

Industrial Motherboard

MIX-H810WV1

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Chapter 1

Product Overview

1.1. Package Contents

Check your industrial motherboard package for the following items:

- ☑ 1 x MIX-H810WV1 Motherboard
- ☑ 1 x I/O Shield
- ☑ 1 x SATA Cable
- ☑ 1 x SATA Power Cable



If any of the above items is damaged or missing, contact your distributor or sales representative immediately

1.2. Features

- ☑ Intel® Core™ Ultra Processors (Series 2), LGA 1851 Socket, up to 65W
- ☑ DDR5 6400MT/s Dual-Channel SODIMM/CSODIMM x 2, up to 96GB
- ☑ PCIe Gen 5 [x4] / PCIe Gen 5 [x16]
- ☑ Up to 2.5GbE LAN x 2 + GbE LAN x 1
- ☑ M.2-1A 2280 M-Key x 1 (PCIe Gen 4 [x4]) for NVMe
- ☑ SATA 6Gb/s x 2

1.3. Specifications

System	
Processor	Intel® Core™ Ultra Processors (Series 2), LGA 1851 Socket, up to 65W, 24C (8+16)/24T
Chipset	Intel® H810 Chipset
Memory	Dual-Channel DDR5 6400MT/s SODIMM/CSODIMM x 2, up to 96GB
Graphics	Intel® UHD Graphics
I/O Chipset	Nuvoton NCT6126D
Ethernet	MIX-H810WV1-A10-3L SKU: Intel® Ethernet Controller I226-V, 2.5GbE x 2 Intel® Ethernet Controller I210-AT, GbE x 1 MIX-H810WV1-A11-X16 SKU: Intel® Ethernet Controller I226-V, 2.5GbE x 2
Audio	Realtek® ALC897 with AMP (3W)
TPM	TPM 2.0 (optional), fTPM
Expansion	MIX-H810WV1-A10-3L SKU: PCIe Gen 5 [x4] x 1 M.2 3042/52 B-Key x 1 (PCIe [x1] with SIM Socket / SATA, optional by BOM) MIX-H810WV1-A11-X16 SKU: PCIe Gen 5 [x16] x 1 M.2 2230 E-Key x 1 (PCIe [x1], USB2)
BIOS	256-Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System Voltage Monitor on Vcore/5V Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi-Display	Triple Independent Display
VGA	—
DVI	—
HDMI	HDMI 2.0, up to 4096 x 2160 @60Hz with Digital Audio
Display Port	DP 1.2, up to 4096 x 2160 @60Hz (MIX-H810WV1-A10-3L SKU only)
LVDS	Dual-Channel 18/24 bit, up to 1920 x 1080 @60Hz (co-lay eDP), default LVDS

eDP	Up to 1920 x 1080 @60Hz, co-lay LVDS
Backlight Control	Voltage/PWM
Environmental	
Battery	Lithium Battery
Power Requirement	19V – 24V
Operating Temperature	32°F – 140°F (0°C – 60°C)
Storage Temperature	-40°F – 185°F (-40°C – 85°C)
Operating Humidity	90% RH @60°C, non-condensing
Certification	CE & FCC (Class A)
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 kg)
MTBF (Hours)	—
Rear I/O Ports	
USB	USB 3.2 Gen 2 x 2 USB 2.0 x 4
Display I/O	MIX-H810WV1-A10-3L SKU: HDMI 2.0 x 2 DP 1.2 x 1 MIX-H810WV1-A11-X16 SKU: HDMI 2.0 x 4
Audio I/O	Line-out x 1 + Mic-in x 1
LAN I/O	MIX-H810WV1-A10-3L SKU: RJ-45 LAN x 3 MIX-H810WV1-A11-X16 SKU: RJ-45 LAN x 2
Serial Port	—
PS/2 Port	—
Others	19V – 24V Phoenix Connector
Internal I/O Connectors	
Storage	SATA 6Gb/s x 2 with SATA Power Connector x 2 (1A) M.2-1A 2280 M-Key x 1 (PCIe Gen 4 [x4]) for NVMe
USB	USB 3.2 Gen 1 x 2 via 2x10P Header (2.54mm) USB 2.0 x 2 via 2x5P Header x 2 (MIX-H810WV1-A10-3L SKU only)
Display I/O	40-pin LVDS/eDP Connector x 1 with Inverter (Default: LVDS)
Audio I/O	HD Audio using AAFP x 1 Speaker Header x 1
Serial Port	RS-232/422/485 x 1 (supports 5V/12V) RS-232 x 1 (MIX-H810WV1-A10-3L SKU only)
PS/2 Port	—
Parallel Port	—

DIO	8-bit Programmable DIO Header (4-in/4-out) x 1
FAN	4-pin Chassis Fan Connector x 1 4-pin CPU Fan Connector x 1
Power	Phoenix Connector x 1
Others	Clear CMOS Jumper x 1 Front Panel Connector x 1 Chassis Intrusion x 1 ATX/AT Mode Select x 1 ME Disable x 1 eDP/LVDS Tcon IC Voltage Select x 1 eDP/LVDS Panel Backlight Voltage Select x 1 SATA PWR x 2 LVDS Inverter x 1 (5V/3.3V) SIM Socket x 1 (MIX-H810WV1-A10-3L SKU only)
OS	
OS Support	Windows® 10/11 64-bit Linux Ubuntu 22.04



Specifications are subject to change without notice

Chapter 2

Motherboard Information

2.1. Before you Proceed

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



CAUTION!

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

2.2. Motherboard Layout

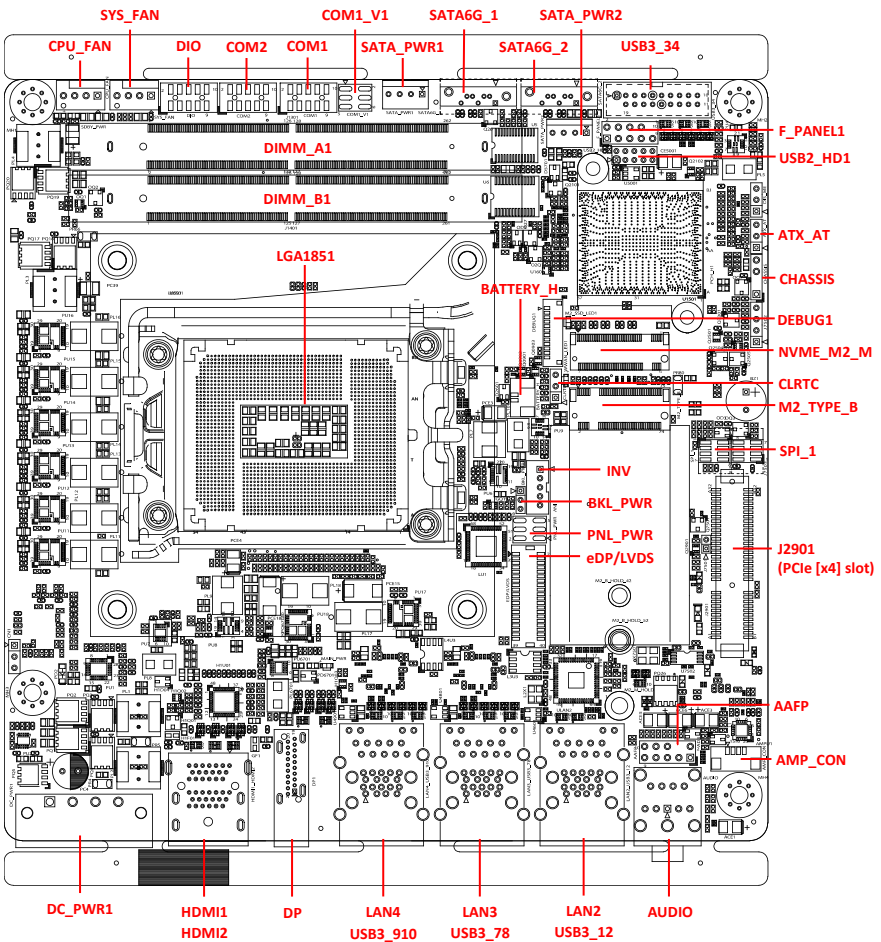


Place four screws into the holes indicated by circles to secure the motherboard to the chassis

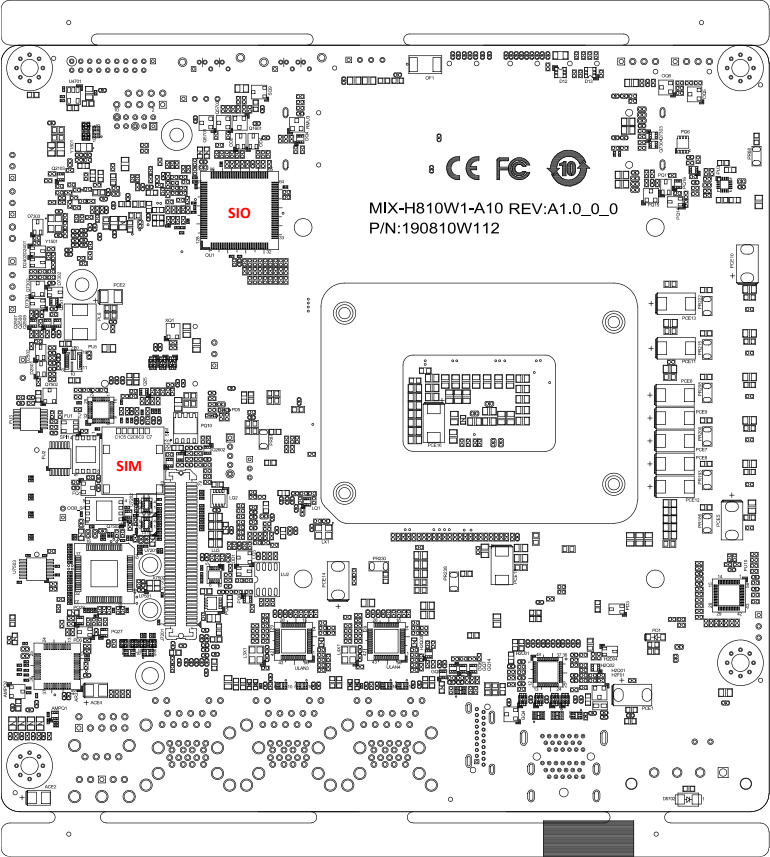


Do not overtighten the screws! Doing so can damage the motherboard

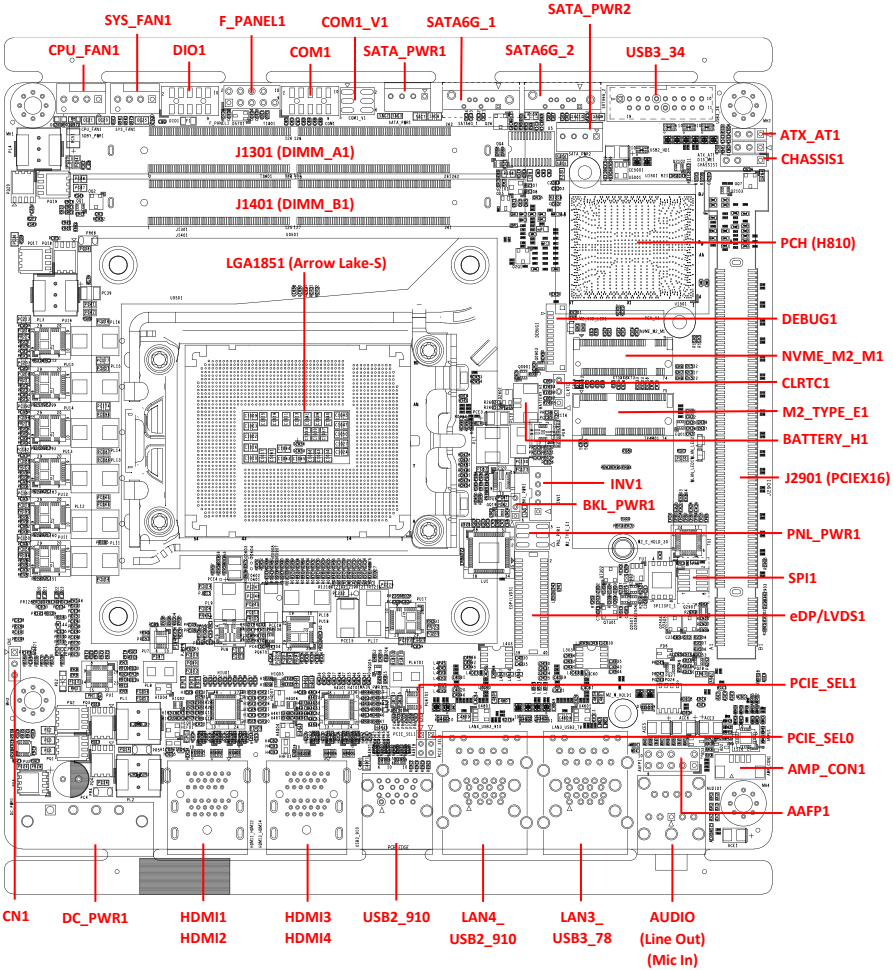
MIX-H810WV1-A10-3L SKU Component Side



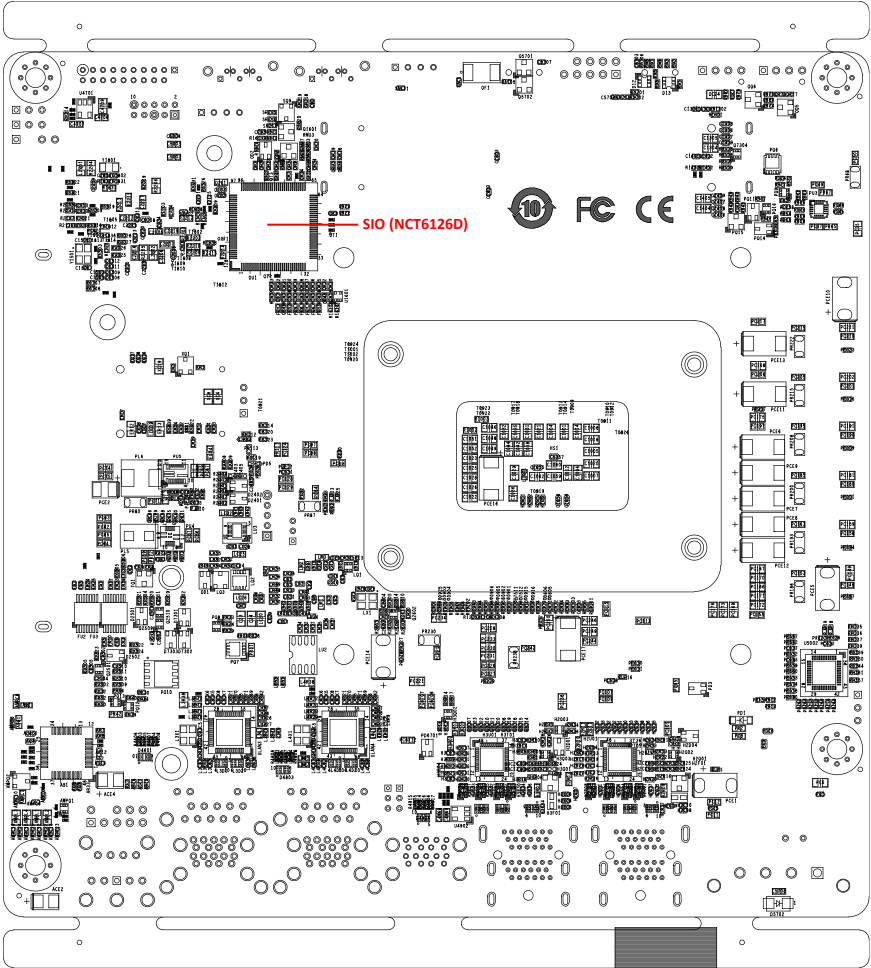
MIX-H810WV1-A10-3L SKU Solder Side



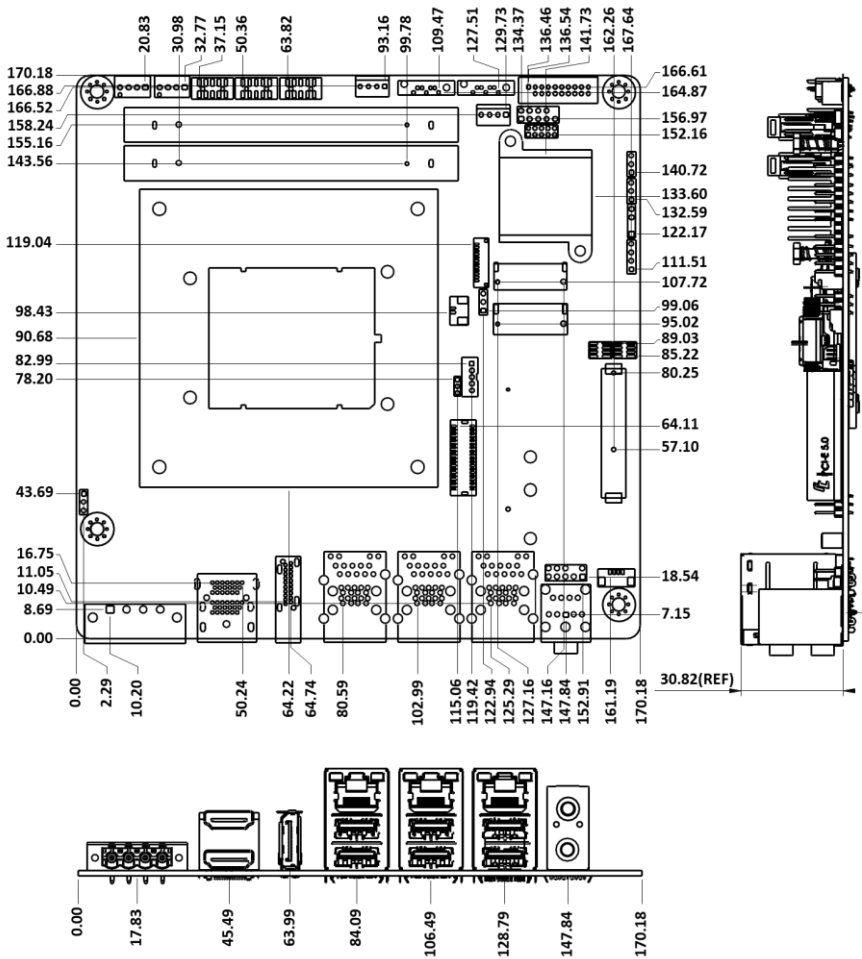
MIX-H810WV1-A11-X16 SKU Component Side



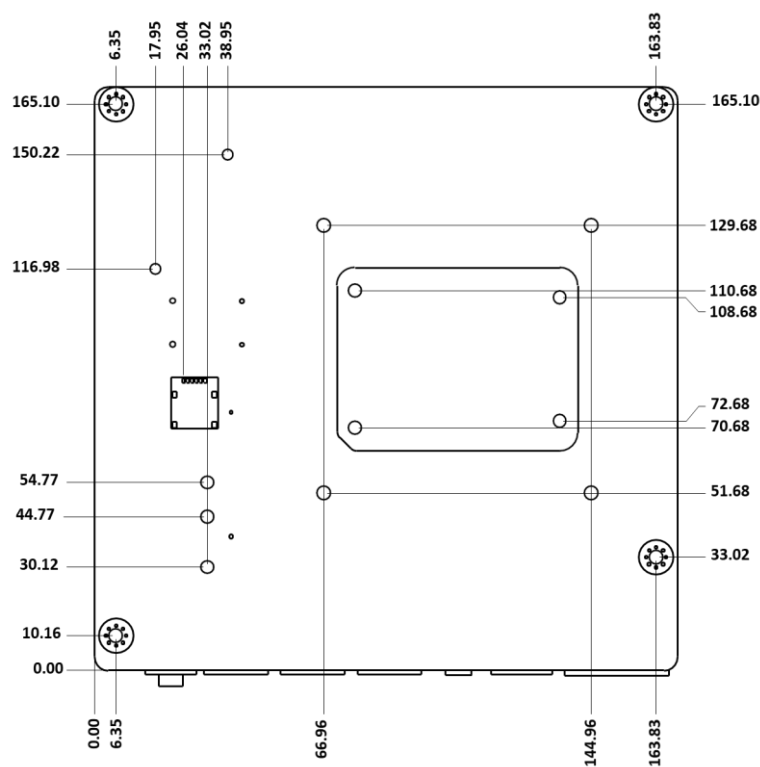
MIX-H810WV1-A11-X16 SKU Solder Side



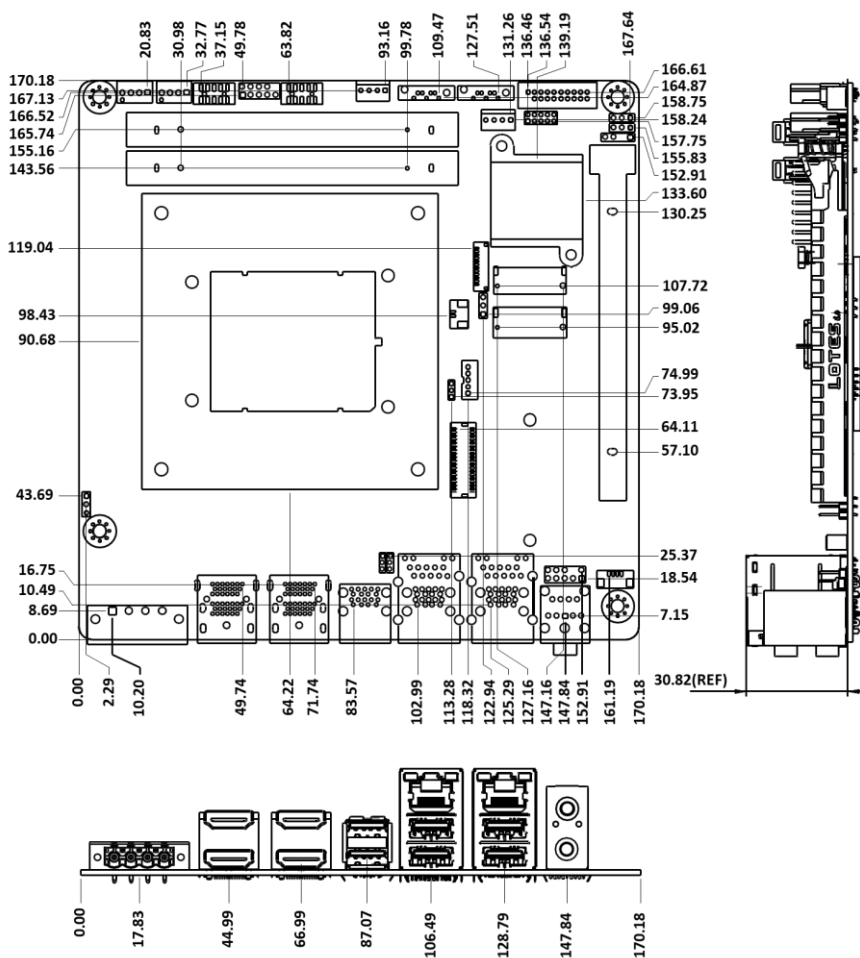
MIX-H810WV1-A10-3L SKU Component Side Screw Size



