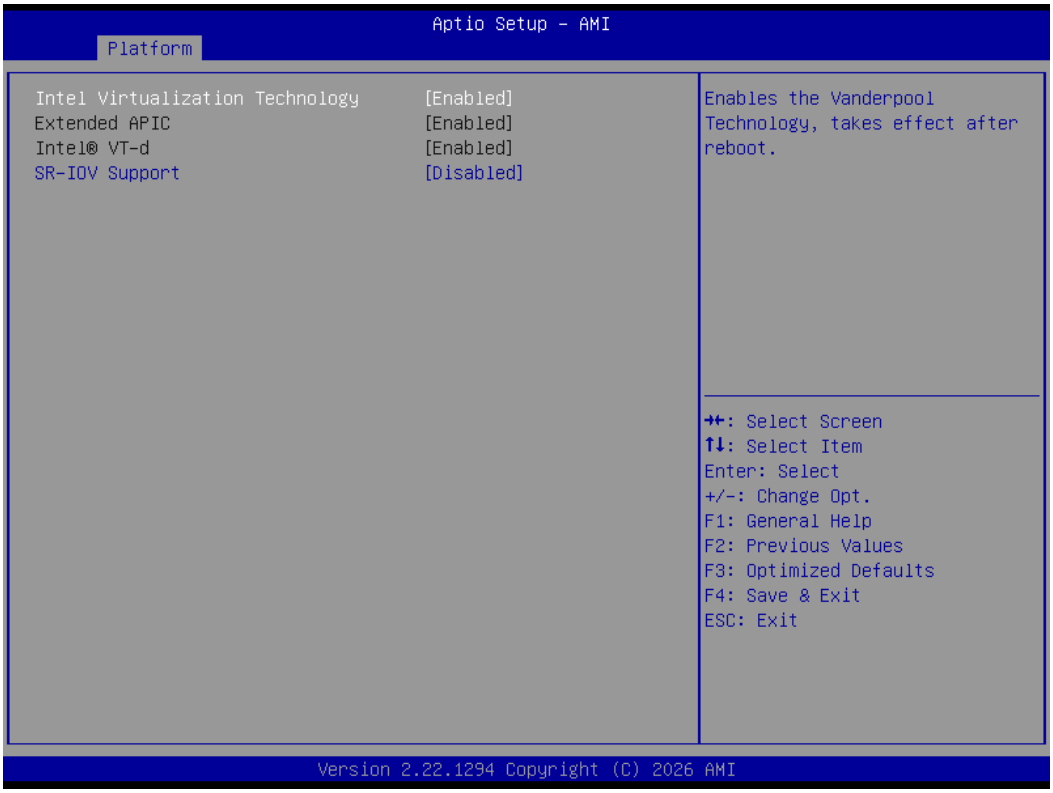
USB hardware delays and time-outs:		
USB transfer time-out	1 sec 5 sec 10 sec **20 sec**	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out	10 sec **20 sec** 30 sec 40 sec	USB mass storage device Start Unit command time-out.
Device power-up delay	**Auto** Manual	Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor.
Device power-up delay in seconds	**5**	

3.2.3 Trusted Computing



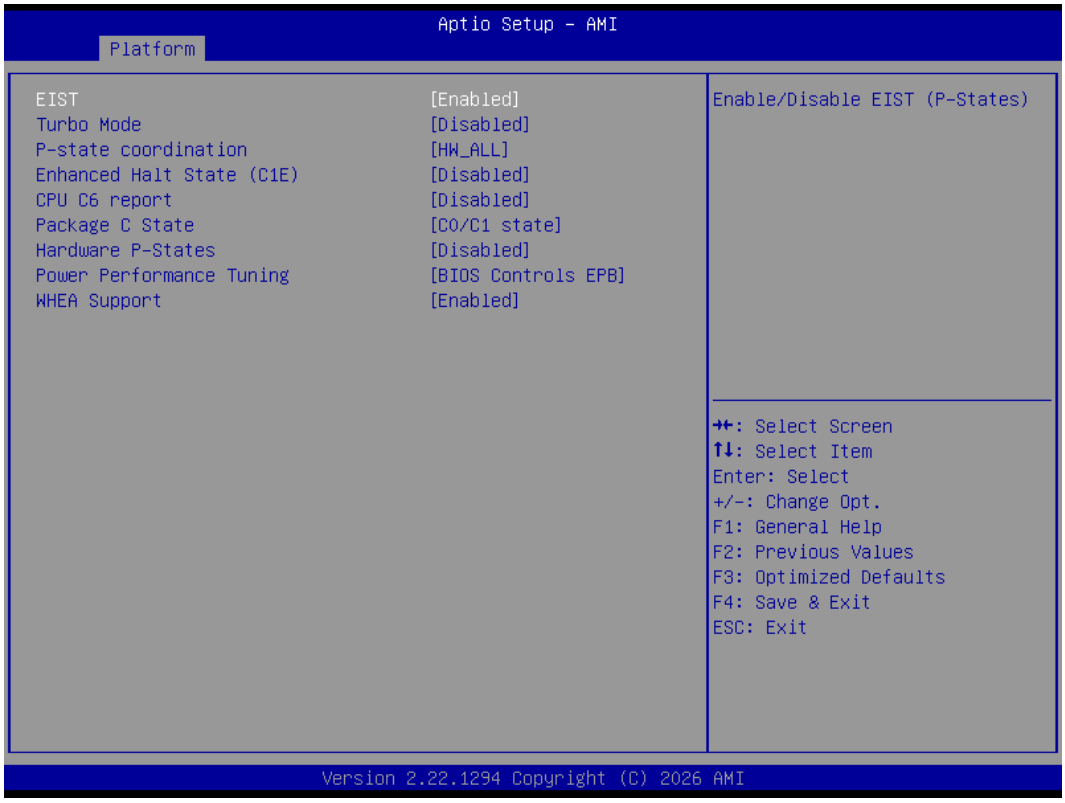
Setup Item	Access / Options	Description
Firmware Version:	15.23	
Vendor:	IFX	
Security Device Support	**Enabled** Disabled	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.
Active PCR banks	SHA256	
Available PCR banks	SHA256, SHA384	
SHA256 PCR Bank	**Enabled** Disabled	Enable or Disable SHA256 PCR Bank
SHA384 PCR Bank	Enabled **Disabled**	Enable or Disable SHA384 PCR Bank
Pending operation	**None** TPM Clear	Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device.
Platform Hierarchy	Disabled **Enabled**	Enable or Disable Platform Hierarchy
Storage Hierarchy	Disabled **Enabled**	Enable or Disable Storage Hierarchy
Endorsement Hierarchy	Disabled **Enabled**	Enable or Disable Endorsement Hierarchy
TPM2.0 UEFI Spec Version	TCG_1_2 **TCG_2**	Select the TCG2 Spec Version Support, TCG_1_2: the Compatible mode for Win8/Win10, TCG_2: Support new TCG2 protocol and event format for Win10 or later
Physical Presence Spec Version	1.2 **1.3**	Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3.
TPM 20 InterfaceType	CRB **TIS**	Select the Communication Interface to TPM 20 Device.
Device Select	TPM 1.2 TPM 2.0 **Auto**	TPM 1.2 will restrict support to TPM 1.2 devices, TPM 2.0 will restrict support to TPM 2.0 devices, Auto will support both with the default set to TPM 2.0 devices if not found, TPM 1.2 devices will be enumerated
TPM 2.0 HID	**MSFT0101** PNP0C31	Choose TPM 2.0 HID return value. We suggest to use MSFT0101 for Windows and Linux kernel version 4.4 and to use PNP0C31 for Linux kernel with previous version from 4.4.

3.2.4 Virtualization



Setup Item	Access / Options	Description
Intel Virtualization Technology	**Enabled** Disabled	Enables the Vanderpool Technology, takes effect after reboot.
Extended APIC	**Enabled** Disabled	Enable/disable extended APIC support Note: When enabled, VT-d & Interrupt Remapping will be automatically enabled.
Intel® VT-d	**Enabled** Disabled	Enable/Disable Intel VT-d by reporting the I/O device assignment to VMM through DMAR ACPI Tables. To disable VT-d, X2APIC must also be disabled.
SR-IOV Support	**Disabled** Enabled	If system has SR-IOV capable PCIe Devices, this option Enables or Disables Single Root IO Virtualization Support.

3.2.5 Platform Management



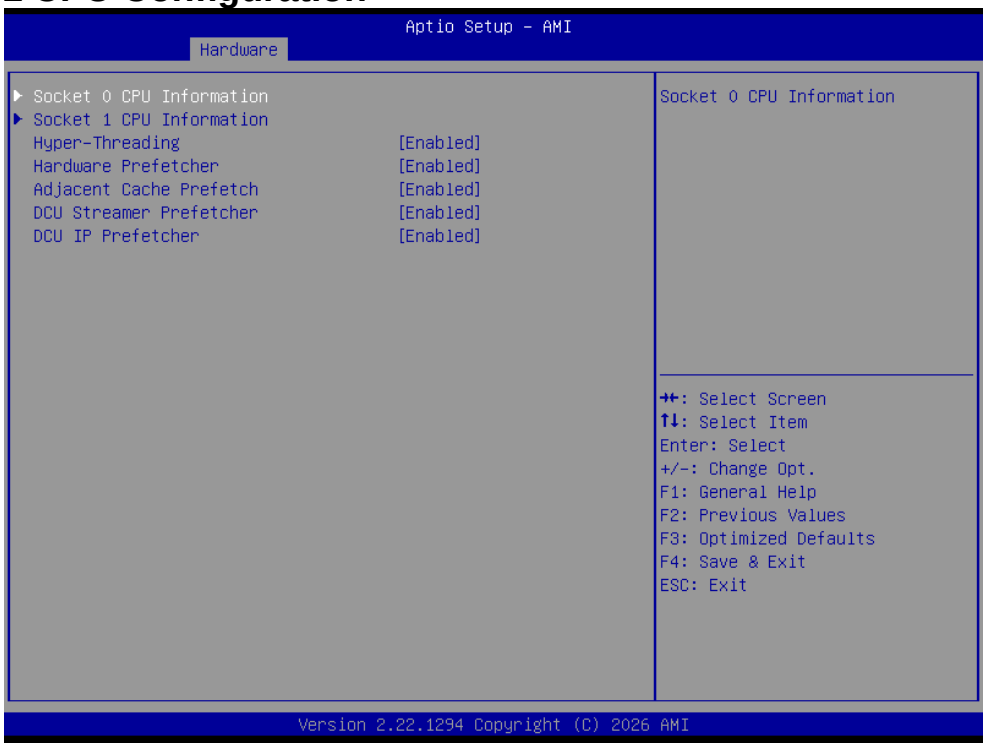
Setup Item	Access / Options	Description
EIST	Enabled **Disabled**	Enable/Disable EIST (P-States)
Turbo Mode	Enabled **Disabled**	Enable/Disable processor Turbo Mode (requires EMTTM enabled too).
P-state coordination	HW_ALL SW_ALL	Choose HW_ALL/SW_ALL in _PSD return
Enhanced Halt State (C1E)	**Disable** Enable	Core C1E auto promotion Control. Takes effect after reboot.
CPU C6 report	**Disable** C6 as ACPI C2 C6 as ACPI C3 C6-P as ACPI C2 C6-P as ACPI C3	Enable/Disable CPU C6(ACPI C3) report to OS
Package C State	**C0/C1 state** C2 state C6(non Retention) state C6(Retention) state	Package C State limit

Hardware P-States	**Disabled** Native Mode Out of Band Mode Native Mode with No Legacy Support	Disable: Hardware chooses a P-state based on OS Request (Legacy P-States) Native Mode:Hardware chooses a P-state based on OS guidance Out of Band Mode:Hardware autonomously chooses a P-state (no OS guidance)
Power Performance Tuning	OS Controls EPB **BIOS Controls EPB** PECI Controls EPB	Options decides who Controls EPB. In OS mode: IA32_ENERGY_PERF_BIAS is used In BIOS mode: ENERGY_PERF_BIAS_CONFIG is used In PECI mode: PCS53 is used
WHEA Support	Disabled **Enabled**	Enable/Disable WHEA support
PL1 Power Limit		PL1 Power Limit in Watts. The value may vary from 0 to Fused TDP Value. If the value is 0, the Fused TDP value will be programmed. A value greater than Fused TDP value will not be programmed.
PL2 Power Limit		PL2 Power Limit in Watts. The value may vary from 0 to 120% Fused TDP Value. If the value is 0, BIOS programs 120% * Fused TDP value.
Intel Speed Select	**Auto** Level 0 Level 1 Level 2 Level 3 Level 4	Intel SST-PP Select allows user to choose level. AUTO: Keep current SST-PP level; in multi sockets system, choose lowest common level when level mask mismatch between sockets.