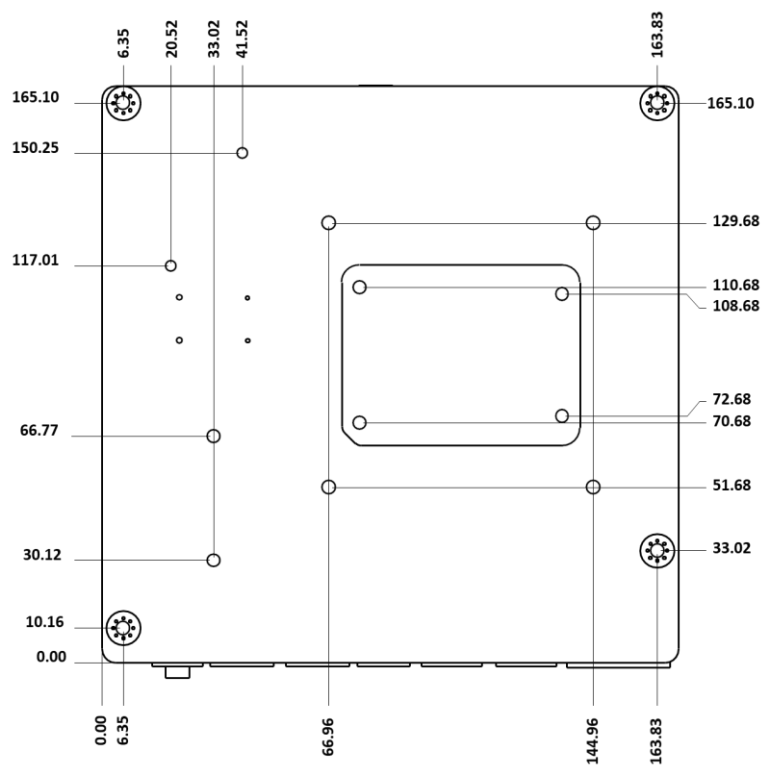
MIX-H810WV1-A10-3L SKU Solder Side Screw Size



MIX-H810WV1-A11-X16 SKU Component Side Screw Size

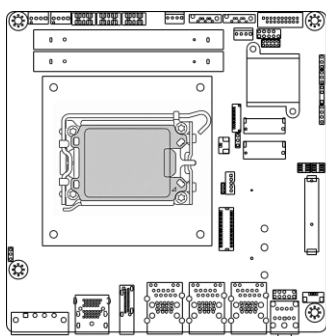


MIX-H810WV1-A11-X16 SKU Solder Side Screw Size

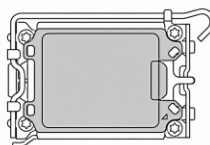


2.3. Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA 1851 socket designed for Intel® Core™ Ultra Processors (Series 2) (formerly Arrow Lake-S).



LGA 1851



IMPORTANT: Unplug all power cables before installing the CPU.



CAUTION!

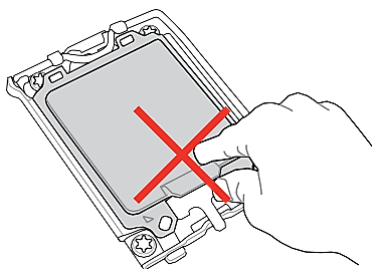
- Ensure that you install the correct CPU designed for LGA 1851 socket only. DO NOT install a CPU designed for other sockets on the LGA 1851 socket.
- The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU.
- Ensure that all power cables are unplugged before installing the CPU.
- Ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.
- Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA 1851 socket.
- The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.

2.3.1 Installing the CPU

CAUTION!

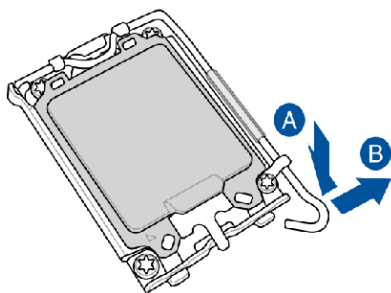


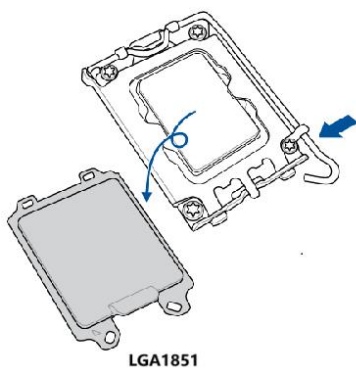
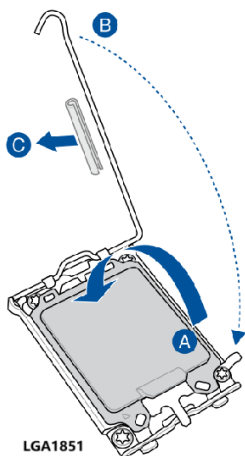
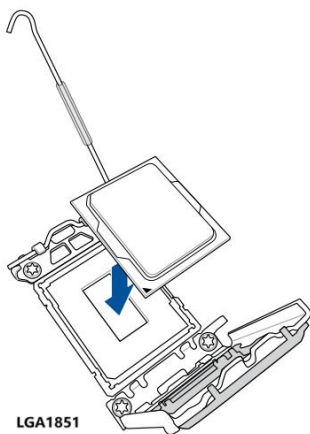
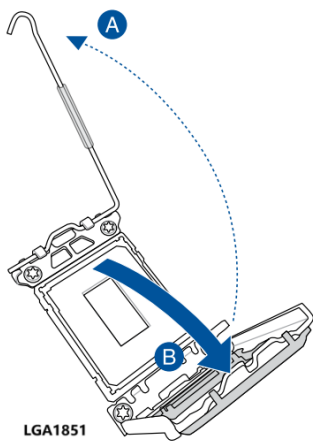
- Ensure that you install the correct CPU designed for LGA 1851 socket only. DO NOT install a CPU designed for other sockets on the LGA 1851 socket.
- ASUS will not cover damages resulting from incorrect CPU installation/removal, incorrect CPU orientation/placement, or other damages resulting from negligence by the user.



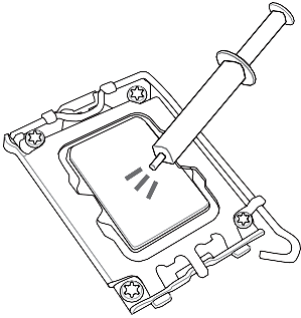
CAUTION!

Take caution when lifting the load lever, ensure to hold onto the load lever when releasing the load lever. Letting go of the load lever immediately after releasing it may cause the load lever to spring back and cause damage to your motherboard.





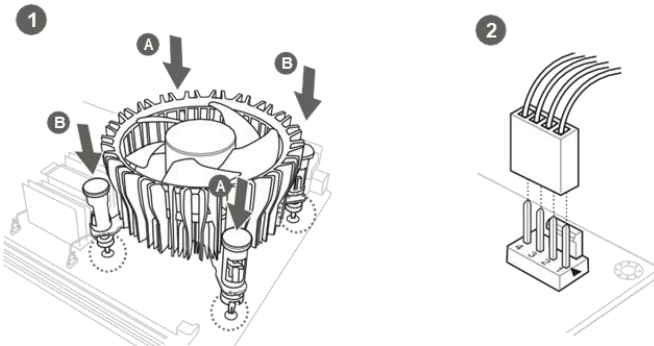
2.3.2 CPU Heatsink and Fan Assembly Installation



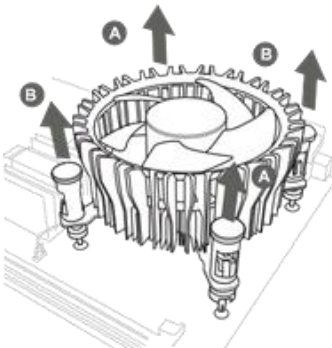
IMPORTANT: Apply Thermal Interface Material to the CPU cooling system and CPU before you install the cooling system, if necessary

CAUTION! Ensure to remove the CPU Socket lever protector on the lever latch before installing the cooling system, failure to do so may cause damages to your system.

Installing CPU Heatsink and Fan:



Uninstalling the CPU Heatsink and Fan:

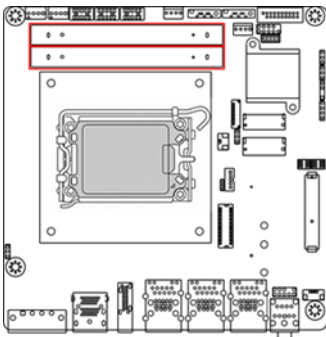


2.3.3 System Memory

The motherboard comes with Unbuffered Dual Inline Memory Module/Clocked Unbuffered Dual In-line Memory Module (SODIMM/CSODIMM) slots designed for DDR5 (Double Data Rate 5) memory modules.



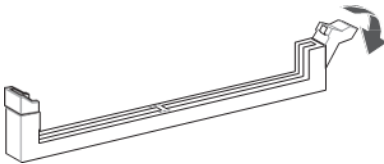
CAUTION! A DDR5 memory module is notched differently from a DDR, DDR2, or DDR3 module. DO NOT install a DDR, DDR2, DDR3, or DDR4 memory module to the DDR5 slot.



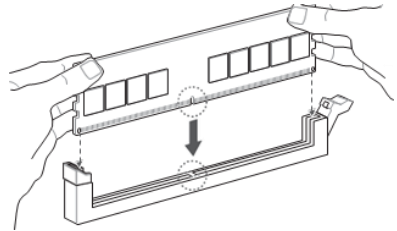
J1301 (DIMM_A1)
J1401 (DIMM_B1)

2.3.4 DIMM Installation

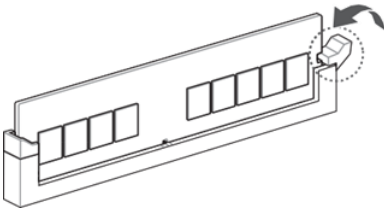
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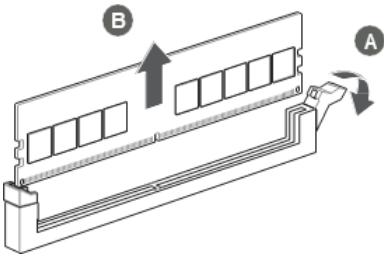
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3



DIMM Removal:



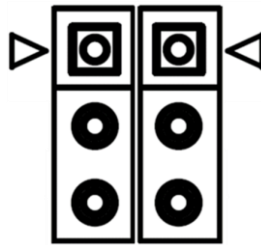
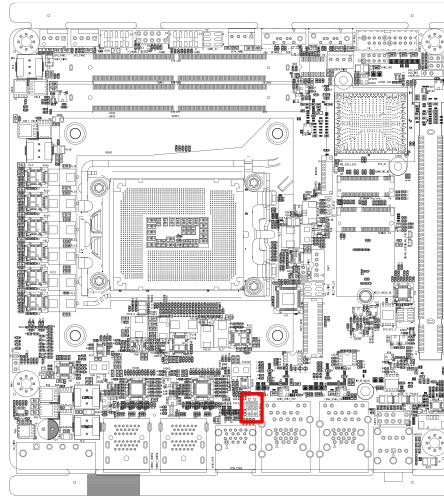
2.4. Jumpers

Please refer to the table below for all of the board’s jumpers that you can configure for your application

Label	Function
CLRTC / CLRTC1	Clear CMOS Jumper
COM1_V1	COM 1 Ring/+5V/+12V Selection
ATX_AT / ATX_AT1	AT/ATX Mode Selection
PNL_PWR	LVDS Panel Voltage Selection
BKL_PWR	LVDS Inverter 1 Voltage Selection
CHASSIS / CHASSIS1	Case Open Function Select

2.4.1 PCIe [x16] Bifurcation (PCIE_SEL1/0)

Note: A11 SKU only.



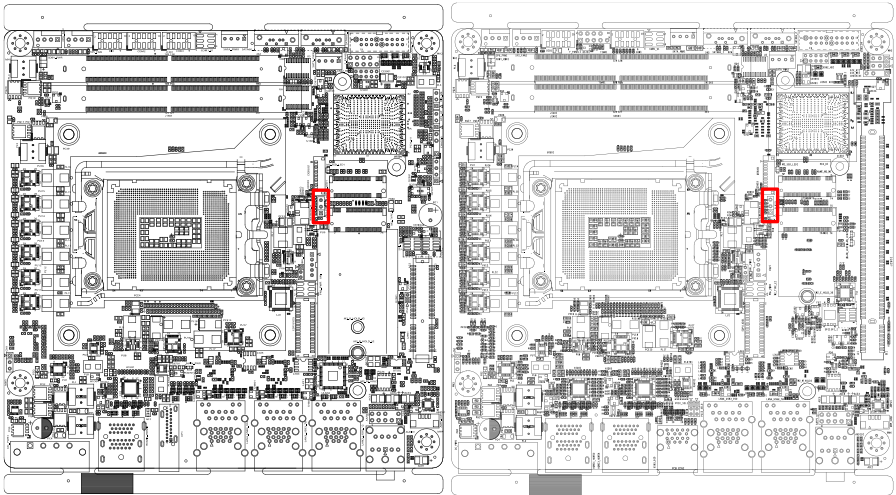
PCIE_SEL1 PCIE_SEL0



2.4.2 Clear CMOS (CLRTC/CLRTC1)

MIX-H810WV1-A10-3L

MIX-H810WV1-A11-X16

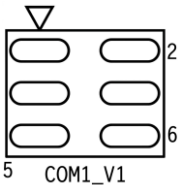
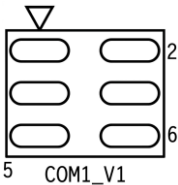
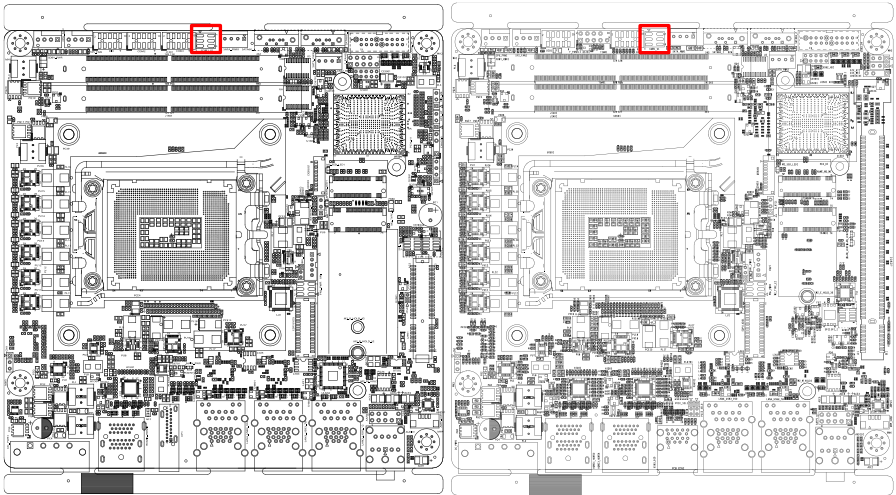


Setting	Pin Configuration
Protected	1-2 (Default)
Clear	2-3

2.4.3 COM1 Ring/+5V/+12V Selection (COM1_V1)

MIX-H810WV1-A10-3L

MIX-H810WV1-A11-X16



Setting	Pin Configuration
+12V	1-2
+5V	3-4
Ring	5-6 (Default)

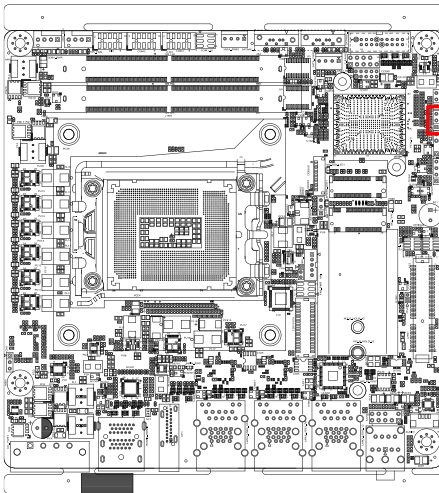
COM Pin Definition:

COM1			
Pin	RS-232	RS-485	RS-422
1	DCD	RS485_D-	RS422_TX-
2	RXD	RS485_D+	RS422_TX+
3	TXD		RS422_RX+
4	DTR		RS422_RX-
5	GND		
6	DSR		

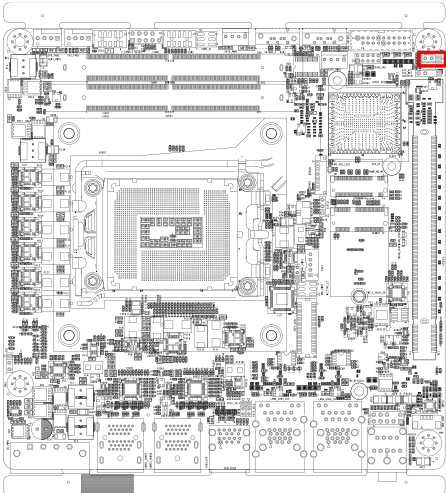
COM1			
Pin	RS-232	RS-485	RS-422
7	RTS		
8	CTS		
9	RI/+12V/+5V		
COM2			
Pin	RS-232		
1	DCD		
2	RXD		
3	TXD		
4	DTR		
5	GND		
6	DSR		
7	RTS		
8	CTS		
9	RI		