3.3 Hardware

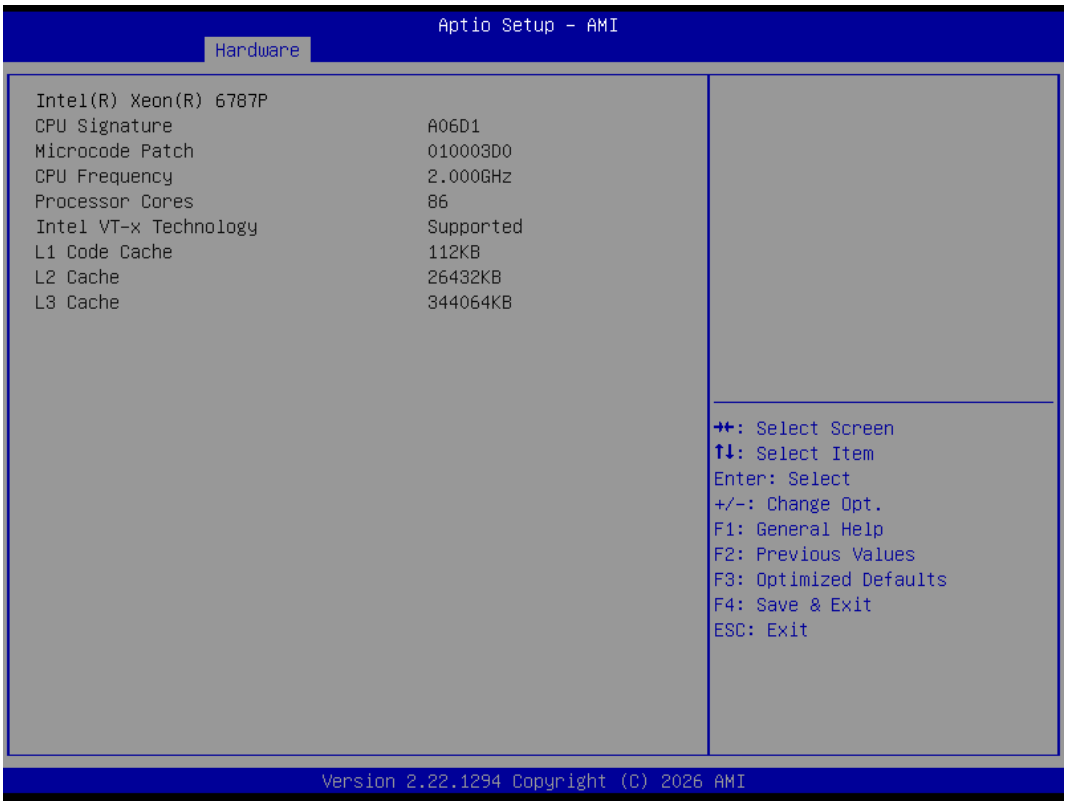


3.3.1 CPU Configuration



Setup Item	Access / Options	Description
Socket 0 CPU Information	sub-page menu	
Socket 1 CPU Information	sub-page menu	
Hyper-Threading	Disabled **Enabled**	Enables Hyper Threading (Software Method to Enable/Disable Logical Processor threads).
Hardware Prefetcher	**Enabled** Disabled	= MLC Streamer Prefetcher (MSR 1A4h Bit[0])
Adjacent Cache Prefetch	**Enabled** Disabled	= MLC Spatial Prefetcher (MSR 1A4h Bit[1])
DCU Streamer Prefetcher	**Enabled** Disabled	DCU streamer prefetcher is an L1 data cache prefetcher (MSR 1A4h [2]).
DCU IP Prefetcher	**Enabled** Disabled	DCU IP prefetcher is an L1 data cache prefetcher (MSR 1A4h [3]).

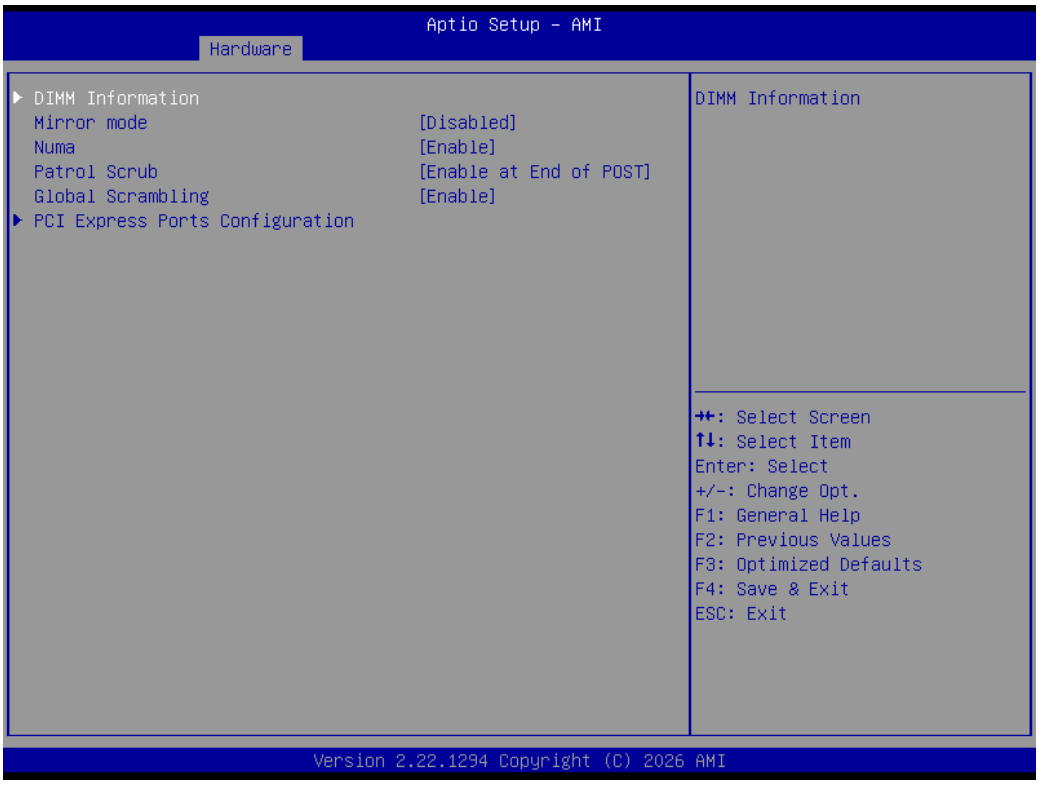
3.3.2 Socket x CPU Information



Setup Item	Access / Options	Description
Socket 0 CPU Information	Intel ® Xeon ® 6787P	
	CPU Signature	A06D1
	Microcode Path	010003D0
	CPU Frequency	2.000GHz
	Processor Cores	86

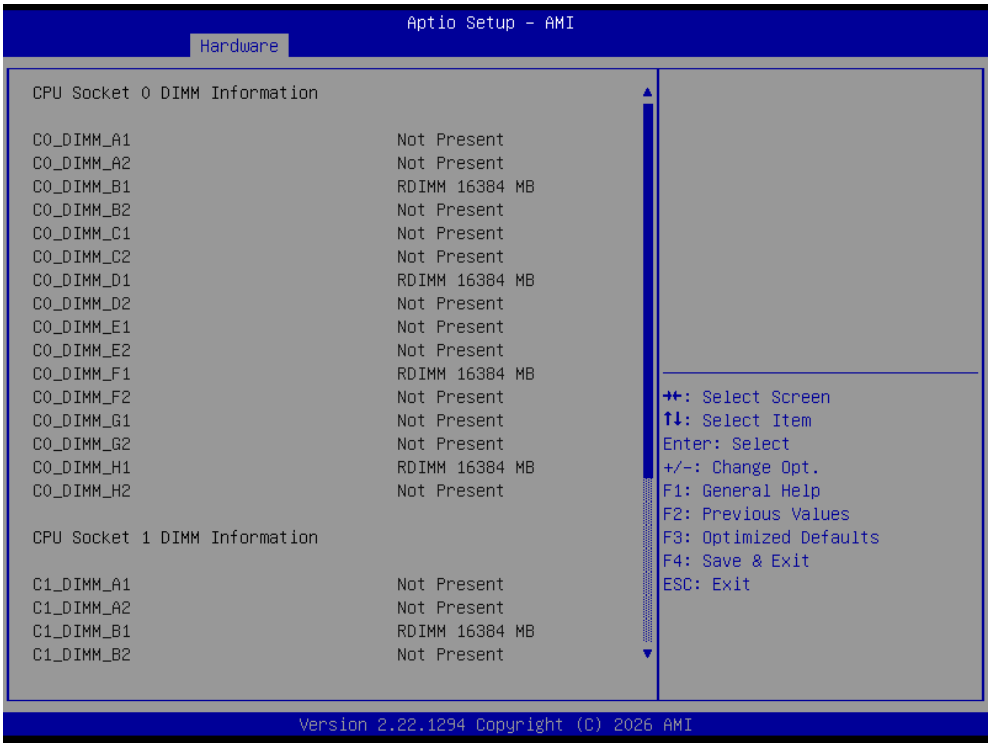
	Intel VT-x Technology	Supported
	L1 Code Cache	112KB
	L2 Cache	26432KB
	L3 Cache	344064KB

3.3.3 Northbridge

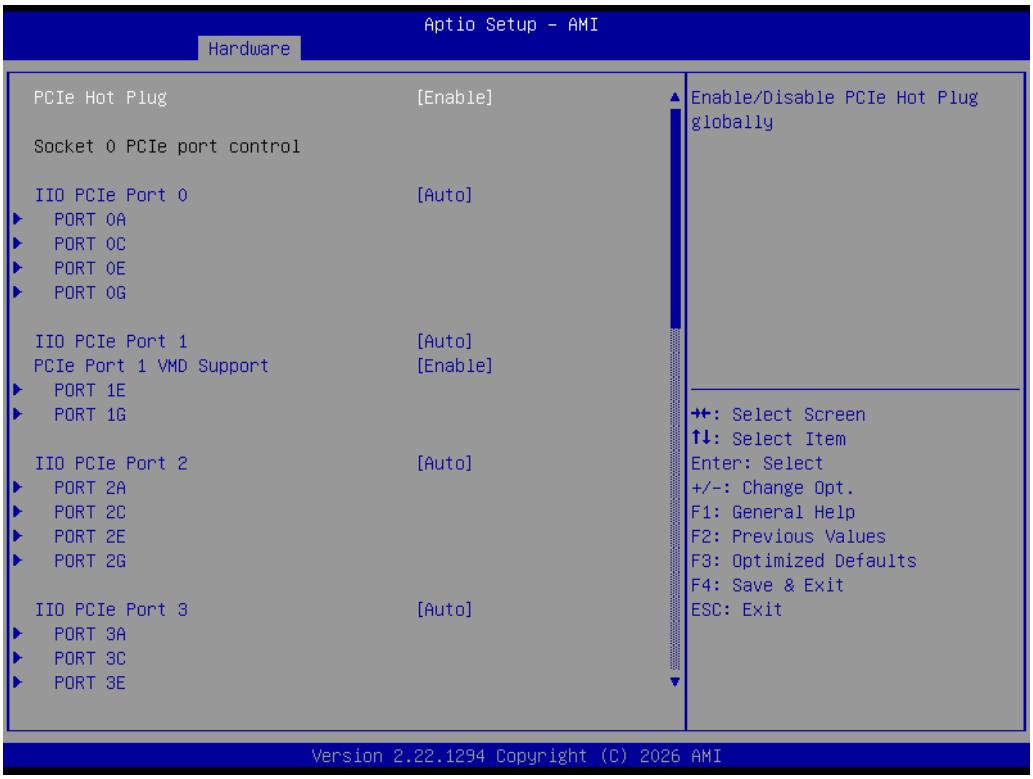


Setup Item	Access / Options	Description
DIMM Information	sub-page menu	
Mirror mode	**Disabled** Full Mirror Mode	Full Mirror Mode will set entire 1LM memory in system to be mirrored, consequently reducing the memory capacity by half. Partial Mirror Mode will enable the required size of memory to be mirrored. If rank sparing is enabled partial mirroring will not take effect. Enabling any type of Mirror Mode will disable XPT Prefetch.
Numa	Disable **Enable**	Enable or Disable Non uniform Memory Access (NUMA).
Patrol Scrub	Disabled **Enable at End of POST**	Enable/Disable Patrol Scrub
Global Scrambling	Disable **Enable**	Enable - Enables global data scrambling. Disable - Disables global data scrambling
PCI Express Ports Configuration	sub-page menu	

3.3.4 DIMM Information



3.3.5 PCI Express ports Configuration

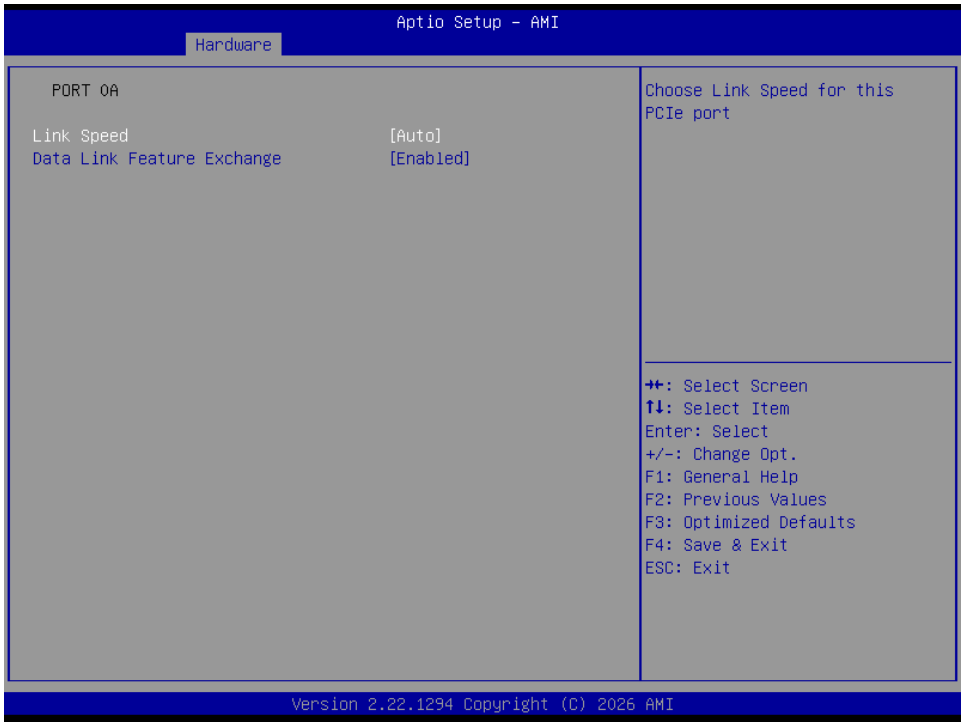


Setup Item	Access / Options	Description
PCI Express ports Configuration	PCIe Hot Plug	Enable Disable
PCI Express ports Configuration	Socket 0 PCIe port control	
PCI Express ports Configuration	IIO PCIe Port 0	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PORT 0A	sub-page menu
PCI Express ports Configuration	PORT 0C	sub-page menu
PCI Express ports Configuration	PORT 0E	sub-page menu
PCI Express ports Configuration	PORT 0G	sub-page menu
PCI Express ports Configuration	IIO PCIe Port 1	**Auto** x4x4 x8
PCI Express ports Configuration	PCIe Port 1 VMD Support	Disable **Enable**
PCI Express ports Configuration	PORT 1E	sub-page menu
PCI Express ports Configuration	PORT 1G	sub-page menu
PCI Express ports Configuration	IIO PCIe Port 2	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PORT 2A	sub-page menu
PCI Express ports Configuration	PORT 2C	sub-page menu
PCI Express ports Configuration	PORT 2E	sub-page menu
PCI Express ports Configuration	PORT 2G	sub-page menu
PCI Express ports Configuration	IIO PCIe Port 3	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PORT 3A	sub-page menu