2.4.4 AT/ATX Mode Selection (ATX_AT/ATX_AT1)

MIX-H810WV1-A10-3L



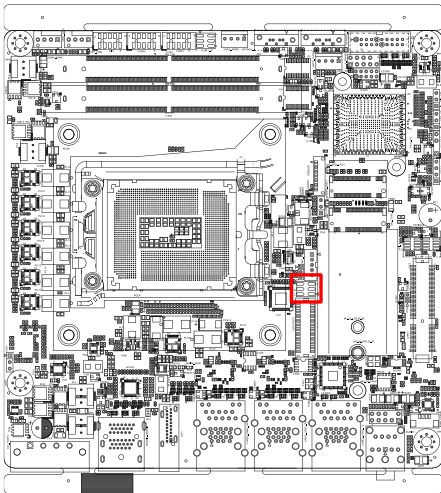
MIX-H810WV1-A11-X16



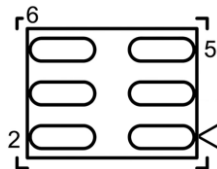
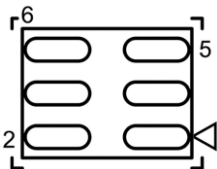
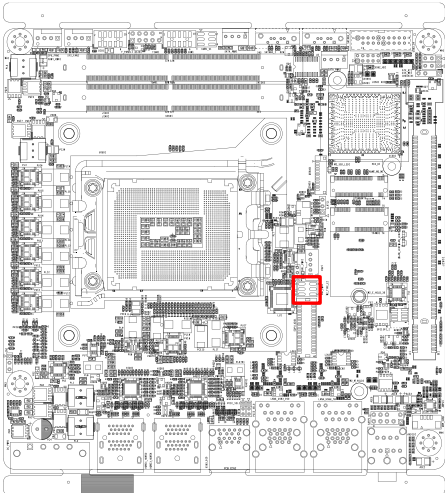
Setting	Pin Configuration
ATX MODE	1-2 (Default)
AT MODE	2-3

2.4.5 LVDS Panel Voltage Selection (PNL_PWR/PNL_PWR1)

MIX-H810WV1-A10-3L



MIX-H810WV1-A11-X16

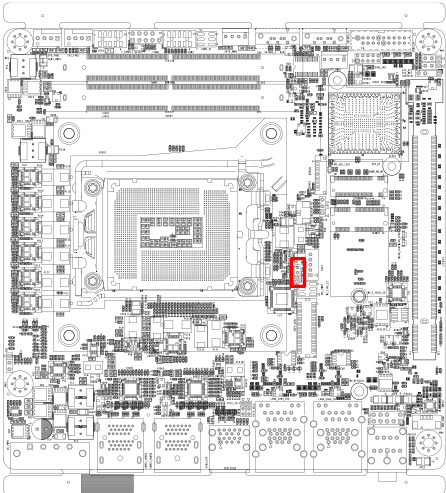
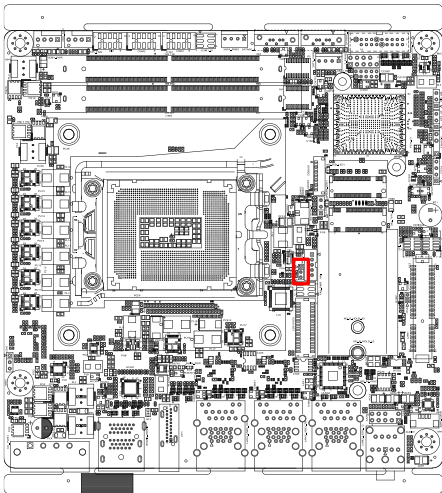


Setting	Pin Configuration
+3V	1-2 (Default)
+12V	3-4
+5V	5-6

2.4.6 LVDS Inverter1 Voltage Selection (BKL_PWR)

MIX-H810WV1-A10-3L

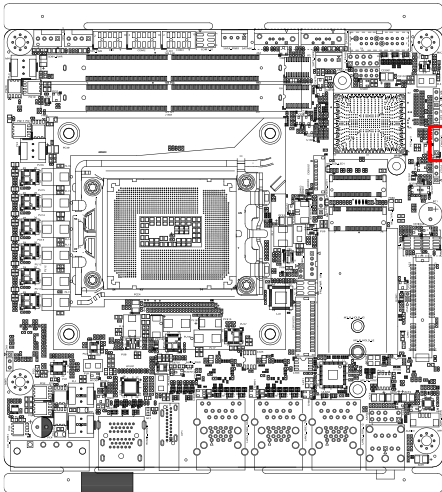
MIX-H810WV1-A11-X16



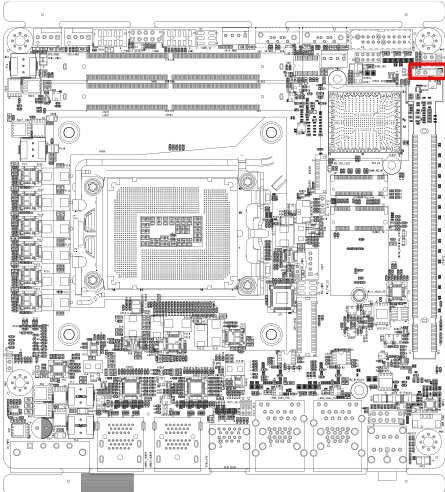
Setting	Pin Configuration
+12V	1-2
+5V	2-3 (Default)

2.4.7 Case Open Function Select (CHASSIS/CHASSIS1)

MIX-H810WV1-A10-3L



MIX-H810WV1-A11-X16

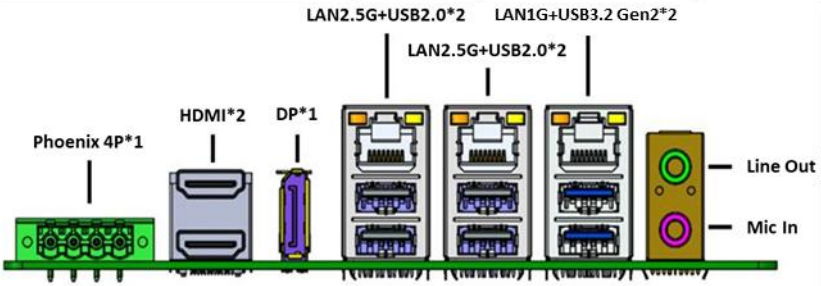


Setting	Pin Configuration
CASE OPEN	3-4 (Default)

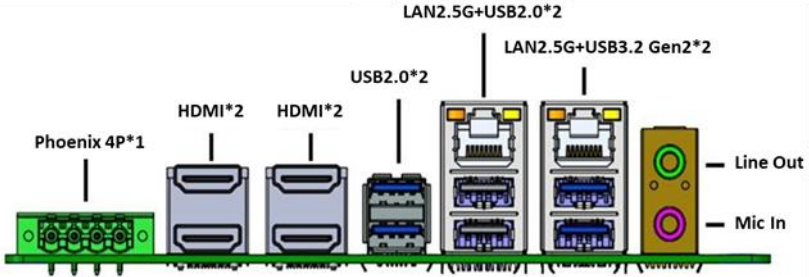
2.5. Ports & Connectors

Please refer to the table below for all of the board's ports and connectors that you can configure for your application.

MIX-H810WV1-A10-3L Rear I/O



MIX-H810WV1-A11-X16 Rear I/O

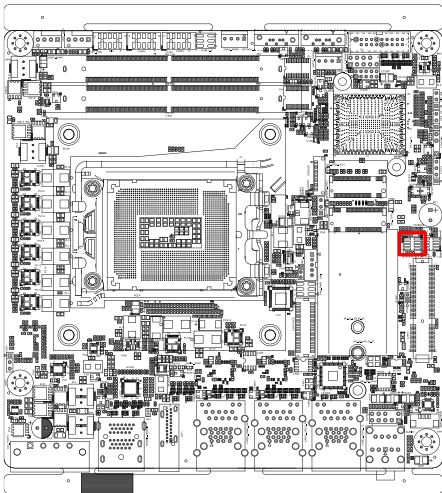


Label	Function
CPU_FAN / CPU_FAN1	4-pin CPU Fan Header
SYS_FAN / SYS_FAN1	4-pin Chassis/System Fan Header
DIO / DIO1	8-bit Programmable DIO Header (4-in/4-out)
COM1	RS-232/422/485 Serial Port Header
COM2	RS-232 Serial Port Header (A10 SKU only)
SATA_PWR1	SATA Power Connector
SATA6G_1	SATA Connector
SATA_PWR2	SATA Power Connector
SATA6G_2	SATA Connector
USB2_HD1	USB 2.0 x 2 (2x5P) (A10 SKU only)
USB3_34	Internal USB 3.2 Gen 1 Header (2x10P)
USB3_78	USB 3.2 Gen 1 Port

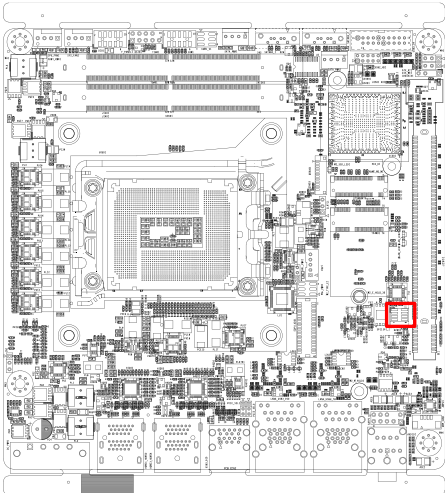
Label	Function
USB3_910	USB 3.2 Gen 1 Port
DEBUG1	eSPI Debug/Programming Header
BATTERY_H / BATTERY_H1	Lithium Battery Connector
NVME_M2_M / NVME_M2_M1	M.2 2280 M-Key Slot
M2_TYPE_B	M.2 3042/3052 B-Key Slot (A10 SKU only)
M2_TYPE_E1	M.2 2230 E-Key Slot (A11 SKU only)
SPI_1	SPI Flash Programmable Header
INV / INV1	LVDS/eDP Inverter and Backlight Control Connector
eDP/LVDS / EDP/LVDS1	40-pin eDP/LVDS Panel Signal Connector
F_PANEL1	Front Panel Connector
F_PANBL1	Flat Panel Backlight/Brightness Control Header
AMP_CON / AMP_CON1	Speaker Amplifier Output Connector
AAFP / AAFP1	HD Audio Front Panel Header (AAFP)
AUDIO / AUDIO1	Audio I/O (Line-out + Mic-in)
LAN2	GbE RJ-45 LAN Port (A10 SKU only)
LAN3 / LAN3_	2.5GbE RJ-45 LAN Port
LAN4 / LAN4_	2.5GbE RJ-45 LAN Port
USB3_12	USB 3.2 Gen 1 Dual-Port (A10 SKU only)
DP1	Display Port 1.2 Output (A10 SKU only)
HDMI1	HDMI 2.0 Output
HDMI2	HDMI 2.0 Output
HDMI3	HDMI 2.0 Output (A11 SKU only)
HDMI4	HDMI 2.0 Output (A11 SKU only)
DC_PWR1	19V–24V DC-In 4-pin Power Connector
DIMM_A1 / J1301	DDR5 SODIMM/CSODIMM Socket
DIMM_B1 / J1401	DDR5 SODIMM/CSODIMM Socket
J2901 (PCIex4 slot)	PCIe Gen 5 [x4] Slot (A10 SKU only)
J2901 (PCIEX16)	PCIe Gen 5 [x16] Slot (A11 SKU only)

2.5.1 SPI Flash Programmable Header (SPI_1)

MIX-H810WV1-A10-3L



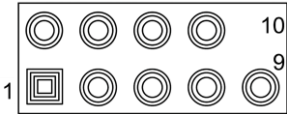
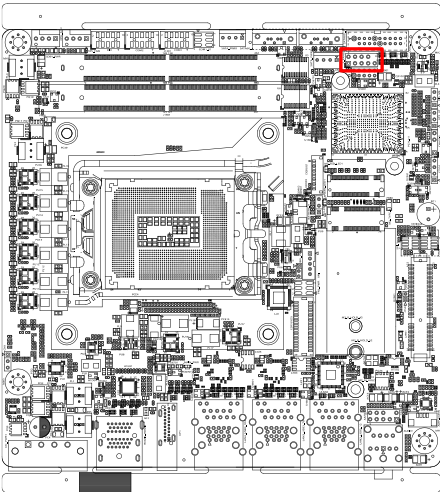
MIX-H810WV1-A11-X16



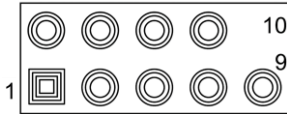
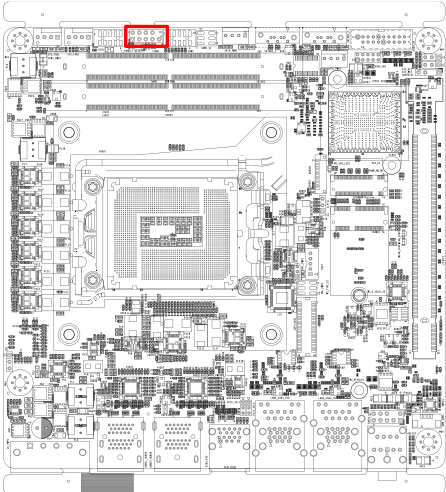
Pin	Signal	Pin	Signal
1	+3V_SPI	2	GND
3	S_SPI_CS0#Q	4	S_SPI_CLK_1Q
5	S_SPI_MISO_1Q	6	S_SPI_MOSI_1Q
7	(NC)	8	(NC)

2.5.2 Front Panel Connector (F_PANEL1)

MIX-H810WV1-A10-3L



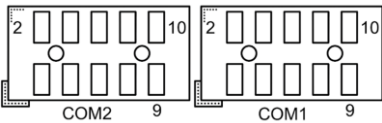
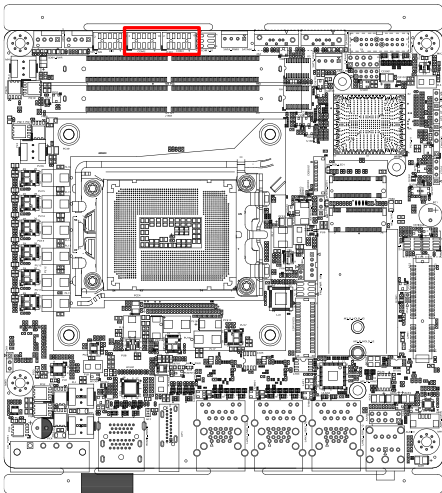
MIX-H810WV1-A11-X16



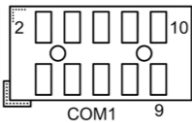
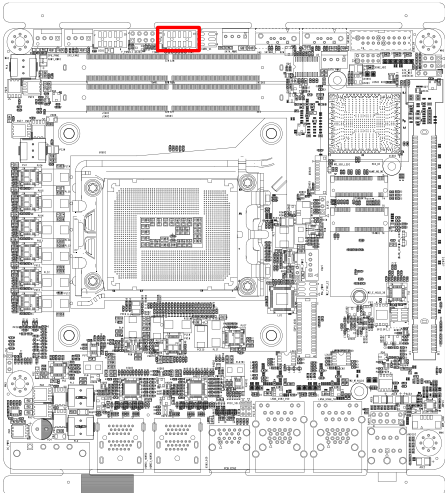
Pin	Signal	Pin	Signal
1	HDLED+	2	PLED+
3	HDLED_D-	4	PLED-
5	GND	6	F_PWRBTN#
7	RSTCON#_PANEL	8	GND
9	(NC)	10	kill pin

2.5.3 Serial Port Connector (COM1/COM2)

MIX-H810WV1-A10-3L



MIX-H810WV1-A11-X16



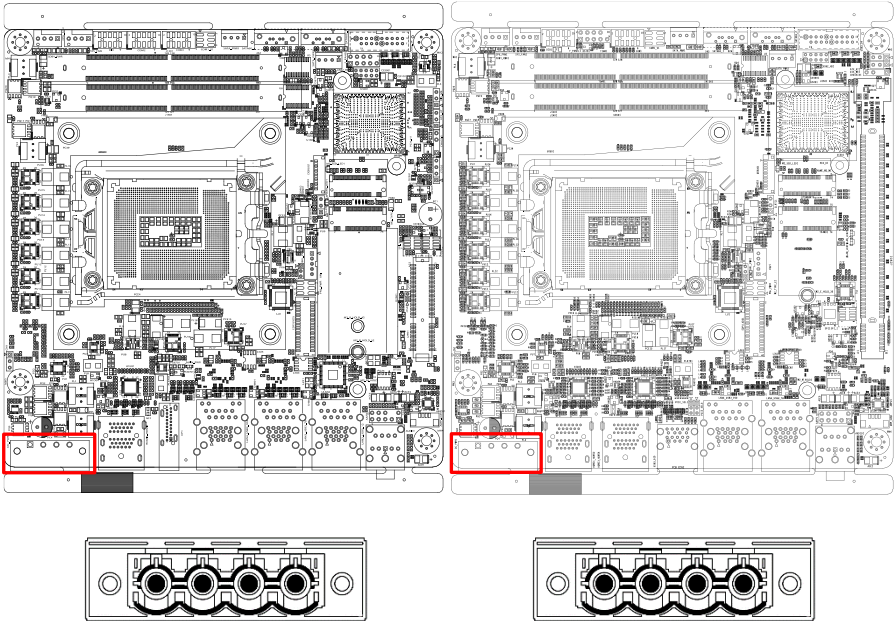
Note: COM2 is only available on A10 SKU.

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	COM1: RI/+12V/+5V COM2: RI	10	(NC)

2.5.4 19V–24V DC-In 4-pin Power Connector (DC_PWR1)

MIX-H810WV1-A10-3L

MIX-H810WV1-A11-X16

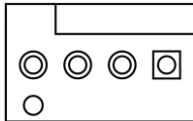
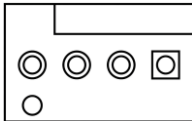
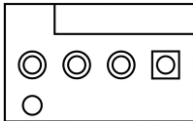
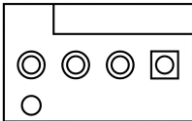
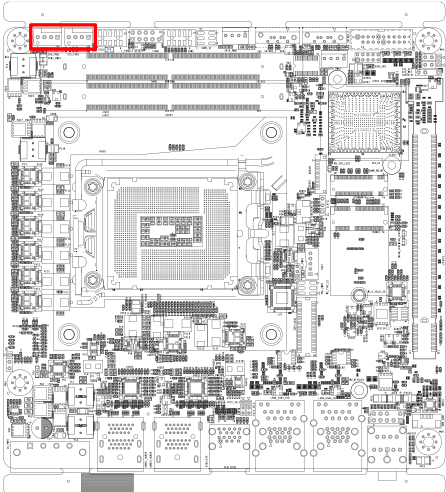
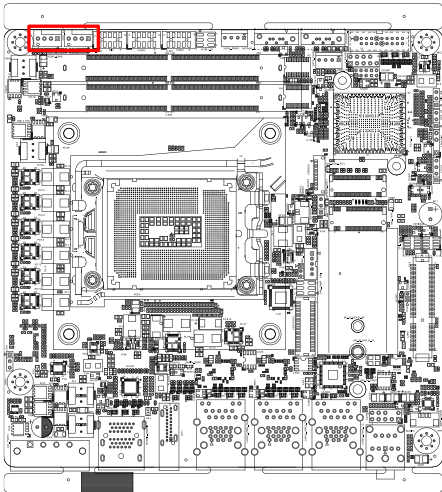


Pin	Signal
1	+DC_IN
2	+DC_IN
3	GND
4	GND

2.5.5 CPU/Chassis/System Fan Header (CPU_FAN/SYS_FAN)

MIX-H810WV1-A10-3L

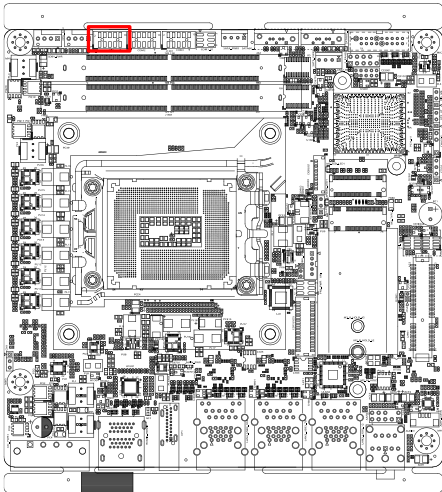
MIX-H810WV1-A11-X16



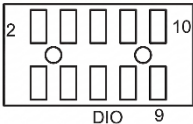
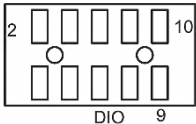
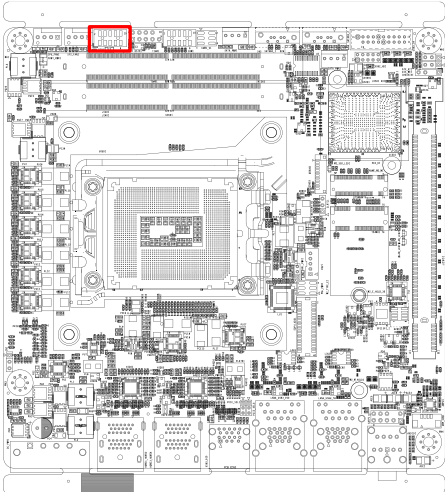
Pin	Signal
1	GND
2	+12V
3	FAN_IN
4	FAN_PWM