PCI Express ports Configuration	PORT 3C	sub-page menu
PCI Express ports Configuration	PORT 3E	sub-page menu
PCI Express ports Configuration	PORT 3G	sub-page menu
PCI Express ports Configuration	IIO PCIe Port 4	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PORT 4A	sub-page menu
PCI Express ports Configuration	PORT 4C	sub-page menu
PCI Express ports Configuration	PORT 4E	sub-page menu
PCI Express ports Configuration	PORT 4G	sub-page menu
PCI Express ports Configuration	Socket 1 PCIe port control	
PCI Express ports Configuration	IIO PCIe Port 0	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PORT 0A	sub-page menu
PCI Express ports Configuration	PORT 0C	sub-page menu
PCI Express ports Configuration	PORT 0E	sub-page menu
PCI Express ports Configuration	PORT 0G	sub-page menu
PCI Express ports Configuration	IIO PCIe Port 1	**Auto** x4x4 x8
PCI Express ports Configuration	PCIe Port 1 VMD Support	Disable **Enable**
PCI Express ports Configuration	PORT 1E	sub-page menu
PCI Express ports Configuration	PORT 1G	sub-page menu

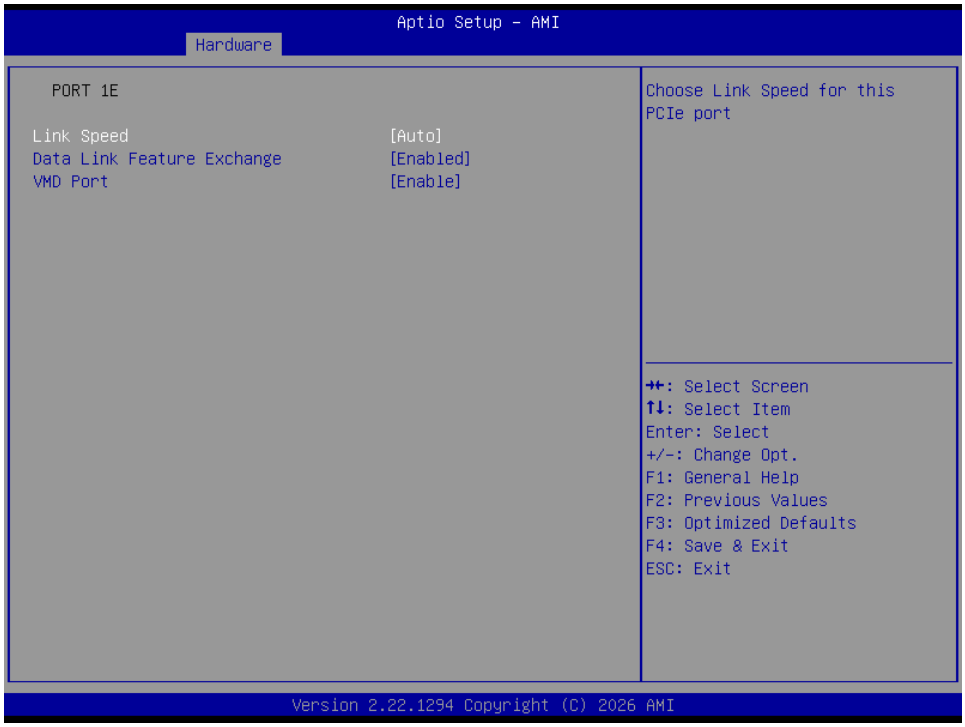
PCI Express ports Configuration	IIO PCIe Port 2	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PORT 2A	sub-page menu
PCI Express ports Configuration	PORT 2C	sub-page menu
PCI Express ports Configuration	PORT 2E	sub-page menu
PCI Express ports Configuration	PORT 2G	sub-page menu
PCI Express ports Configuration	IIO PCIe Port 3	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PORT 3A	sub-page menu
PCI Express ports Configuration	PORT 3C	sub-page menu
PCI Express ports Configuration	PORT 3E	sub-page menu
PCI Express ports Configuration	PORT 3G	sub-page menu
PCI Express ports Configuration	IIO PCIe Port 5	**Auto** x4x4x4x4 x8x8 x16
PCI Express ports Configuration	PCIe Port 5 VMD Support	Disable **Enable**
PCI Express ports Configuration	PORT 5A	sub-page menu
PCI Express ports Configuration	PORT 5C	sub-page menu
PCI Express ports Configuration	PORT 5E	sub-page menu
PCI Express ports Configuration	PORT 5G	sub-page menu

3.3.6 PORT



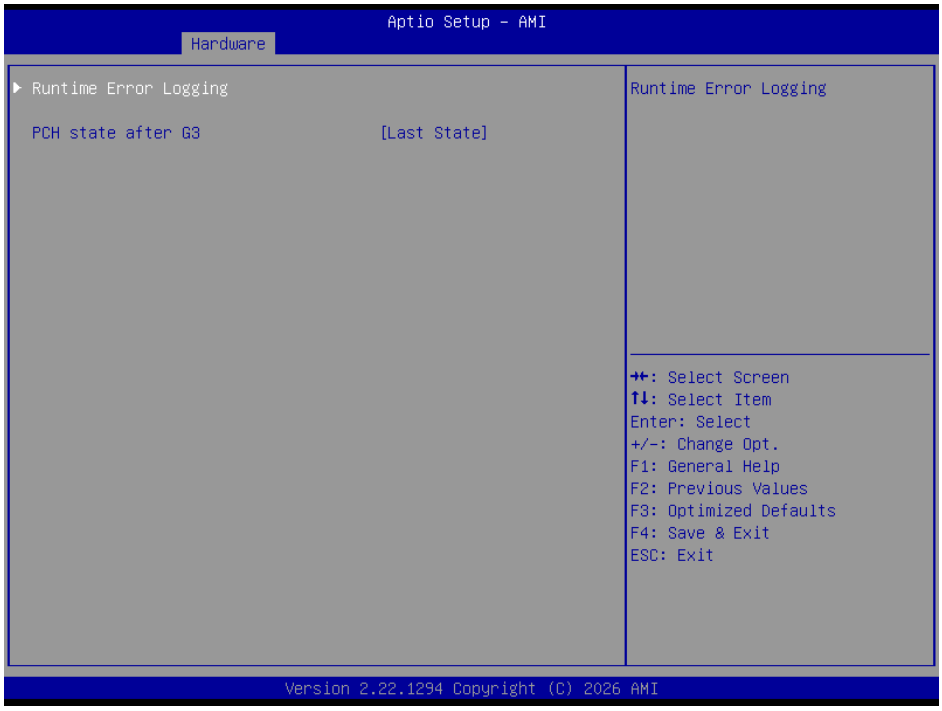
Setup Item	Access / Options	Description
Link Speed	**Auto** Gen 1 (2.5 GT/s) Gen 2 (5 GT/s) Gen 3 (8 GT/s) Gen 4 (16 GT/s) Gen 5 (32 GT/s)	Choose Link Speed for this PCIe port
Data Link Feature Exchange	Disabled **Enabled**	Enable/Disable data link feature negotiation in the Data Link Feature Capabilities (DLFCAP) register.