2.5.6 8-bit Programmable DIO Header (4-in/4-out) (DIO/DIO1)

MIX-H810WV1-A10-3L



MIX-H810WV1-A11-X16

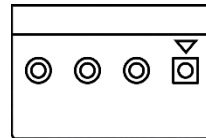
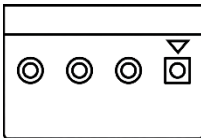
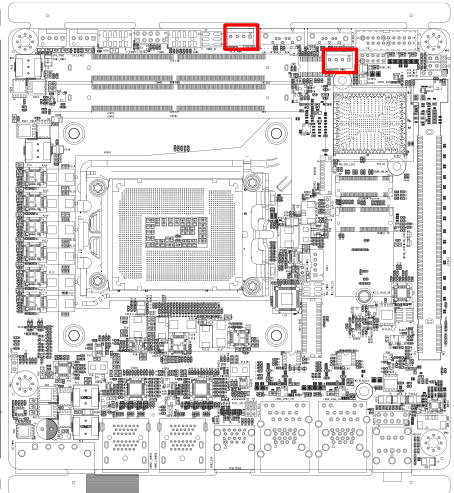
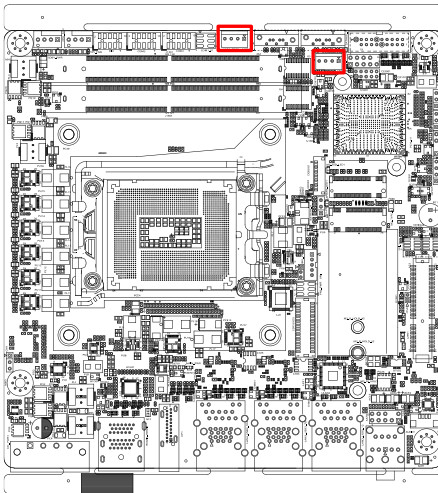


Pin	Signal	Pin	Signal
1	DIO_I#1	2	DIO_I#2
3	DIO_I#3	4	DIO_I#4
5	DIO_O#1	6	DIO_O#2
7	DIO_O#3	8	DIO_O#4
9	+5V_DIO	10	GND

2.5.7 SATA Power Connector (SATA_PWR1/SATA_PWR2)

MIX-H810WV1-A10-3L

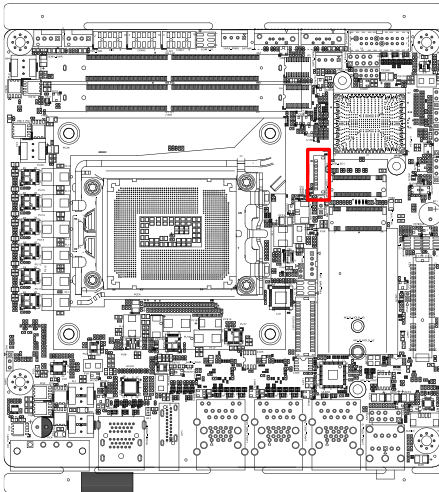
MIX-H810WV1-A11-X16



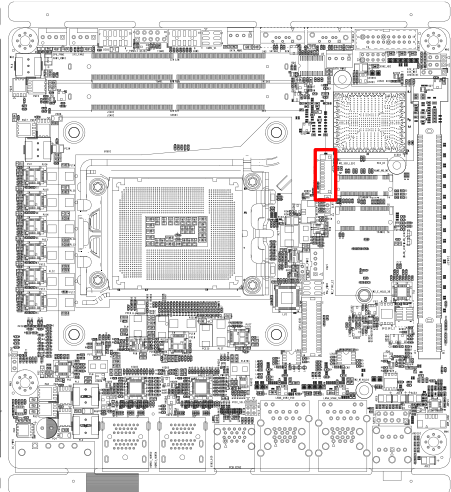
Pin	Signal
1	+12V
2	GND
3	GND
4	+5V

2.5.8 Debug Port Connector (DEBUG1)

MIX-H810WV1-A10-3L



MIX-H810WV1-A11-X16



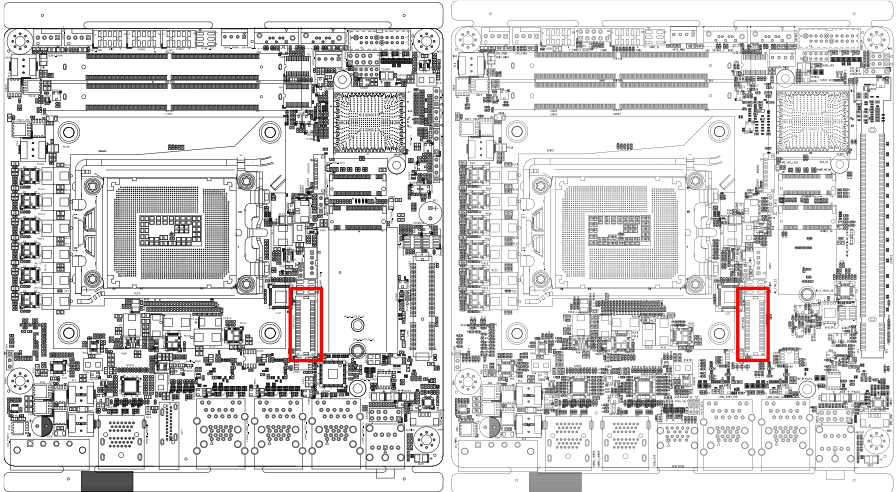
Pin	Signal
1	ESPI_IO0_DB
2	ESPI_IO1_DB
3	ESPI_IO2_DB
4	ESPI_IO3_DB
5	+3V
6	ESPI_CS0#_DB
7	ESPI_RESET#_DB
8	GND
9	ESPI_CLK_DB
10	+3VSUS
11	GND

Pin	Signal
12	(NC)

2.5.9 40-pin eDP/LVDS Connector (eDP/LVDS / eDP/LVDS1)

MIX-H810WV1-A10-3L

MIX-H810WV1-A11-X16

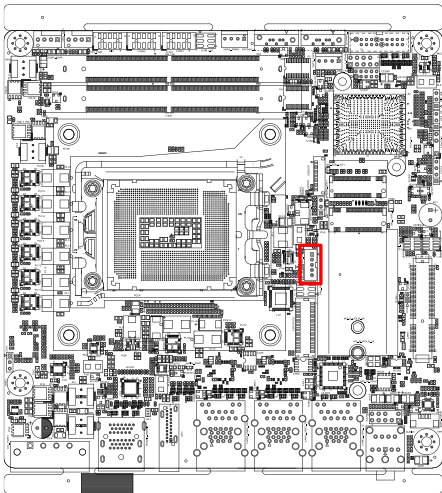


Pin	Signal	Pin	Signal
1	+V_PANEL	2	+V_PANEL
3	ENABKL	4	PWM_OUT
5	+BLVCC	6	GND
7	+BLVCC	8	+BLVCC
9	GND	10	GND
11	LVDS0_D0-	12	LVDS1_D0-

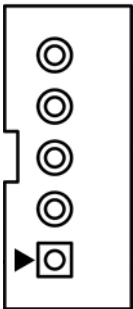
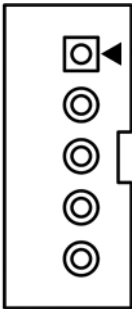
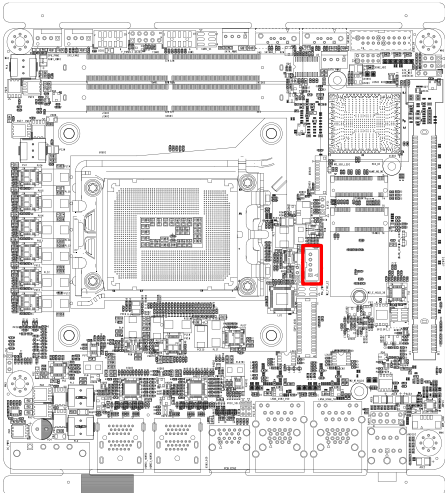
Pin	Signal	Pin	Signal
13	LVDS0_D0+ (eDP_HPD)	14	LVDS1_D0+
15	GND	16	GND
17	LVDS0_D1- (eDP_TX1N)	18	LVDS1_D1-
19	LVDS0_D1+ (eDP_TX1P)	20	LVDS1_D1+
21	GND	22	GND
23	LVDS0_D2- (eDP_TX0N)	24	LVDS1_D2-
25	LVDS0_D2+ (eDP_TX0P)	26	LVDS1_D2+
27	GND	28	GND
29	LVDS0_CLK- (eDP_AUXN)	30	LVDS1_CLK-
31	LVDS0_CLK+ (eDP_AUXP)	32	LVDS1_CLK+
33	GND	34	GND
35	LVDS0_D3-	36	LVDS1_D3-
37	LVDS0_D3+	38	LVDS1_D3+
39	SPC1	40	SPD1

2.5.10 Inverter Connector (INV/INV1)

MIX-H810WV1-A10-3L



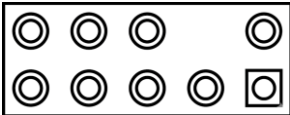
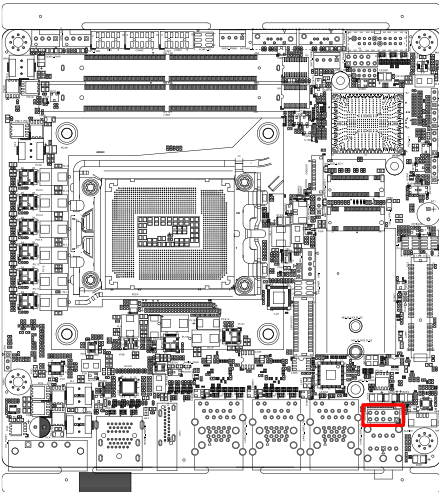
MIX-H810WV1-A11-X16



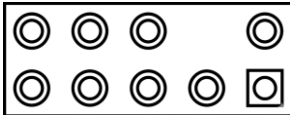
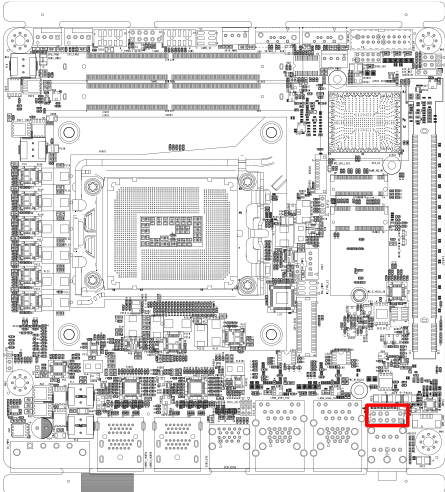
Pin	Signal
1	+BLVCC
2	PWM_OUT
3	GND
4	GND
5	ENABKL

2.5.11 Front Panel Audio Header (AAFP/AAFP1)

MIX-H810WV1-A10-3L



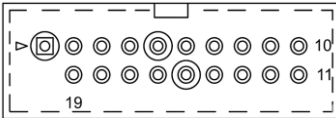
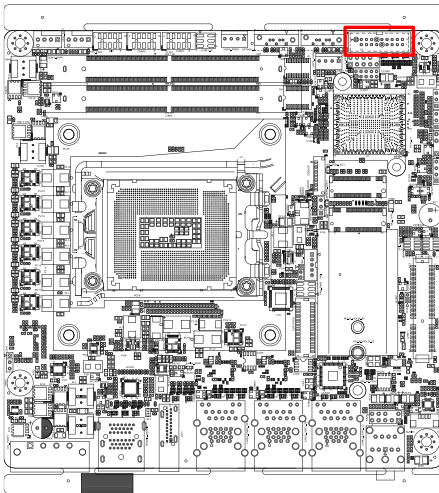
MIX-H810WV1-A11-X16



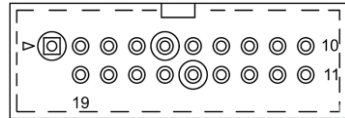
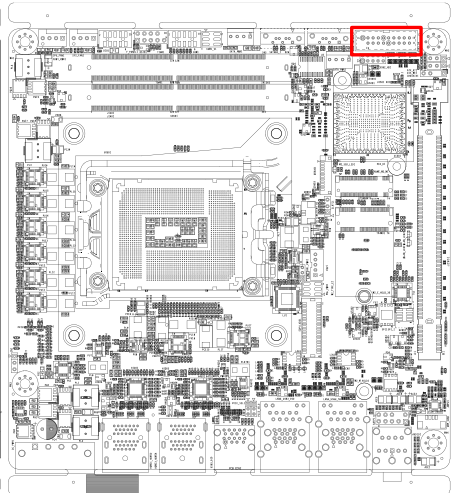
Pin	Signal	Pin	Signal
1	A_LINE2_L	2	LINE2-JD
3	A_JD_FRONT	4	(NC)
5	A_LINE2_R	6	MIC2-JD
7	A_MIC2_R	8	(NC)
9	A_MIC2_L	10	AGND

2.5.12 Internal USB 3.2 Gen 1 Header (2x10P) (USB3_34)

MIX-H810WV1-A10-3L

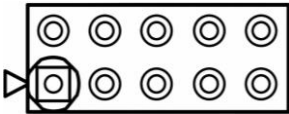
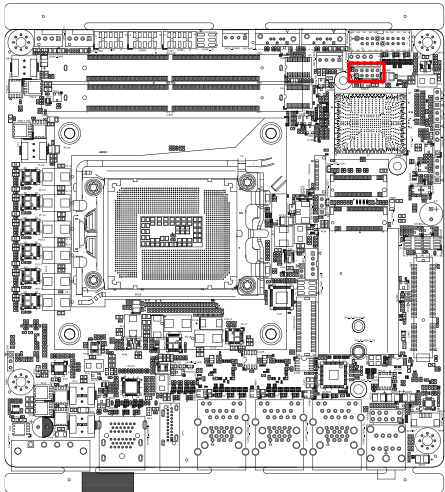


MIX-H810WV1-A11-X16



Pin	Signal	Pin	Signal
1	+5V_USB3_P34	11	S_USB_PP4
2	S_U3RXDN3	12	S_USB_PN4
3	S_U3RXDP3	13	GND
4	GND	14	S_U3TXDP4
5	S_U3TXDN3	15	S_U3TXDN4
6	S_U3TXDP3	16	GND
7	GND	17	S_U3RXDP4
8	S_USB_PN3	18	S_U3RXDN4
9	S_USB_PP3	19	+5V_USB3_P34
10	GND	20	(NC)

2.5.13 USB 2.0 Header (2x5P) (USB2_HD1)

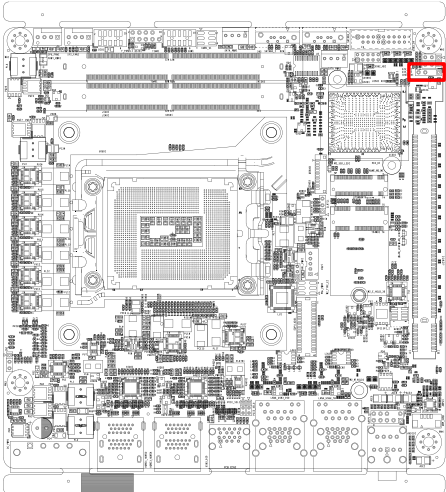
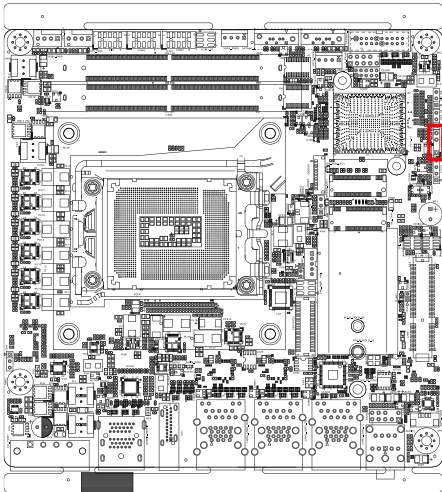


Pin	Signal	Pin	Signal
1	+5V_USB2_P1112	2	GND
3	S_USB_PN11	4	GND
5	S_USB_PP11	6	S_USB_PP12
7	GND	8	S_USB_PN12
9	GND	10	+5V_USB2_P1112

2.5.14 Case Open Connector (CHASSIS/CHASSIS1)

MIX-H810WV1-A10-3L

MIX-H810WV1-A11-X16

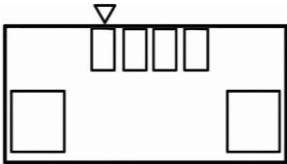
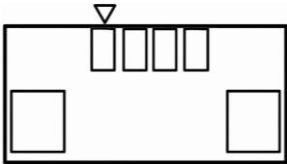
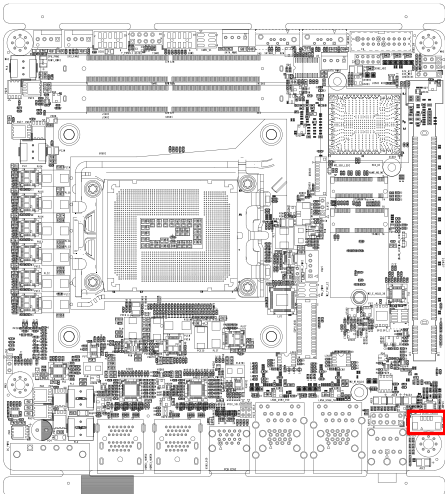
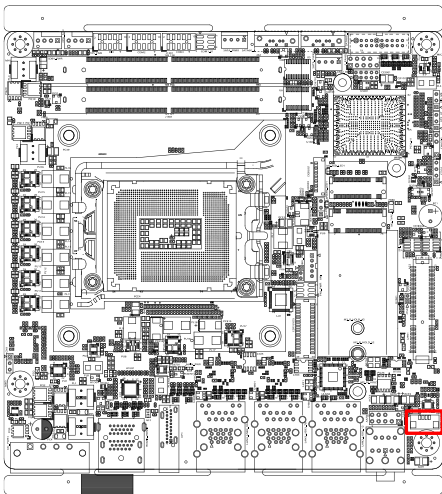


Pin	Signal
1	+5VSUS
2	(NC)
3	O_INTRUDER#
4	GND

2.5.15 Speaker Amplifier Output Connector (AMP_CON/AMP_CON1)

MIX-H810WV1-A10-3L

MIX-H810WV1-A11-X16



Pin	Signal
1	LOUTP
2	LOUTN
3	ROUTN
4	ROUTP

Chapter 3

BIOS Setup

3.1 BIOS Setup Program

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

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

Press **** during the Power-On Self Test (POST). If you do not press ****, POST continues with its routine.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press **<Ctrl> + <Alt> + ** simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.



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



IMPORTANT:

- The default BIOS settings for this motherboard apply to most working conditions and ensures optimal performance. If the system becomes unstable after changing any BIOS settings, load the default settings to regain system stability. Select the option **Restore Defaults** under the Save & Exit Menu. See section **3.7 Save & Exit**.
 - The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
-

3.2 BIOS Menu Screen

The menu bar on top of the screen has the following main items:

Main - For changing the basic system configuration.

Advanced - For changing the advanced system settings.

Chipset - For viewing and changing chipset settings.

Security - For setting up BIOS security settings.

Boot - For changing the system boot configuration.

Save & Exit - For selecting the exit options and loading default settings.