3.3.7 PORT with VMD



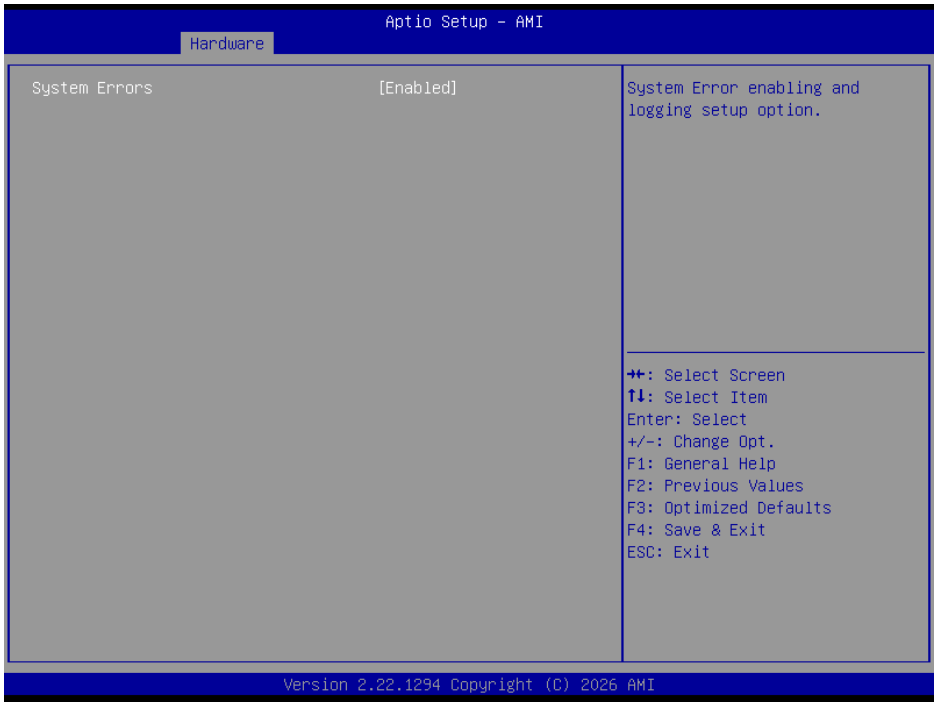
Setup Item	Access / Options	Description
Link Speed	**Auto** Gen 1 (2.5 GT/s) Gen 2 (5 GT/s) Gen 3 (8 GT/s) Gen 4 (16 GT/s) Gen 5 (32 GT/s)	Choose Link Speed for this PCIe port
Data Link Feature Exchange	Disabled **Enabled**	Enable/Disable data link feature negotiation in the Data Link Feature Capabilities (DLFCAP) register.
VMD Port	Disable **Enable**	Enable/Disable Intel Volume Management Device Technology on specific root port

3.3.8 Southbridge



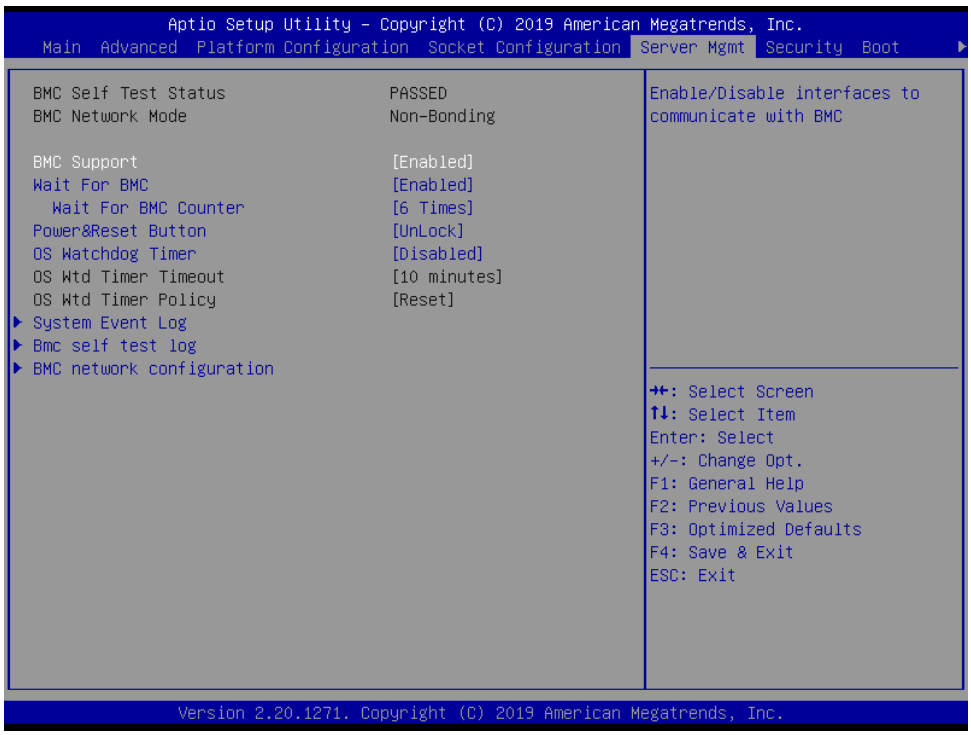
Setup Item	Access / Options	Description
Runtime Error Logging	sub-page menu	
PCH state after G3	**Power On** Power Off Last State	Select S0/S5 for ACPI state after a G3

3.3.9 Runtime Error Logging



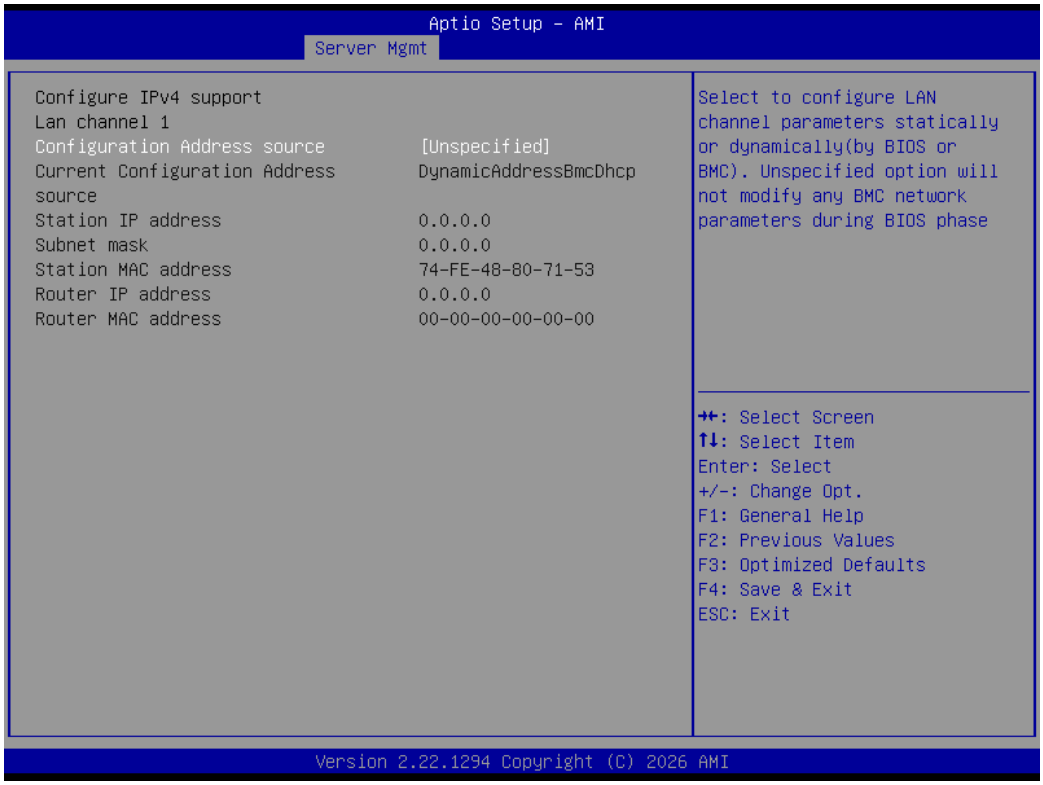
Setup Item	Access / Options	Description
System Errors	Disabled **Enabled**	System Error enabling and logging setup option.