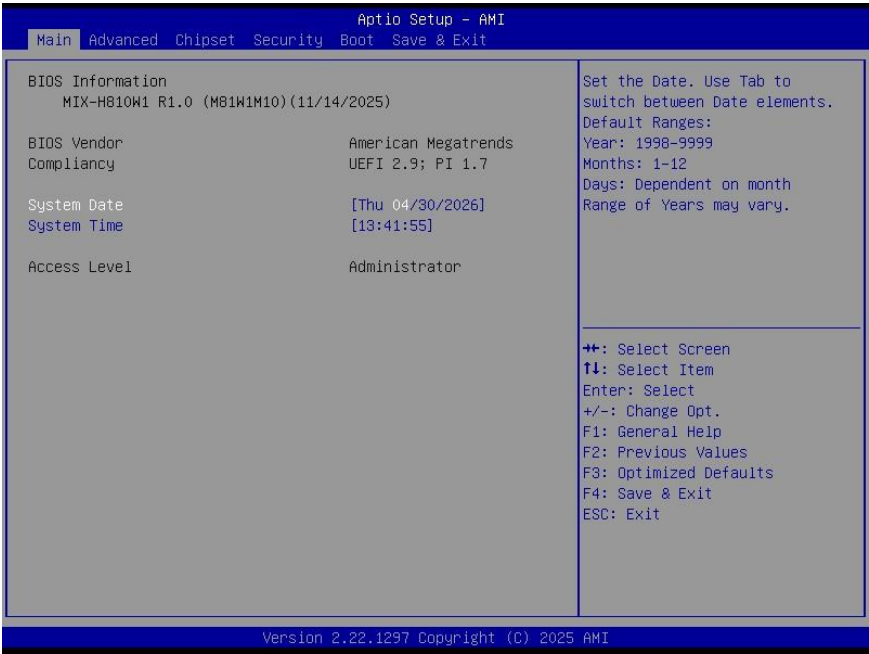
To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

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

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

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

3.3 Setup Submenu: Main Menu



3.4 Setup Submenu: Advanced

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



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

3.4.1 CPU Configuration



Options Summary	
Intel (VMX) Virtualization Technology	Enabled
	Disabled
Allows a hardware platform to run multiple operating systems separately and simultaneously, enabling one system to virtually function as several systems.	
Turbo Mode	Enabled
	Disabled

Options Summary

This item allows you to automatically set the CPU cores to run faster than the base operating frequency when it is below the operating power, current and temperature specification limit.

Note: Turbo Mode is only available on selected CPU models.



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

Performance-core Information

Advanced

Aptio Setup - AMI

Performance-core

L1 Data Cache	384 KB
L1 Instruction Cache	512 KB
L2 Cache	24576 KB
L3 Cache	30 MB

++: Select Screen

T1: Select Item

Enter: Select

+/-: Change Opt.

F1: General Help

F2: Previous Values

F3: Optimized Defaults

F4: Save & Exit

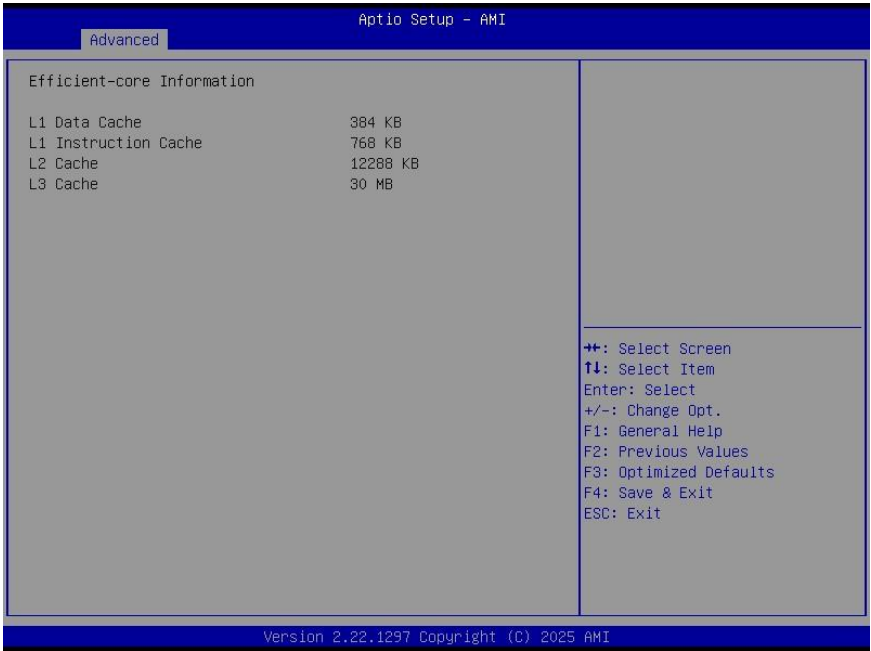
ESC: Exit

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Press [Enter] to make settings for the following sub-items:

L1 Date Cache/L1 Instruction Cache/L2 Cache/L3 Cache

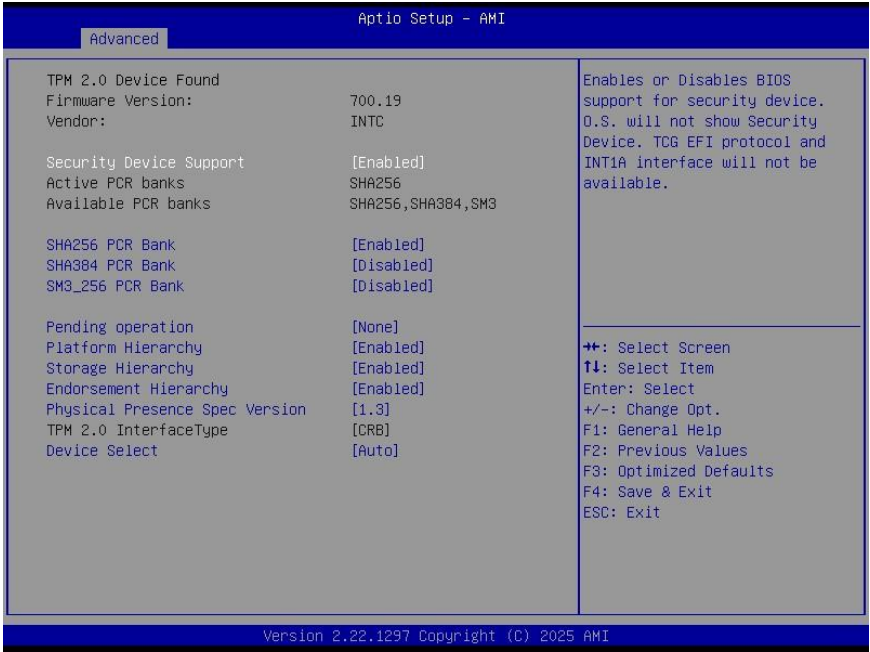
Efficient-core Information



Press [Enter] to make settings for the following sub-items:

L1 Date Cache/L1 Instruction Cache/L2 Cache/L3 Cache

3.4.2 Trusted Computing



Options Summary	
Security Device Support	Enabled
	Disable
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.	
SHA256 PCR Bank	Enabled
	Disabled
Use this item to enable or disable SHA256 PCR Bank.	
SHA384 PCR Bank	Disabled
	Enabled
Use this item to enable or disable SHA384 PCR Bank.	
SM3_256 PCR Bank	Disabled
	Enabled
Use this item to enable or disable SM3_256 PCR Bank.	
Pending operation	None
	TPM Clear

Options Summary	
Allows you to schedule an operation for the Security Device.	
NOTE: Your Computer will reboot during restart in order to change State of Security Device.	
Platform Hierarchy	Enabled
	Disabled
Enables or disables the Platform Hierarchy in the TPM.	
Storage Hierarchy	Enabled
	Disabled
Allows you to enable or disable Storage Hierarchy	
Endorsement Hierarchy	Enabled
	Disabled
Allows you to enable or disable Endorsement Hierarchy	
Physical Presence Spec Version	1.3
	1.2
Select to tell operating system to support PPI Spec Version 1.2 or 1.3. Some HCK tests might not support 1.3.	
Device Select	Auto
	TPM1.2
	TPM2.0
Allows you to select the TPM device.	

3.4.3 SATA Configuration

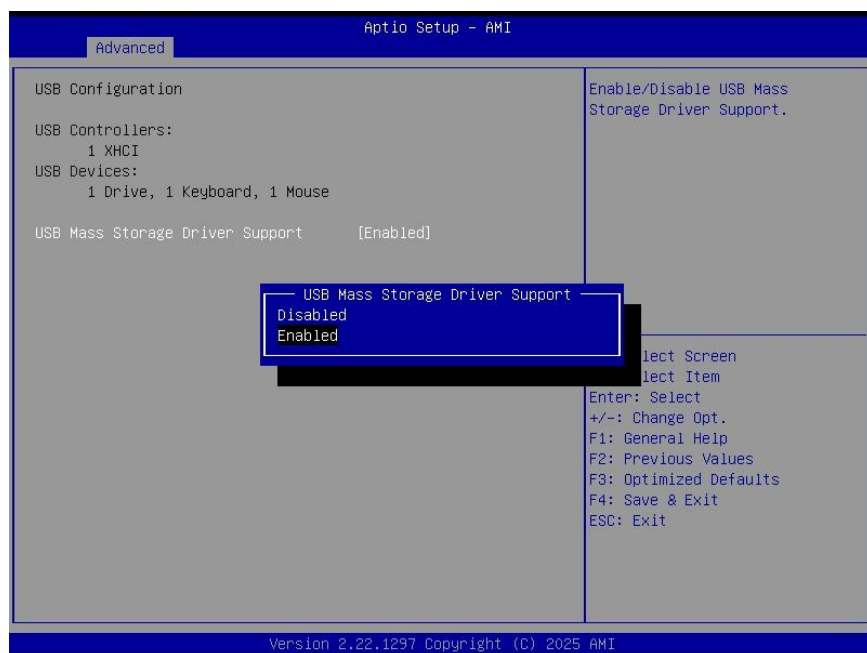


The BIOS automatically detects the presence of SATA devices. The SATA Ports listed will display Empty if there are no Serial devices connected to the ports.

Options Summary	
SATA Controller(s)	Enabled
	Disabled
Enables or disables the SATA controller. Disabling this option will turn off all SATA ports.	
SATA6G_1 (Port 1)	Enabled
	Disabled
Allows you to enable or disable SATA Port 1.	
SATA6G_1 Hot Plug	Enabled
	Disabled
Designates this port as Hot Pluggable.	
SATA6G_2 (Port 2)	Enabled
	Disabled
Allows you to enable or disable SATA Port.	

Options Summary	
SATA6G_2 Hot Plug	Enabled
	Disabled
Designates this port as Hot Pluggable.	
USB Mass Storage Driver Support	Enabled
	Disabled
Enable/Disable USB Mass Storage Driver Support.	

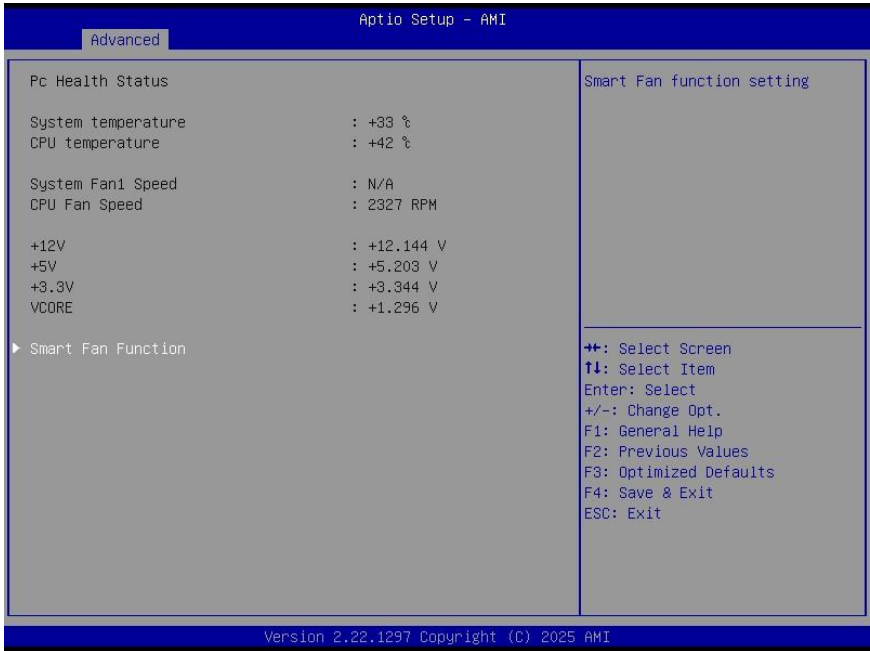
3.4.4 USB Configuration



The USB Devices item lists auto-detected values. If no USB device is detected, the item shows **None**.

Options Summary	
USB Configuration	Disabled
	Enabled
Enable/Disable USB Mass Storage Driver Support.	

3.4.5 Hardware Monitor



3.4.5.1 Hardware Monitor: Smart Fan

The items in this menu allow you to configure the smart fan.



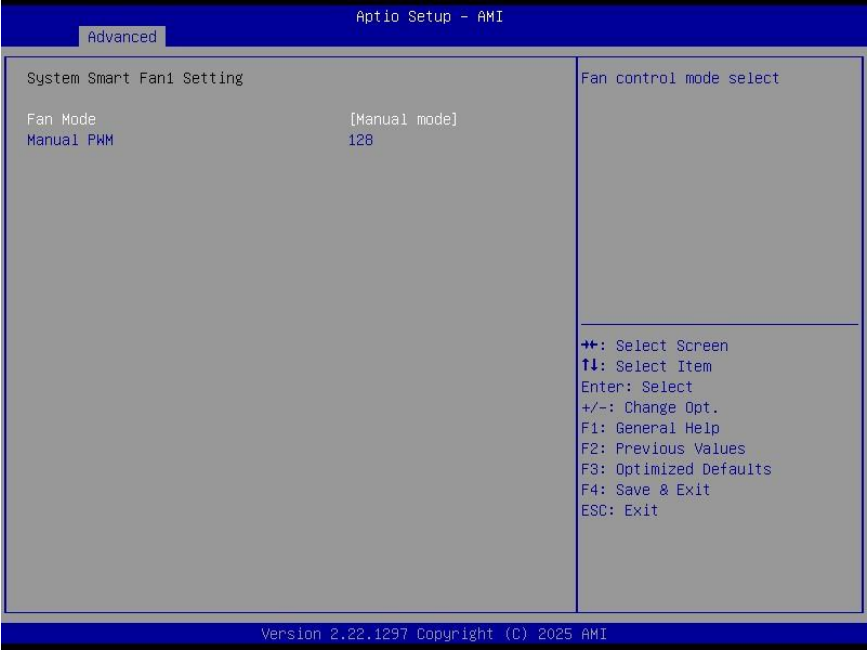
3.4.5.2 H/W Monitor: System Smart Fan



Options Summary	
System Smart Fan Setting	Manual mode
	Thermal Cruise
	Speed Cruise
	SMART FAN IV
Select the fan control mode.	
Temperature 1	25°C FD/RPM 1 140 RPM
Temperature 2	35°C FD/RPM 2 170 RPM
Temperature 3	45°C FD/RPM 3 200 RPM
Temperature 4	55°C FD/RPM 4 230 RPM
Auto fan speed control.	
Fan speed will follow different temperatures according to the corresponding FD/RPM values.	
Critical Temperature	60°C
Input value range: [0~255]	
Critical Tolerance	0°C
Defines tolerance for critical temperature detection.	

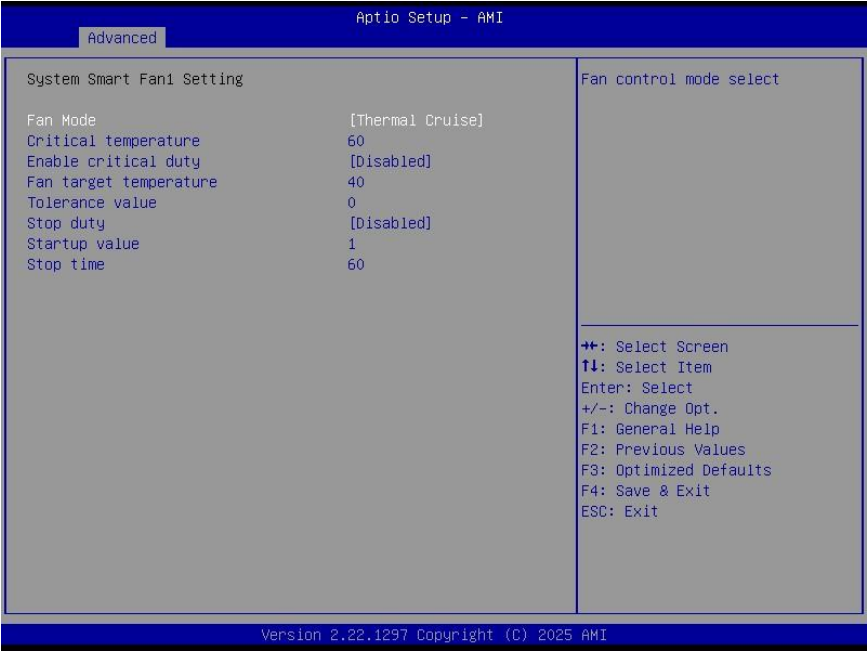
Options Summary	
Enable Critical Duty	Disabled
	Enabled
Enable critical duty, if enabled this will use critical duty value for fan out. If not will use full speed for fan out.	
Tolerance Value	0
Fan speed tolerance.	
RPM Mode	Disabled
	Enabled
Enable/Disable SMART FAN IV Close Loop Fan Control RPM Mode.	

NOTE: The following item appears only when you set System Smart Fan Control to [Manual Mode].



Options Summary	
Manual PWM	128
Allows you to set the Manual PWM value.	
NOTE: The fan will work with this Manual PWM Value (0~255 for 10% ~100%).	

NOTE: The following item appears only when you set System Smart Fan Control to [Thermal Cruise Mode].



Options Summary	
Critical temperature	60
Input value range: [0~255]	
Enable critical duty	Disabled
	Enabled
Enable/disable critical duty, if enabled this will use critical duty value for fan out. If not will use full speed for fan out.	
Fan target temperature	40
Input value range: [0~127]	
Tolerance value	0
Input value range: [0~127]	
Stop duty	Disabled
	Enabled
Enable/disable Stop duty.	
Startup value	1
Input value range: [0~127]	

Options Summary	
Stop time	60
Input value range: [0~127]	

NOTE: The following item appears only when you set System Smart Fan Control to [Speed Cruise].



Options Summary	
Fan step up value	1
Input value range: [0~15]	
Fan step down value	1
Input value range: [0~15]	
Target speed count	2000
Input value range: [0~4095]	
Tolerance value	0
Input value range: [0~63]	

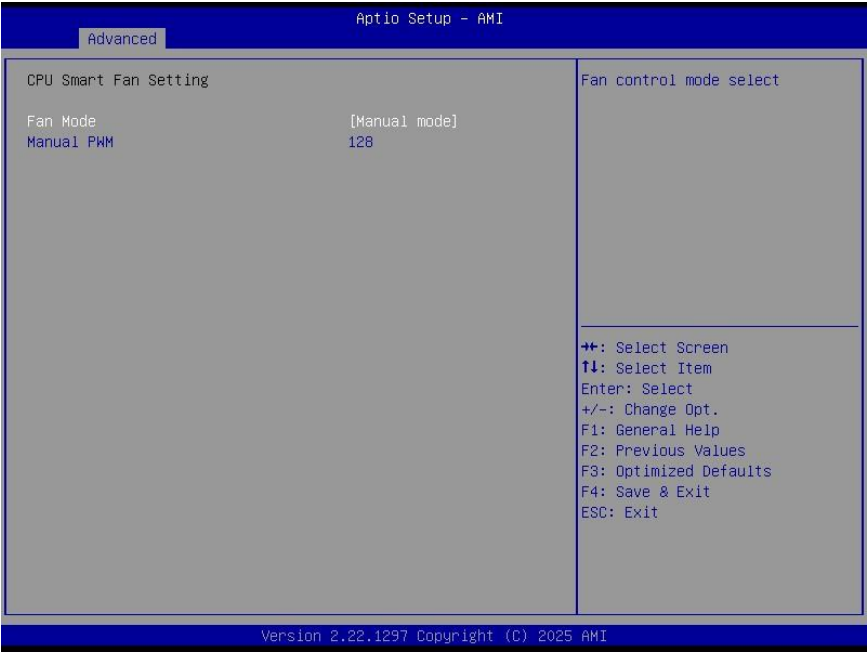
3.4.5.3 H/W Monitor: CPU Smart Fan



Options Summary	
CPU Smart Fan Setting	Manual mode
	Thermal Cruise
	Speed Cruise
	SMART FAN IV
Select the fan control mode.	
Temperature 1	25°C FD/RPM 1 140 RPM
Temperature 2	35°C FD/RPM 2 170 RPM
Temperature 3	45°C FD/RPM 3 200 RPM
Temperature 4	55°C FD/RPM 4 230 RPM
Auto fan speed control. Fan speed will follow different temperatures according to the corresponding FD/RPM values.	
Critical Temperature	60°C
Input value range: [0~255]	
Critical Tolerance	0°C
Defines tolerance for critical temperature detection.	
Enable Critical Duty	Disabled
	Enabled

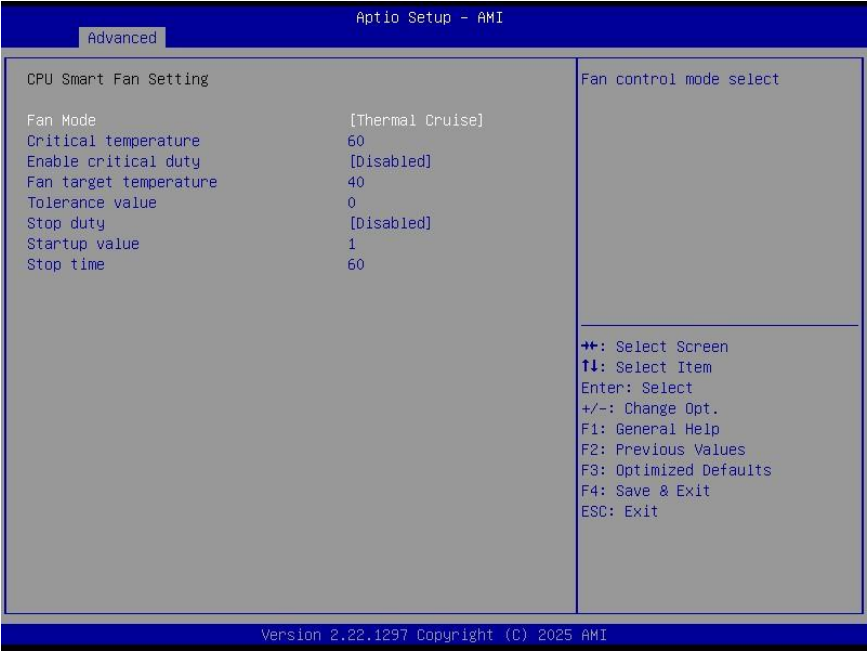
Options Summary	
Enable critical duty, if enabled this will use critical duty value for fan out. If not will use full speed for fan out.	
Tolerance Value	0
Fan speed tolerance.	
RPM Mode	Disabled
	Enabled
Enable/Disable SMART FAN IV Close Loop Fan Control RPM Mode.	