3.4 Server Management



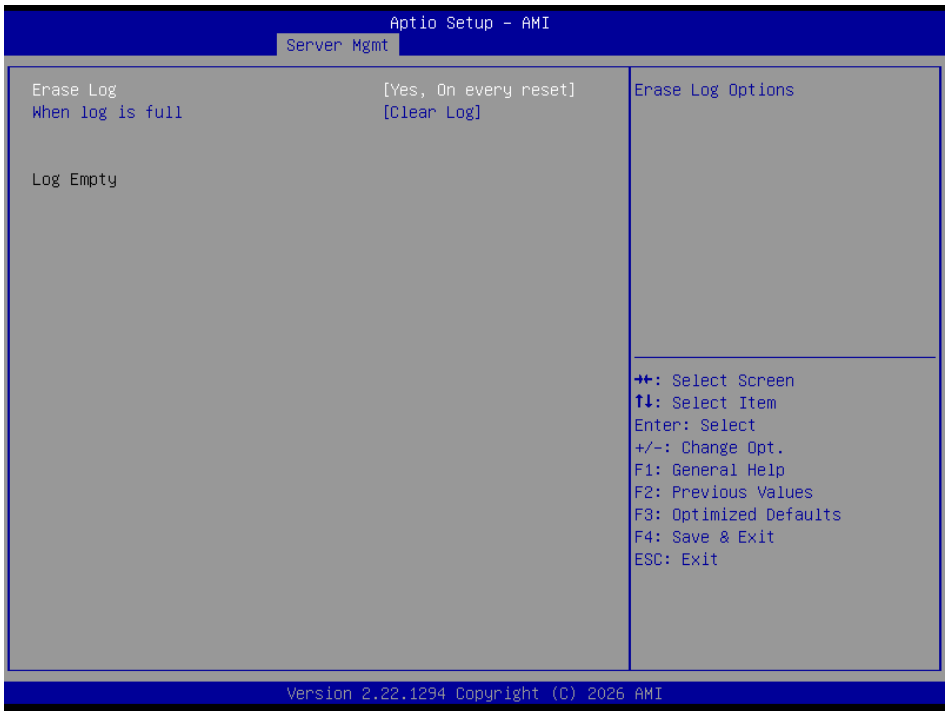
Setup Item	Access / Options	Description
BMC Self Test Status	PASSED	
OS Watchdog Timer	Enabled **Disabled**	If enabled, starts a BIOS timer which can only be shut off by Management Software after the OS loads. Helps determine that the OS successfully loaded or follows the OS Boot Watchdog Timer policy.
OS Wtd Timer Timeout	**10**	Configure the length of the OS Boot Watchdog Timer. Not available if OS Boot Watchdog Timer is disabled.
OS Wtd Timer Policy	Do Nothing **Reset** Power Down Power Cycle	Configure how the system should respond if the OS Boot Watchdog Timer expires. Not available if OS Boot Watchdog Timer is disabled.
BMC network configuration	sub-page menu	
BMC Self Test Log	sub-page menu	
System Event Log	sub-page menu	

3.4.1 BMC Network configuration



Setup Item	Access / Options	Description
Configure IPv4 support		
Lan channel 1		
Configuration Address source	**Unspecified** Static DynamicBmcDhcp	Select to configure LAN channel parameters statically or dynamically(by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase
Current Configuration Address Source	DynamicAddressBmcDhcp	
Station IP address		Enter station IP address
Subnet mask		Enter subnet mask
Station MAC address		
Router IP address		Enter router IP address
Router MAC address		Enter router MAC address

3.4.2 BMC Self Test Log



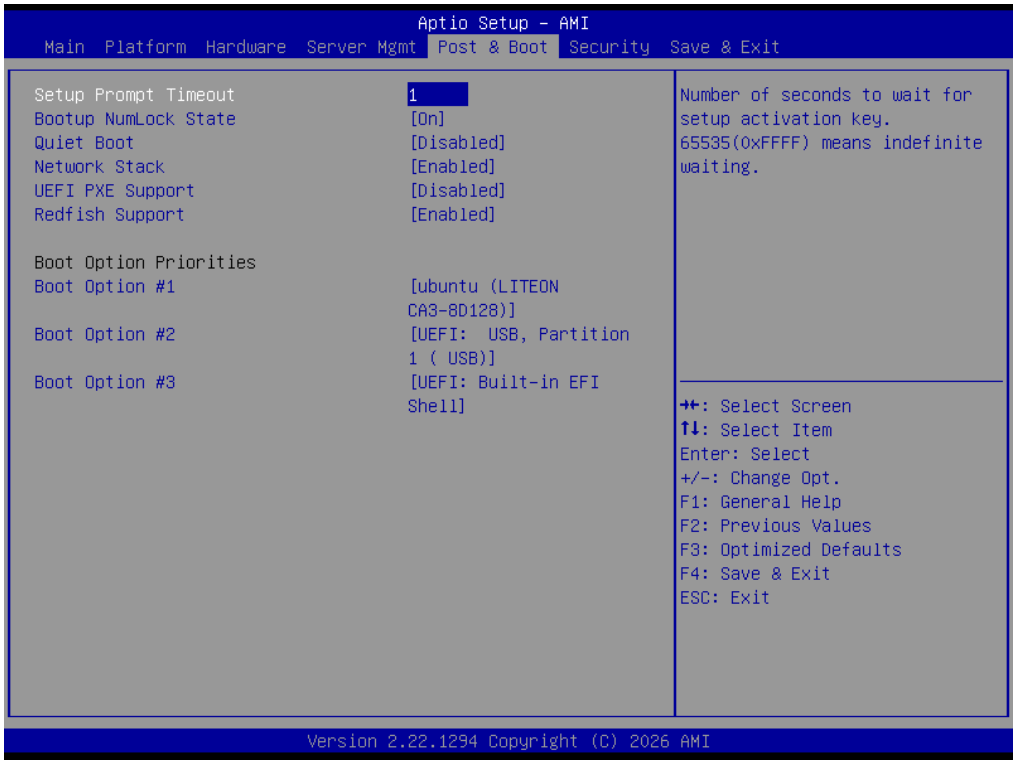
Setup Item	Access / Options	Description
Erase Log	**Yes, On every reset** No	Erase Log Options
When log is full	**Clear Log** Do not log any more	Select the action to be taken when log is full