NOTE: The following item appears only when you set CPU Smart Fan Control to [Manual Mode].



Options Summary	
Manual PWM	128
Allows you to set the Manual PWM value.	
NOTE: The fan will work with this Manual PWM Value (0~255 for 10% ~100%).	

NOTE: The following item appears only when you set System Smart Fan Control to [Thermal Cruise Mode].



Options Summary	
Critical temperature	60
Input value range: [0~255]	
Enable critical duty	Disabled
	Enabled
Enable/disable critical duty, if enabled this will use critical duty value for fan out. If not will use full speed for fan out.	
Fan target temperature	40
Input value range: [0~127]	
Tolerance value	0
Input value range: [0~127]	
Stop duty	Disabled
	Enabled
Enable/disable Stop duty.	
Startup value	1
Input value range: [0~127]	

Options Summary

Stop time	60
-----------	----

Input value range: [0~127]

NOTE: The following item appears only when you set System Smart Fan Control to [Speed Cruise].

Advanced		Aptio Setup - AMI	
CPU Smart Fan Setting		Fan control mode select	
Fan Mode	[Speed Cruise]		
Fan step up value	1		
Fan step down value	1		
Target speed count	2000		
Tolerance value	0		
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
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Options Summary

Fan step up value	1
-------------------	---

Input value range: [0~15]

Fan step down value	1
---------------------	---

Input value range: [0~15]

Target speed count	2000
--------------------	------

Input value range: [0~4095]

Tolerance value	0
-----------------	---

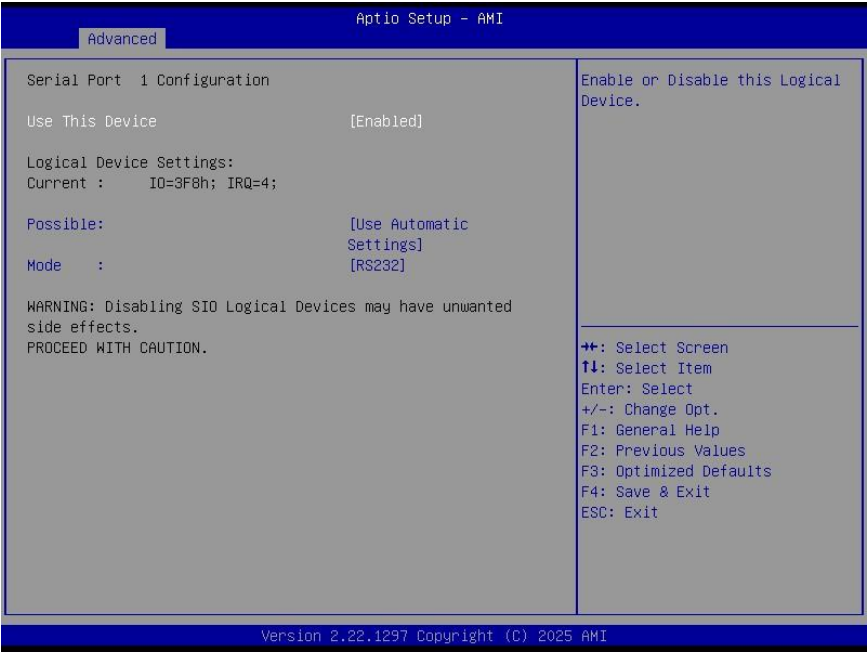
Input value range: [0~63]

3.4.8 SIO Configuration



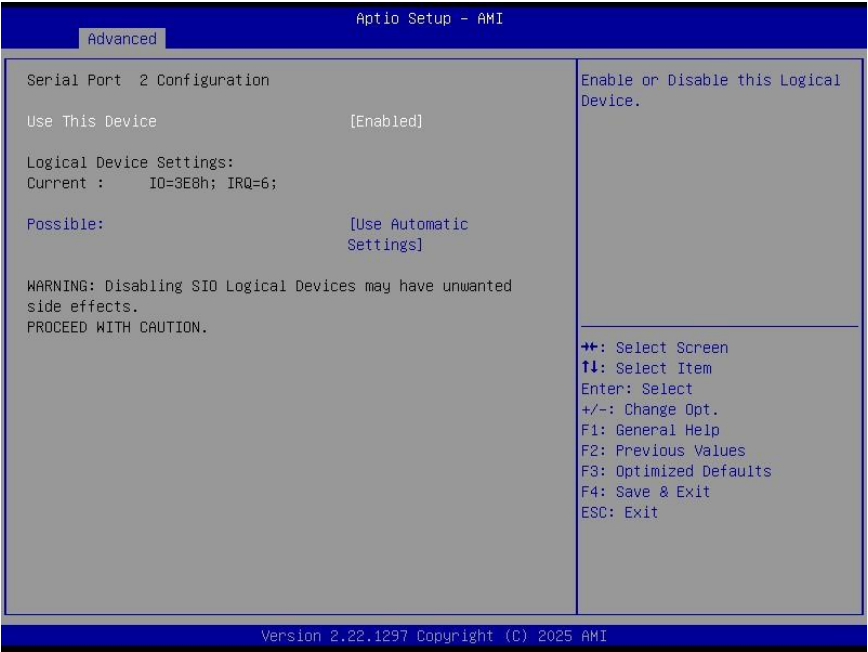
The items in this menu allow you to configure Super IO settings.

3.4.8.1 Serial Port 1 Configuration



Options Summary	
Use This Device	Enabled
	Disabled
Use this item to enable or disable serial port (COM).	
Change Settings	Use Automatic Settings
	IO=3F8h; IRQ=4;
	IO=2F8h; IRQ=3;
Allows the user to change the device resource settings. New settings will be reflected on this setup page after system restarts.	
Transmission Mode Select	RS232
	RS422
	RS485 Driver Half Duplex
	RS485 Receiver Half Duplex

3.4.8.2 Serial Port 2 Configuration



Options Summary	
Use This Device	Enabled
	Disabled
Use this item to enable or disable serial port (COM).	
Change Settings	Use Automatic Settings
	IO=3E8h; IRQ=6;
	IO=2E8h; IRQ=10;
Allows the user to change the device resource settings. New settings will be reflected on this setup page after system restarts.	

3.4.9 PCH-FW Configuration



Options Summary	
TPM Device Selection	PTT
	dTPM
PTT: Enables Intel® Platform Trust Technology (PTT) in SKuMgr.	
dTPM: Disables PTT and uses a discrete TPM 1.2 device.	
Warning: Switching between PTT and dTPM will disable the currently active TPM and all data stored in the TPM will be lost.	

3.4.9.1 Firmware Update Configuration



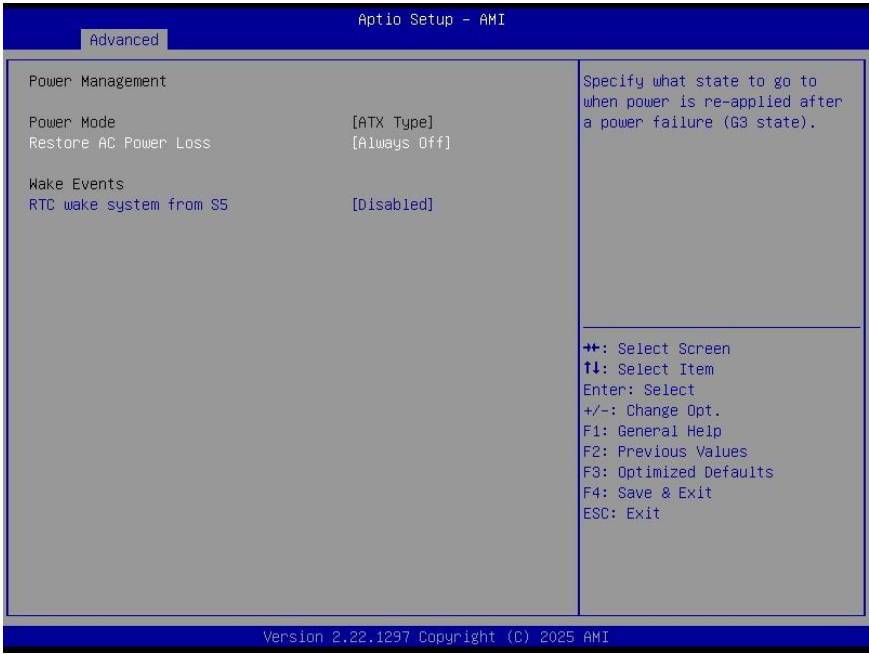
Options Summary	
Me FW Image Re-Flash	Enabled
	Disabled
Enable/Disable Me FW Image Re-Flash function.	
FW Update	Disabled
	Enabled
Enable/Disable ME FW Update function.	

3.4.10 NVMe Configuration



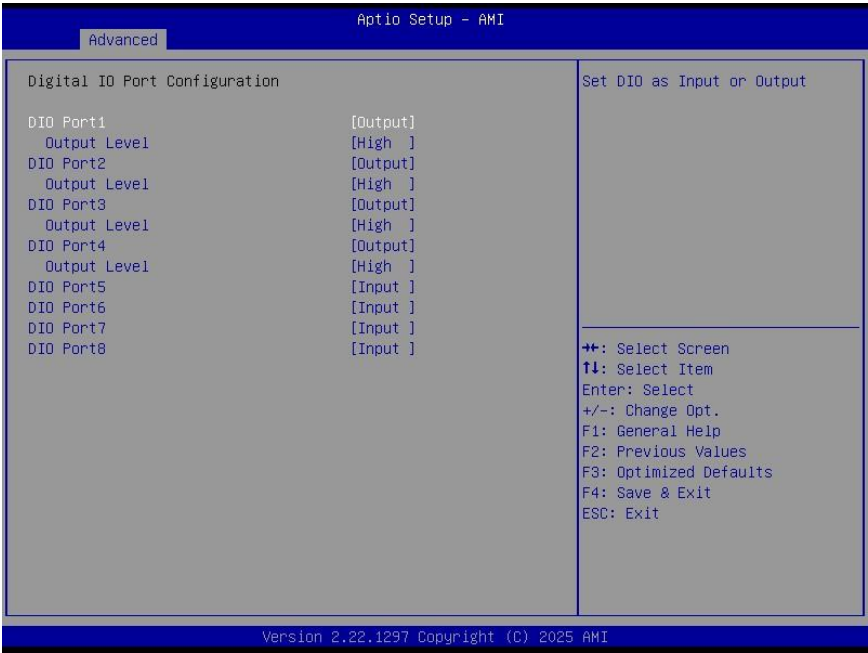
3.4.11 Power Management





Options Summary	
Power Mode	ATX Type
	AT Type
Select system power mode.	
Restore AC Power Loss	Last State
	Always On
	Always Off
Specify what state to go to when power is re-applied after a power failure (G3 state).	
RTC Wake System from S5	Disabled
	Fixed Time
	Dynamic Time
[Disabled] - Disables system wake up from S5.	
[Fixed Time] - The system will wake up at the specified hr::min::sec.	
[Dynamic Time] - The system will wake up at the current time plus a specified	

3.4.12 DIO Port Configuration



Options Summary	
DIO Port 1-4	Output
	Input
Set DIO as Input or Output	
Output Level	High
	Low
Set output level when DIO pin is output	
DIO Port 5-8	Output
	Input
Set DIO as Input or Output	

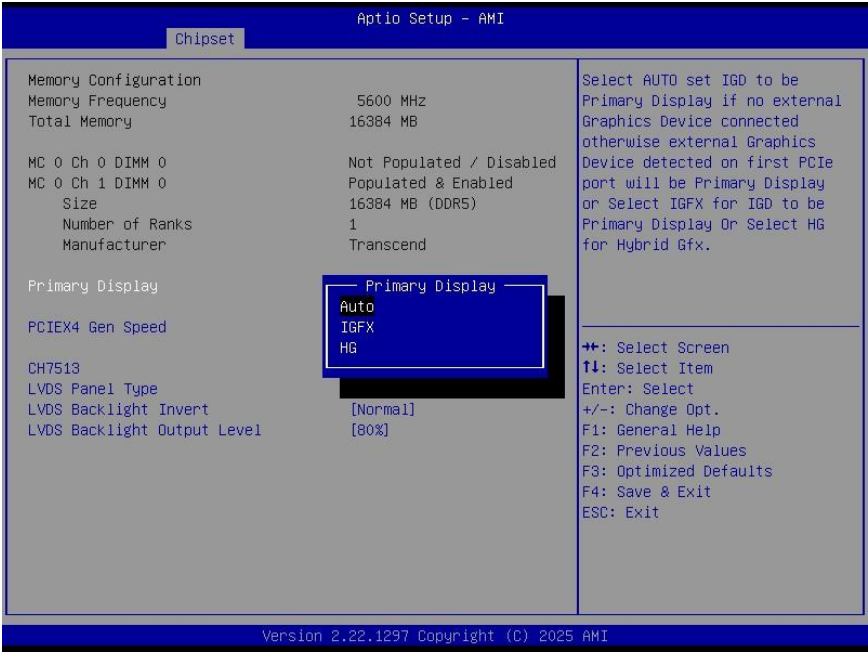
3.5 Setup Submenu: Chipset

The Chipset menu items allow you to change the settings for the chipset.

3.5.1 System Agent (SA) Configuration

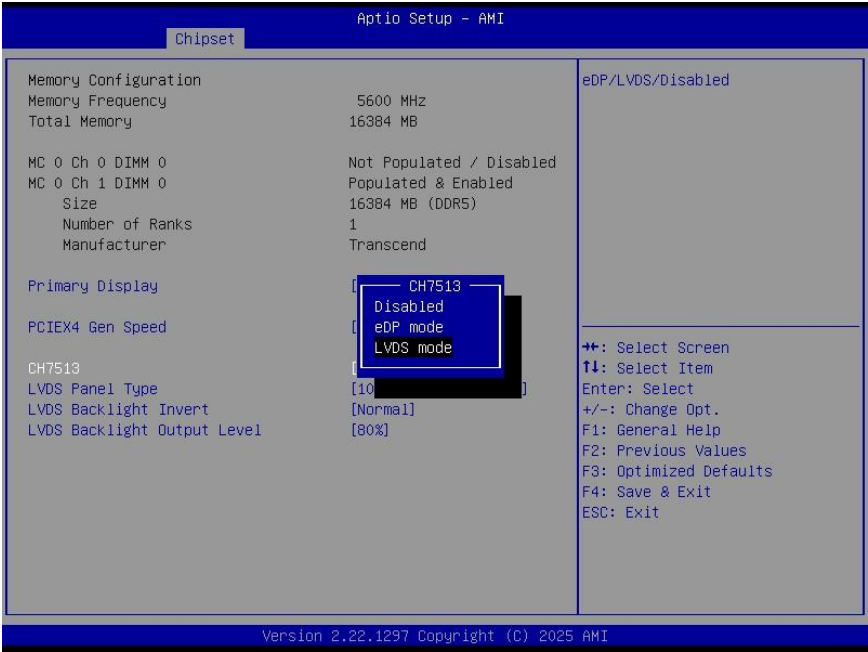


3.5.1.1 Primary Display Configuration



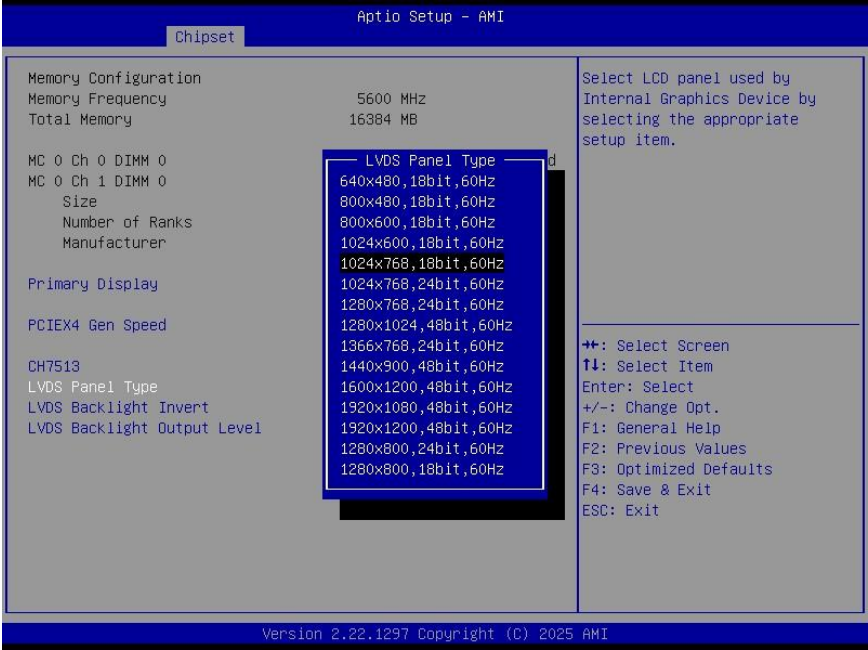
Options Summary	
Primary Display	Auto
	IGFX
	HG
Allows you to decide which graphics controller to use as the primary boot device.	

3.5.1.2 CH7513



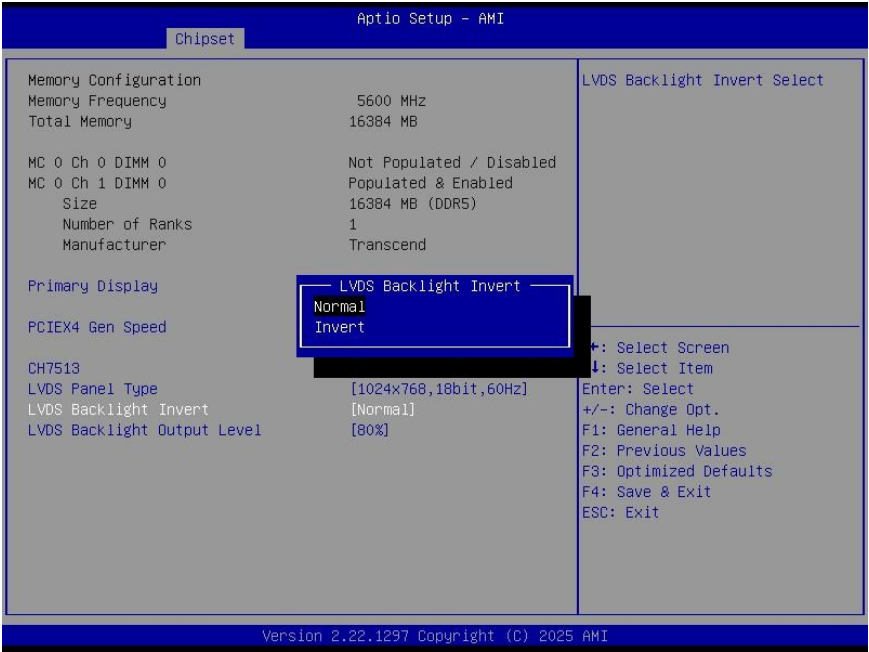
Options Summary	
CH7513	Disabled
	eDP mode
	LVDS mode
Allows enabling or disabling the CH7513 display controller.	

3.5.1.3 LVDS Panel Type



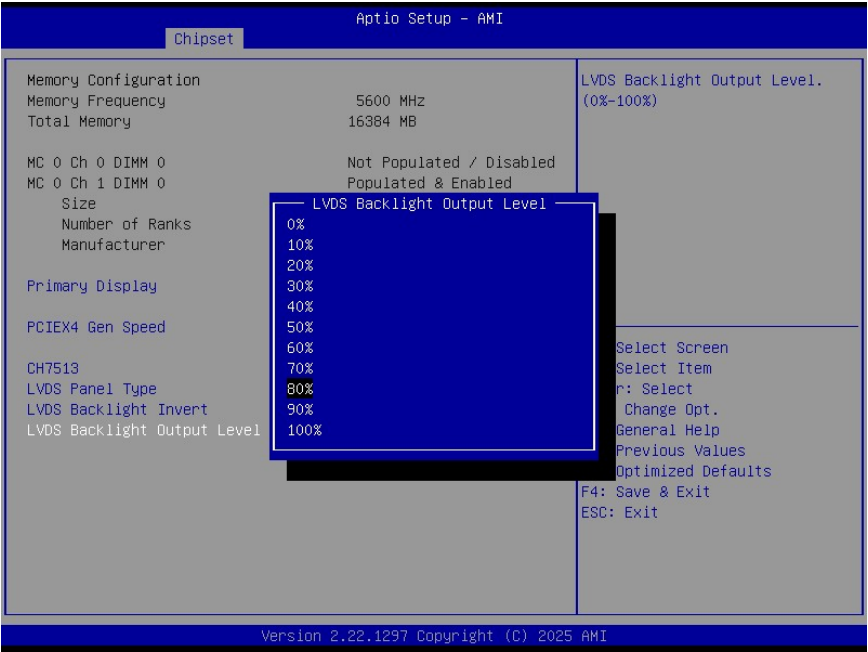
Options Summary	
LVDS Panel Type	640 × 480, 18-bit, 60Hz
	800 × 480, 18-bit, 60Hz
	800 × 600, 18-bit, 60Hz
	1024 × 600, 18-bit, 60Hz
	1024 × 768, 18-bit, 60Hz
	1024 × 768, 24-bit, 60Hz
	1280 × 768, 24-bit, 60Hz
	1280 × 1024, 48-bit, 60Hz
	1366 × 768, 24-bit, 60Hz
	1440 × 900, 48-bit, 60Hz
	1600 × 1200, 48-bit, 60Hz
	1920 × 1080, 48-bit, 60Hz
	1920 × 1200, 48-bit, 60Hz
	1280 × 800, 24-bit, 60Hz
	1280 × 800, 18-bit, 60Hz
Sets the output level for the LVDS backlight control.	

3.5.1.4 LVDS Backlight Invert



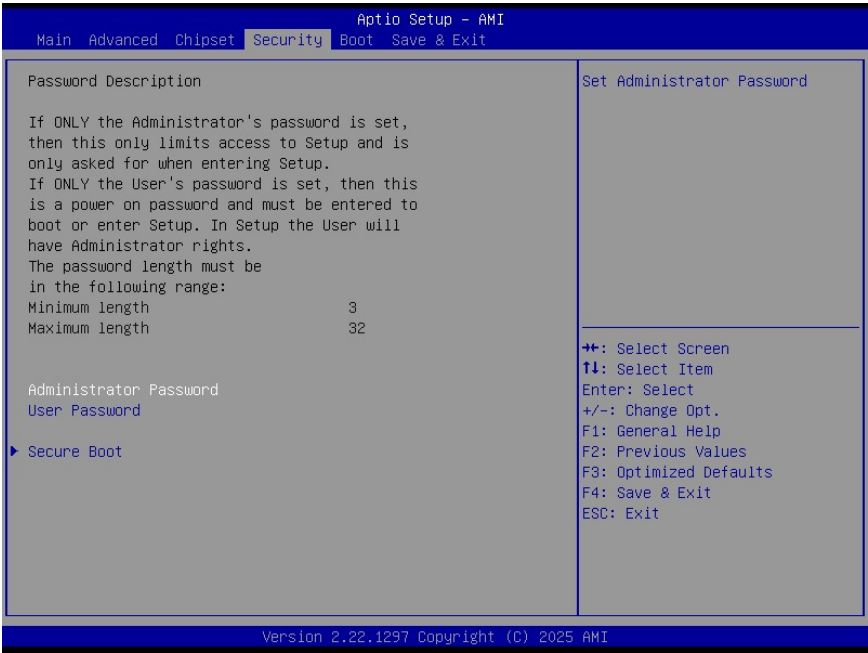
Options Summary	
LVDS Backlight Invert	Normal
	Invert
Select backlight control signal type.	

3.5.1.5 LVDS Backlight Output Level



Options Summary	
LVDS Backlight Output Level	0%
	10%
	20%
	30%
	40%
	50%
	60%
	70%
	80%
	90%
	100%
Select backlight control level.	

3.6 Setup Submenu: Security



Administrator Password

If you have set an administrator password, we recommend that you enter the administrator password for accessing the system. Otherwise, you might be able to see or change only selected fields in the BIOS setup program.

To set an administrator password:

- 1 Select the **Administrator Password** item and press **<Enter>**.
- 2 From the **Create New Password** box, key in a password, then press **<Enter>**.
- 3 Confirm the password when prompted.

To change an administrator password:

- 1 Select the **Administrator Password** item and press **<Enter>**.
- 2 From the **Enter Current Password** box, key in the current password, then press **<Enter>**.
- 3 From the **Create New Password** box, key in a new password, then press **<Enter>**
- 4 Confirm the password when prompted.

To clear the administrator password, follow the same steps as in changing an administrator password, but press **<Enter>** when prompted to create/confirm the password. After you clear the password, the **Administrator Password** item on top of the screen shows **Not Installed**.

User Password

If you have set a user password, you must enter the user password for accessing the system. The **User Password** item on top of the screen shows the default **Not Installed**. After you set a password, this item shows **Installed**.

To set a user password:

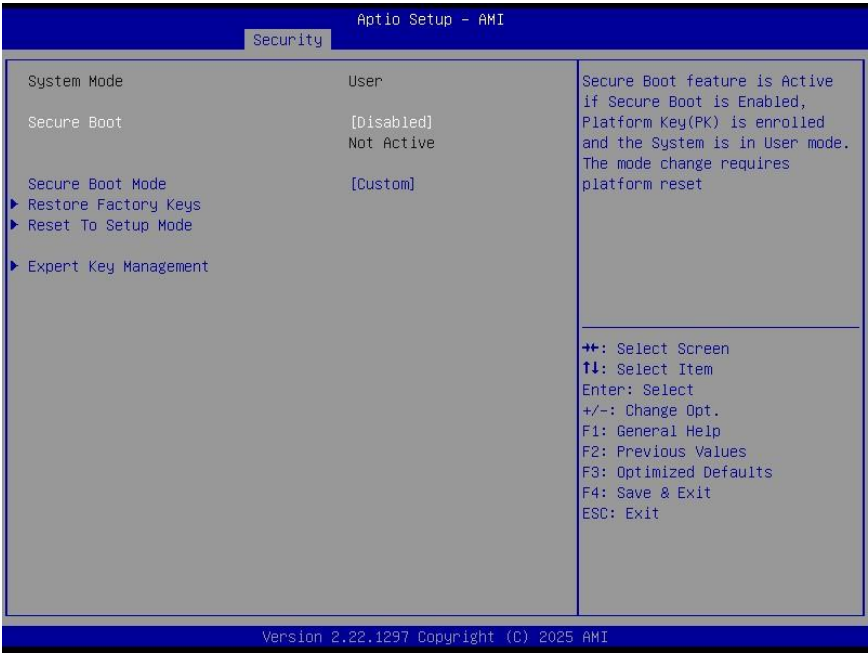
- 1 Select the **User Password** item and press <Enter>.
- 2 From the **Create New Password** box, key in a password, then press <Enter>.
- 3 Confirm the password when prompted.

To change a user password:

- 1 Select the **User Password** item and press <Enter>.
- 2 From the **Enter Current Password** box, key in the current password, then press <Enter>.
- 3 From the **Create New Password** box, key in a new password, then press <Enter>
- 4 Confirm the password when prompted.

To clear the user password, follow the same steps as in changing a user password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the **User Password** item on top of the screen shows **Not Installed**.

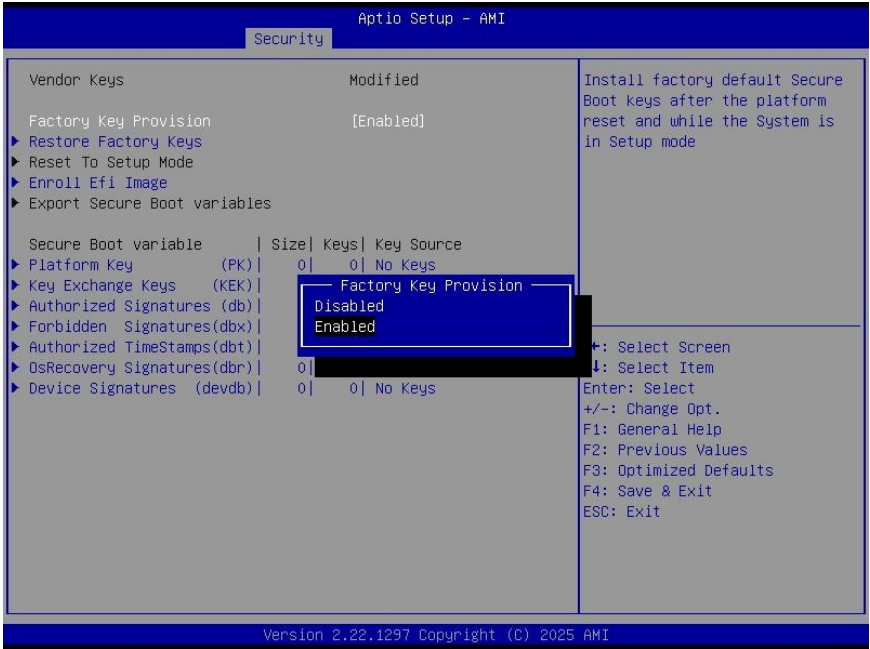
3.6.1 Secure Boot



Options Summary	
Secure Boot	Disabled
	Enabled
Secure Boot feature is Active if Secure Boot is Enabled, Platform Key (PK) is enrolled and the System is in User mode. The mode change requires platform reset	
Secure Boot Status	Not Active
	Active
Displays the current Secure Boot state.	
Secure Boot Mode	Custom
	Standard
Set UEFI Secure Boot Mode to Standard mode or Custom mode. This change is effective after save. After reset, this mode will return to Standard mode. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.	
Restore Factory Keys	Yes
	No
Force System to User Mode. Install factory default Secure Boot key databases	

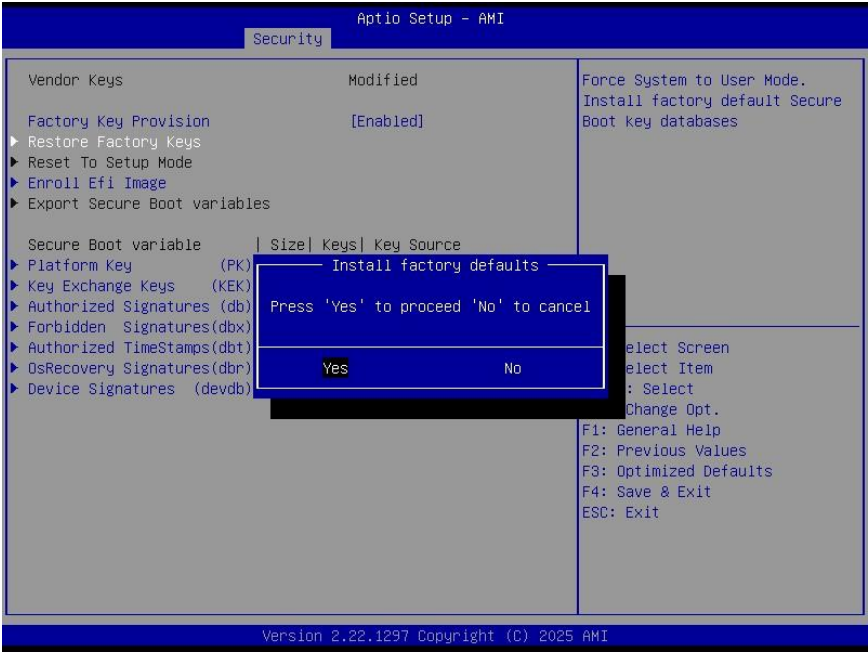
Options Summary	
Reset to Setup Mode	Yes
	No
Delete all Secure Boot key databases from NVRAM	

3.6.2 Key Management



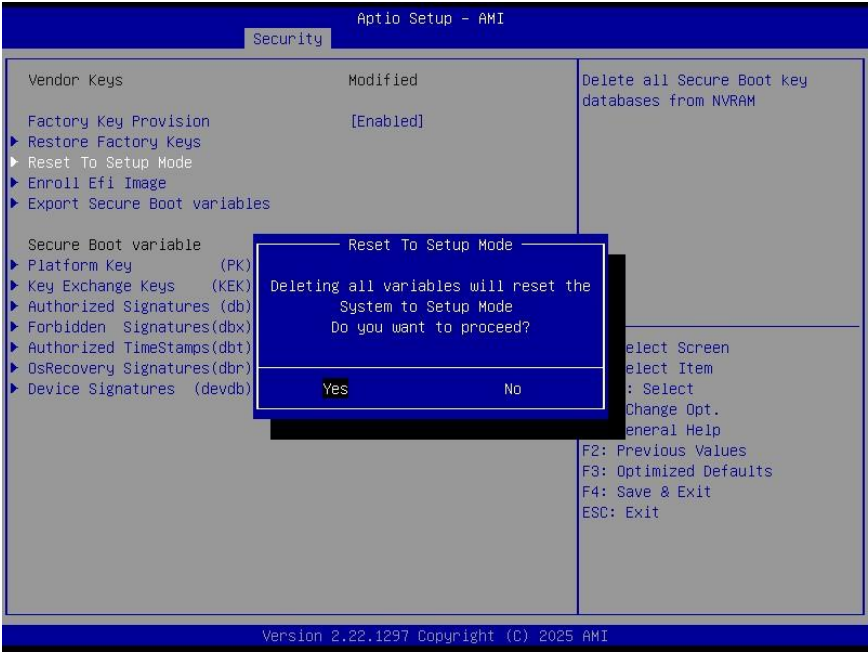
Options Summary	
Factory Key Provision	Enabled
	Disabled
Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode.	

Restore Factory Keys



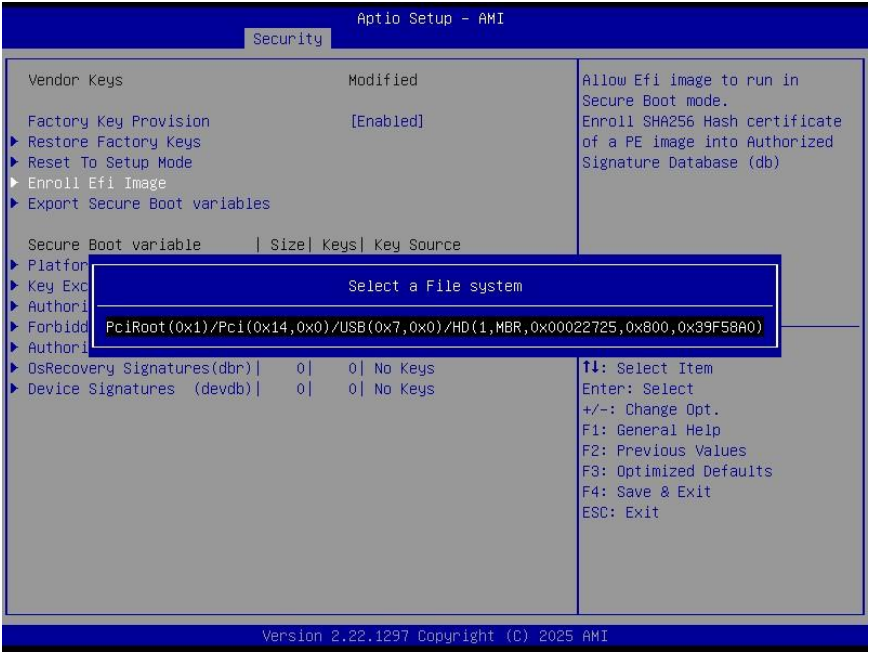
Options Summary	
Restore Factory Keys	Yes
	No
Force System to User Mode. Install factory default Secure Boot key databases.	

Reset To Setup Mode



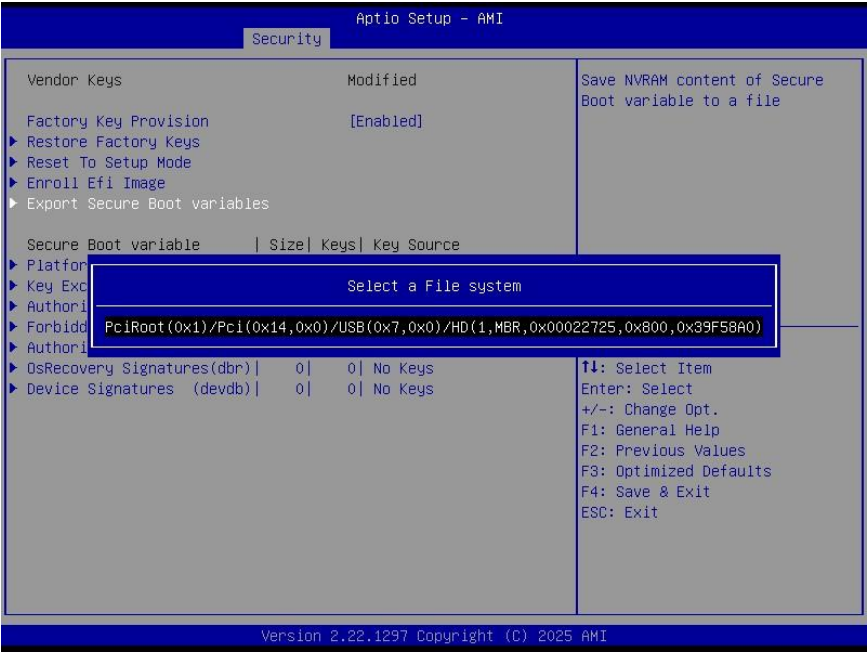
Options Summary	
Install factory defaults	Yes
	No
Delete all Secure Boot key databases from NVRAM.	

Enroll EFI Image



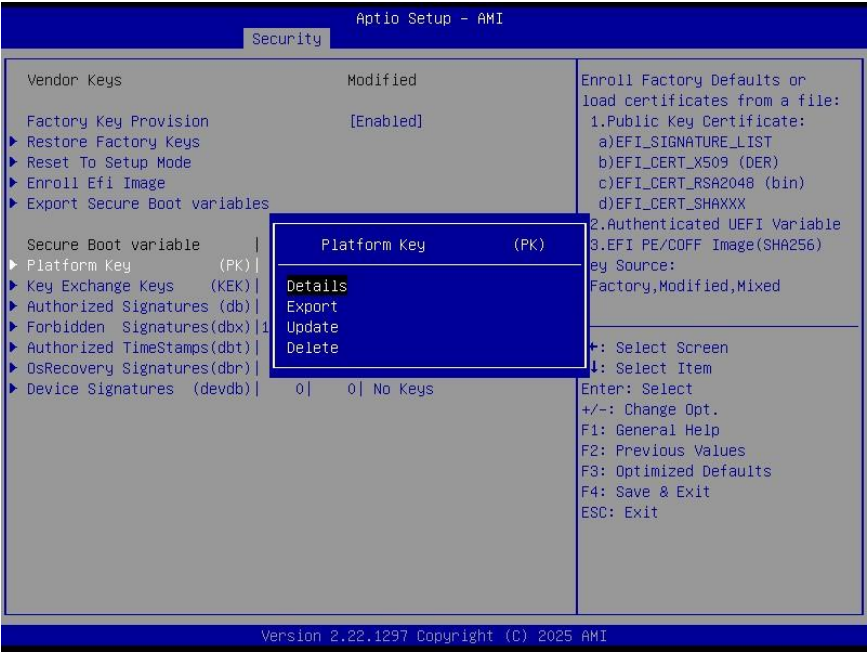
Options Summary
Enroll EFI Image This item allows the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).