3.4.3 System Event Log



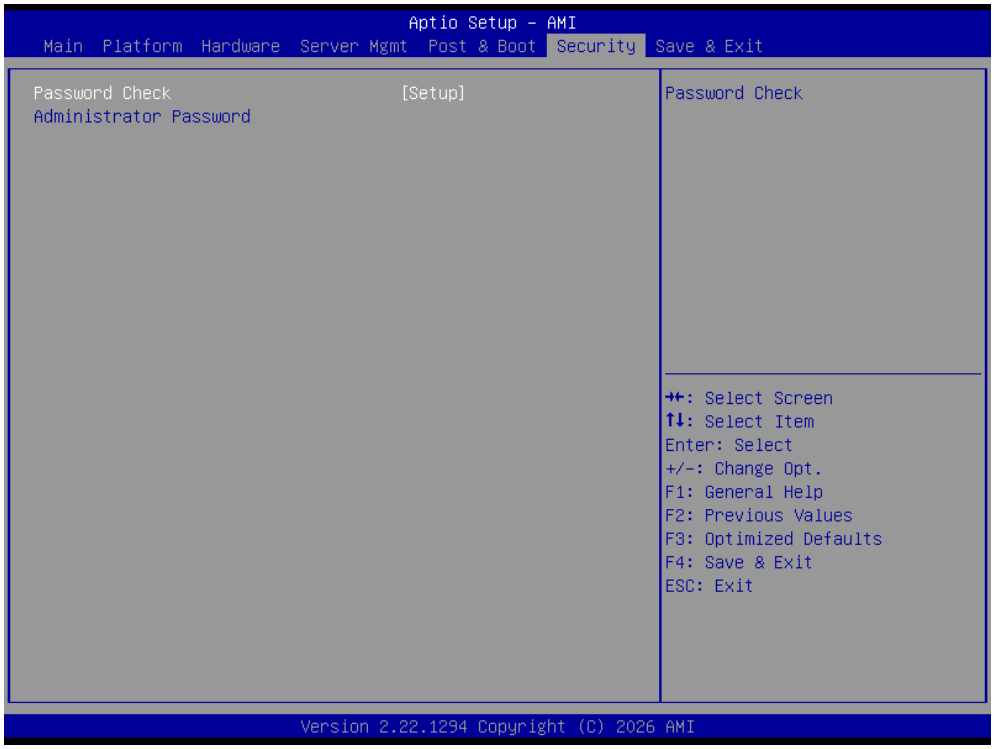
Setup Item	Access / Options	Description
SEL Components	**Enabled** Disabled	Change this to enable or disable all features of System Event Logging during boot.
Erase SEL	**No** Yes, On next reset Yes, On every reset	Choose options for erasing SEL.
When SEL is Full	**Do Nothing** Erase Immediately	Choose options for reactions to a full SEL.
Log EFI Status Codes	Disabled Both **Error Code** Progress code	Disable the logging of EFI Status Codes or log only error code or only progress code or both.

3.5 Post & Boot

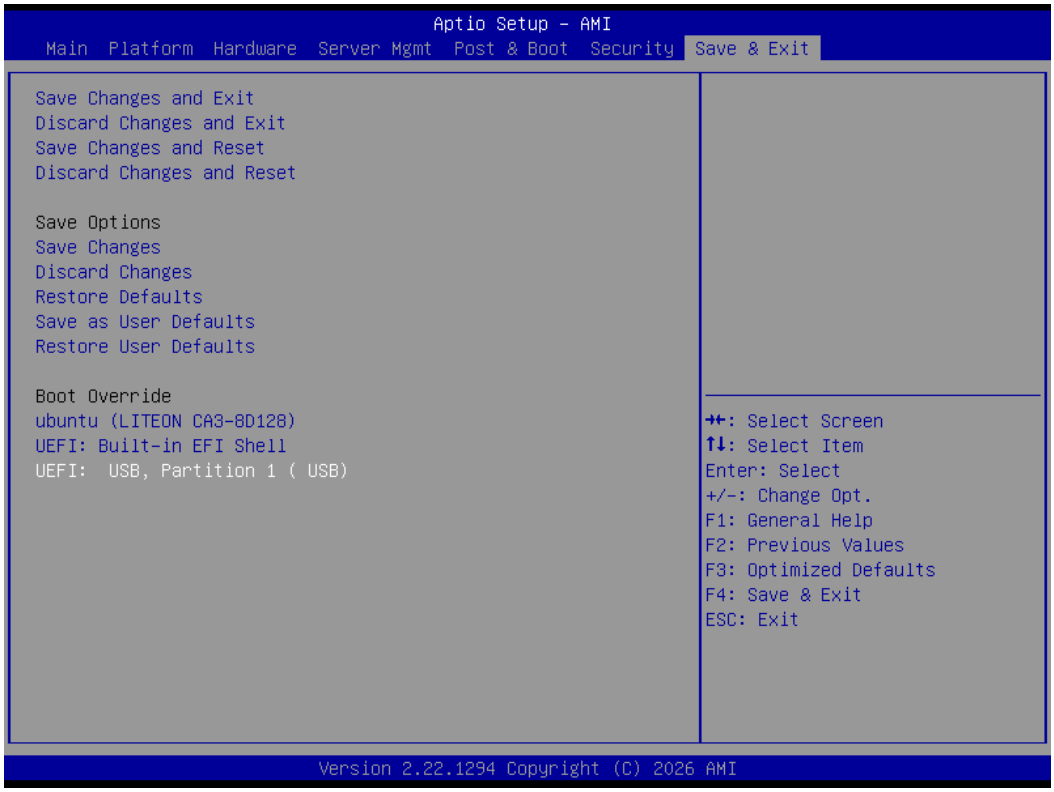


Setup Item	Access / Options	Description
Setup Prompt Timeout	**1**	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Bootup NumLock State	**On** Off	Select the keyboard NumLock state
Quiet Boot	**Disabled** Enabled	Enables or disables Quiet Boot option
Network Stack	Disabled **Enabled**	Enable/Disable UEFI Network Stack
UEFI PXE Support	**Disabled** Enabled	Enable/Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.
Redfish Support	Disabled **Enabled**	Enable/Disable AMI Redfish

3.6 Security



3.7 Save & Exit



Chapter 4

Chipset Software Installation Utility

4.1 Before You Begin

To facilitate the installation of the enhanced display drivers and utility software, read the instructions in this chapter carefully. Please visit Advantech website or scan the QR code below for quick access to download the driver for SKY-622G4.

Before beginning, it is important to note that most display drivers need to have the relevant software application already installed on the system prior to installing the enhanced display drivers. In addition, many of the installation procedures assume that you are familiar with both the relevant software applications and operating system commands. Review the relevant operating system commands and the pertinent sections of your application software's user manual before performing the installation.

4.2 Introduction

Select the corresponding operating system running on SKY-622G4.

The Intel Chipset Software Installation (CSI) utility installs the Windows INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

- Core PCI PnP services
- Identification of Intel chipset components in the Device Manager

4.3 Windows OS Driver Setup

1. Download the Chipset driver as below picture shown, the file downloaded is compressed, unzip the folder then install the Chipset driver by running the SetupChipset.exe



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