Export Secure Boot Variables



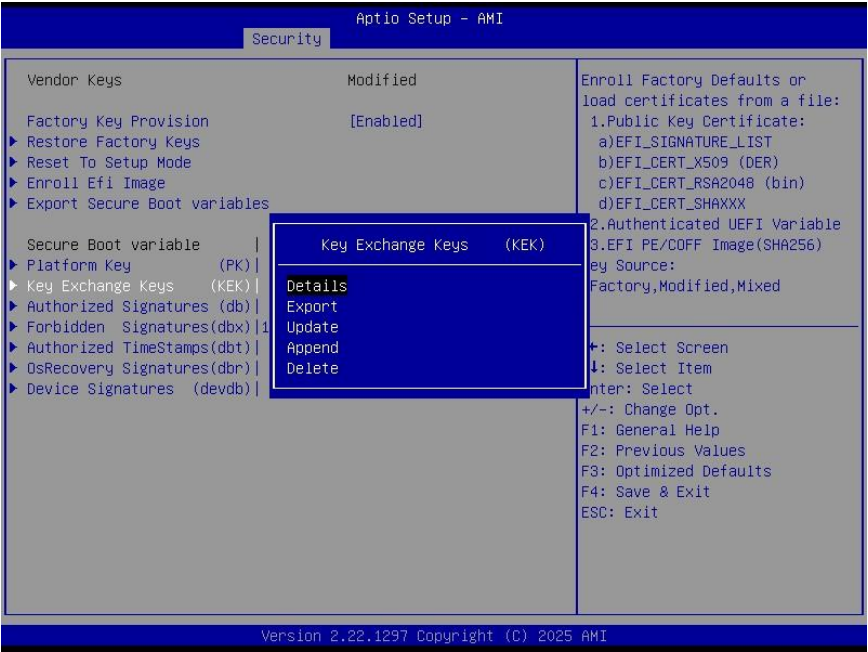
Options Summary
Export Secure Boot Variables
Save NVRAM content of Secure Boot variable to a file.

3.6.2.1 Platform Key (PK)



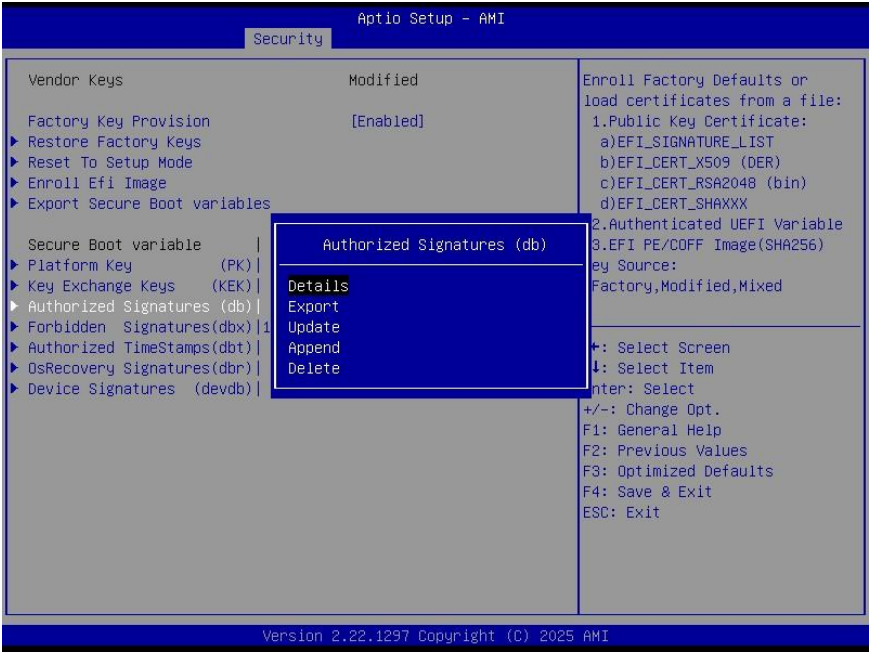
Options Summary	
Platform Key (PK)	Details
	Export
	Update
	Delete
Use this item to enroll factory defaults or load certificates from a file: 1. Public Key Certificate: a) EFI_SIGNATURE_LIST b) EFI_CERT_X509 (DER) c) EFI_CERT_RSA2048 (bin) d) EFI_CERT_SHAXXX 2. Authenticated UEFI Variable 3. EFI PE/COFF Image (SHA256) Key Source: Factory, Modified, Mixed.	

3.6.2.2 Key Exchange Keys



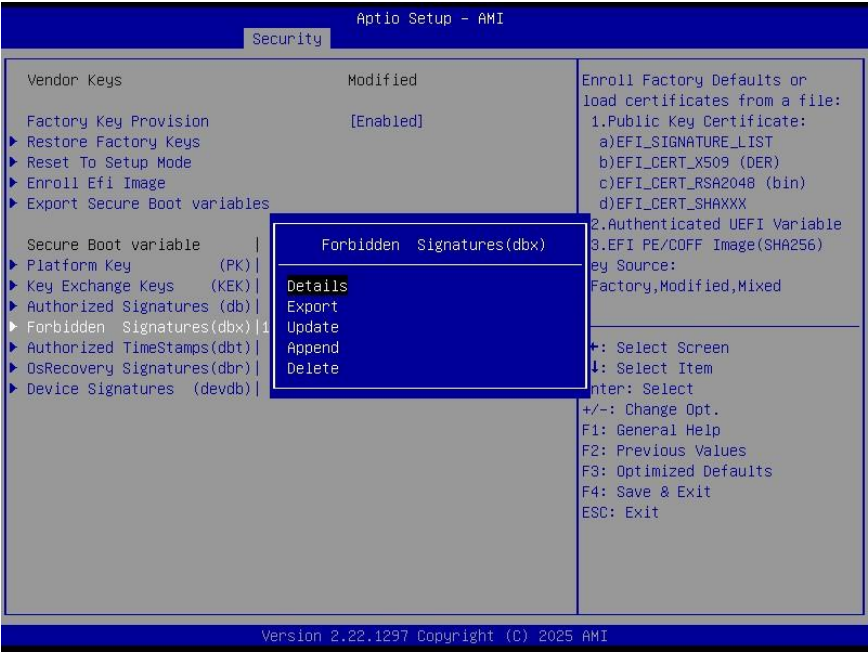
Options Summary	
Platform Key (PK)	Details
	Export
	Update
	Append
	Delete
Enroll Factory Defaults or load certificates from a file:	
1. Public Key Certificate:	
a) EFI_SIGNATURE_LIST	
b) EFI_CERT_X509 (DER)	
c) EFI_CERT_RSA2048 (bin)	
d) EFI_CERT_SHAXXX	
2. Authenticated UEFI Variable	
3. EFI PE/COFF Image (SHA256)	
Key Source: Factory, Modified, Mixed	

3.6.2.3 Authorized Signatures



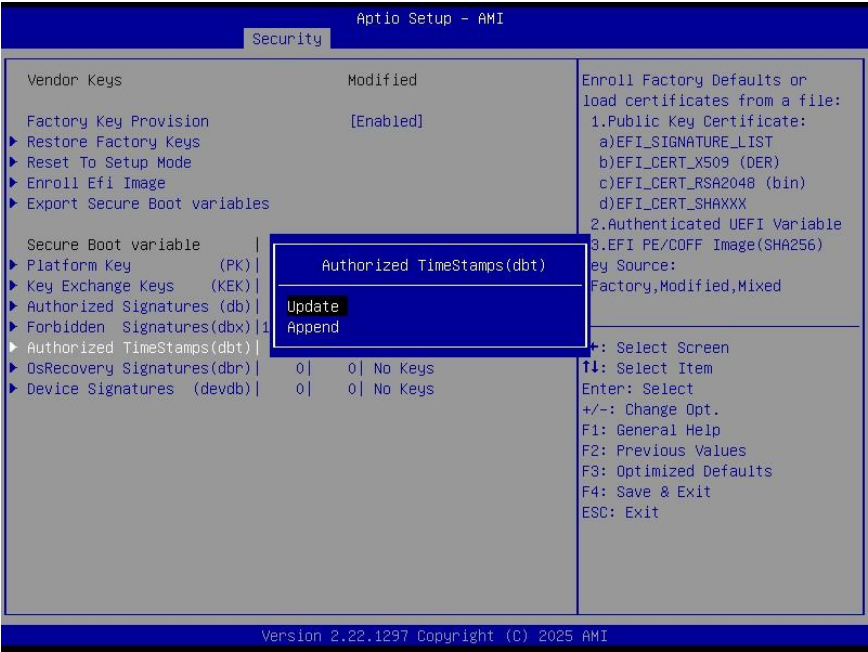
Options Summary	
Authorized Signatures (db)	Details
	Export
	Update
	Append
	Delete
Enroll Factory Defaults or load certificates from a file: 1. Public Key Certificate: a) EFI_SIGNATURE_LIST b) EFI_CERT_X509 (DER) c) EFI_CERT_RSA2048 (bin) d) EFI_CERT_SHAXXX 2. Authenticated UEFI Variable 3. EFI PE/COFF Image (SHA256) Key Source: Factory, Modified, Mixed	

3.6.2.4 Forbidden Signatures



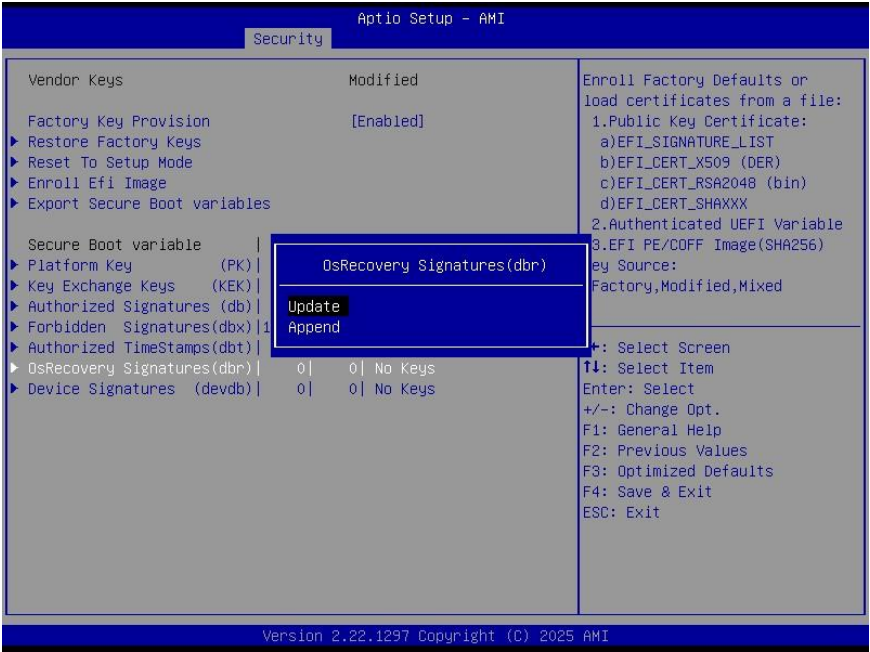
Options Summary	
Forbidden Signatures (dbx)	Details
	Export
	Update
	Append
	Delete
Enroll Factory Defaults or load certificates from a file: 1. Public Key Certificate: a) EFI_SIGNATURE_LIST b) EFI_CERT_X509 (DER) c) EFI_CERT_RSA2048 (bin) d) EFI_CERT_SHAXXX 2. Authenticated UEFI Variable 3.EFI PE/COFF Image (SHA256) Key Source: Factory, Modified, Mixed	

3.6.2.5 Authorized TimeStamps



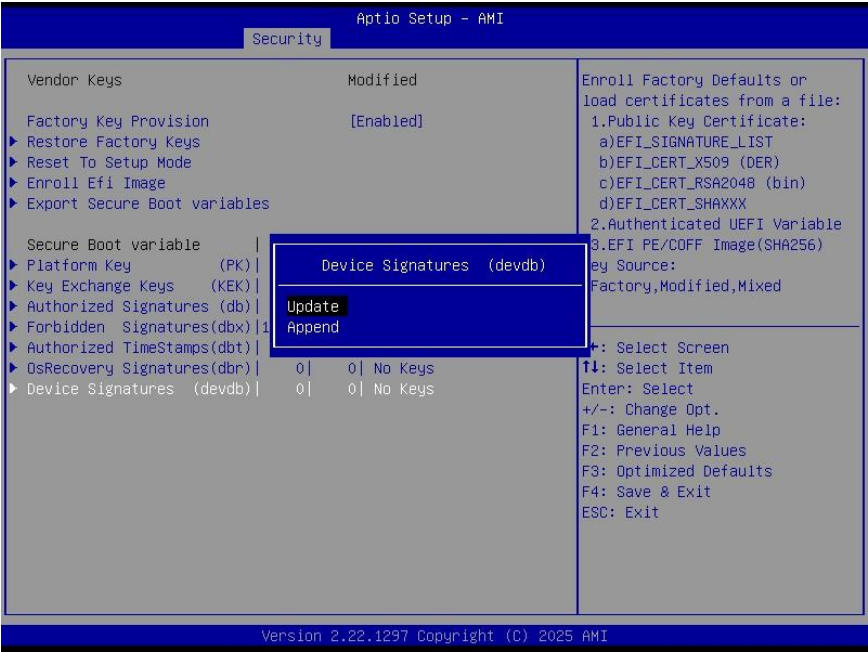
Options Summary	
Authorized TimeStamps (dbt)	Update
	Append
Enroll Factory Defaults or load certificates from a file:	
1. Public Key Certificate:	
a) EFI_SIGNATURE_LIST	
b) EFI_CERT_X509 (DER)	
c) EFI_CERT_RSA2048 (bin)	
d) EFI_CERT_SHAXXX	
2. Authenticated UEFI Variable	
3. EFI PE/COFF Image (SHA256)	
Key Source: Factory, Modified, Mixed	

3.6.2.6 OsRecovery Signatures



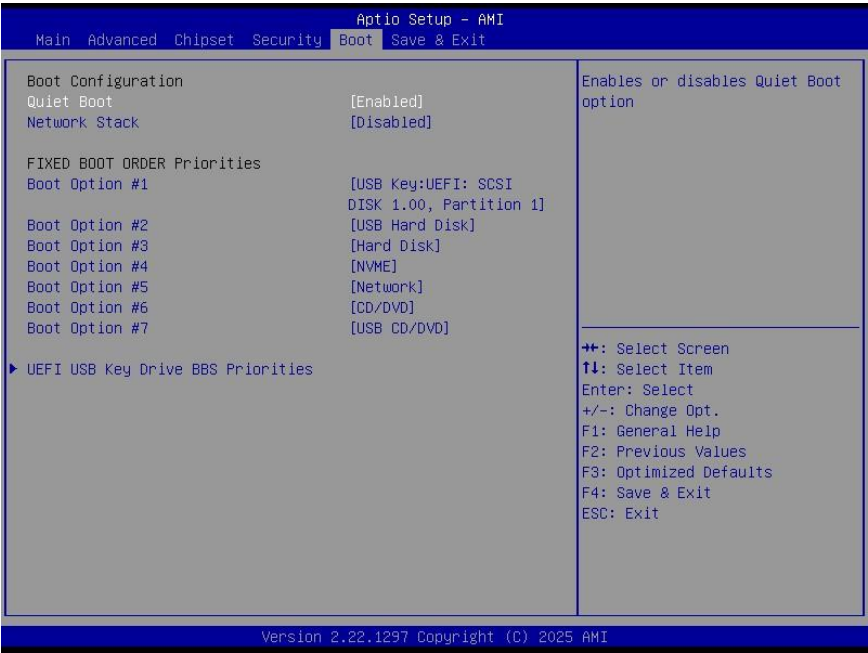
Options Summary	
OsRecovery Signatures (dbr)	Update
	Append
Enroll Factory Defaults or load certificates from a file: 1. Public Key Certificate: a) EFI_SIGNATURE_LIST b) EFI_CERT_X509 (DER) c) EFI_CERT_RSA2048 (bin) d) EFI_CERT_SHAXXX 2. Authenticated UEFI Variable 3. EFI PE/COFF Image (SHA256) Key Source: Factory, Modified, Mixed	

3.6.2.7 Device Signatures



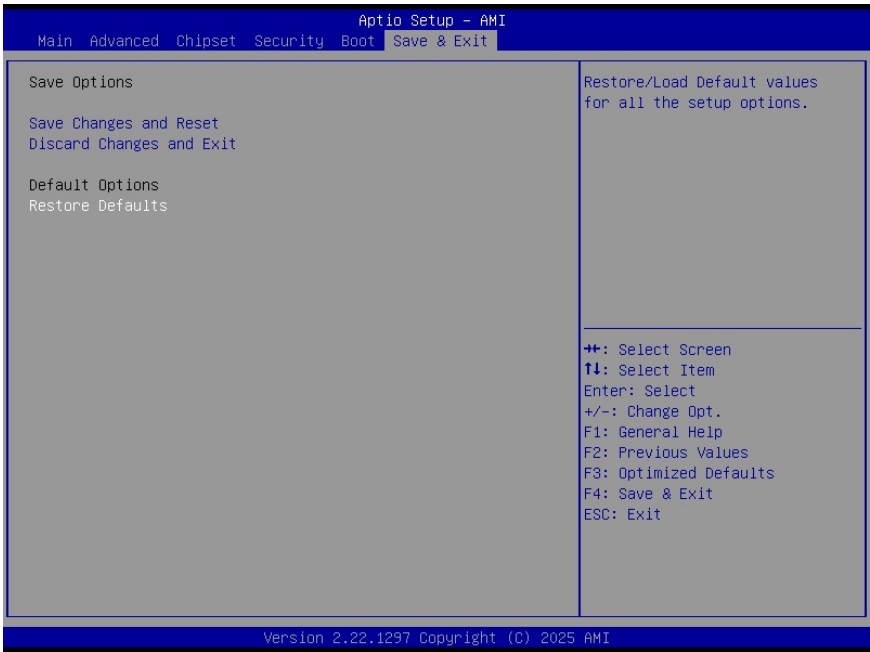
Options Summary	
Device Signatures (devdb)	Update
	Append
Enroll Factory Defaults or load certificates from a file:	
1. Public Key Certificate:	
a) EFI_SIGNATURE_LIST	
b) EFI_CERT_X509 (DER)	
c) EFI_CERT_RSA2048 (bin)	
d) EFI_CERT_SHAXXX	
2. Authenticated UEFI Variable	
3. EFI PE/COFF Image (SHA256)	
Key Source: Factory, Modified, Mixed	

3.7 Setup Submenu: Boot



Options Summary	
Quiet Boot	Disabled
	Enabled
Enable or Disable Quiet Boot option.	
Network Stack	Disabled
	Enabled
Enable/Disable UEFI Network Stack.	
FIXED BOOT ORDER Priorities	
Sets the system boot order.	

3.8 Setup Submenu: Save & Exit



Once you are finished making your selections, choose this option from the **Save & Exit** menu to ensure the values you selected are saved. When you select this option, a confirmation window appears. Select **Yes** to save changes and reset.

Discard Changes and Exit

This option allows you to exit the Setup program without saving your changes. When you select this option or if you press <Esc>, a confirmation window appears. Select **Yes** to discard changes and exit.

Restore Defaults

Save or restore User Defaults to all setup options.

Appendix

Notices

FCC Statement

Warning!



This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte. Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量

AAEON 主板/子板/背板

QO4-381 Rev.A2

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板 及其电子组件	×	○	○	○	○	○
外部信号 连接器及线材	×	○	○	○	○	○
本表格依据 SJ/T 11364 的规定编制。 ○：表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572标准规定的限量要求以下。 ×：表示该有害物质的某一均质材料超出了GB/T 26572的限量要求，然而该部件仍符合欧盟指令2011/65/EU 的规范。 环保使用期限(EFUP (Environmental Friendly Use Period))：10年 备注：此产品所标示之环保使用期限，系指在一般正常使用状况下。						

China RoHS Requirements (EN)

Name and content of hazardous substances in product

AAEON Main Board/Daughter Board/Backplane

QO4-381 Rev.A2

Part Name	Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯 醚(PBDE)
PCB Assemblies	×	○	○	○	○	○
Connector and Cable	×	○	○	○	○	○
The table is prepared in accordance with the provisions of SJ/T 11364. ○: Indicates that said hazardous substance contained in all of the homogenous materials for this product is below the limit requirement of GB/T 26572. ×: Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572. But this product still be compliance with 2011/65/EU Directive (allowed with 2011/65/EU Annex III of RoHS exemption with number 6(c),7(a),7(c)-1). EFUP (Environment Friendly Use Period) value: 10 years Notes: This product defined period of use is under normal condition.						