

EPIC-ADS7

EPIC Board

User's Manual 1st Ed

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Packing List

Before setting up your product, please make sure the following items have been shipped:

Item	Quantity
● EPIC-ADS7	1
● CPU Cooler Backplate	2
● Screw Kit	1

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

About this Document

This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the product page on AAEON.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. Make sure the power source matches the power rating of the device.
3. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
4. Always completely disconnect the power before working on the system's hardware.
5. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
6. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
7. Always disconnect this device from any AC supply before cleaning.
8. While cleaning, use a damp cloth instead of liquid or spray detergents.
9. Make sure the device is installed near a power outlet and is easily accessible.
10. Keep this device away from humidity.
11. Place the device on a solid surface during installation to prevent falls
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out for high temperatures when the system is running.
14. Do not touch the heat sink or heat spreader when the system is running
15. Never pour any liquid into the openings. This could cause fire or electric shock.
16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

17. If any of the following situations arises, please the contact our service personnel:
 - i. Damaged power cord or plug
 - ii. Liquid intrusion to the device
 - iii. Exposure to moisture
 - iv. Device is not working as expected or in a manner as described in this manual
 - v. The device is dropped or damaged
 - vi. Any obvious signs of damage displayed on the device
18. **DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.**

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 Main Board/ Daughter Board/ Backplane

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	X	X	○	○	○	○
外部信号 连接器及线材	X	X	○	○	○	○

O: 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 SJ/T 11363-2006 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。

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 Requirement (EN)

Poisonous or Hazardous Substances or Elements in Products
 AAEON Main Board/ Daughter Board/ Backplane

Component	Poisonous or Hazardous Substances or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
PCB & Other Components	X	X	○	○	○	○
Wires & Connectors for External Connections	X	X	○	○	○	○
<p>O: The quantity of poisonous or hazardous substances or elements found in each of the component's parts is below the SJ/T 11363-2006-stipulated requirement.</p> <p>X: The quantity of poisonous or hazardous substances or elements found in at least one of the component's parts is beyond the SJ/T 11363-2006-stipulated requirement.</p> <p>Note: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only</p>						

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Chapter 1

Product Specifications

1.1 Specifications

System

Form Factor	4" EPIC Board
CPU	12th Generation Intel® Core™/Celeron® Processors (up to 35W/65W): Intel® Core™ i7-12700E (8PC+4EC/20T, 1.6 GHz-2.1 GHz, 65W) Intel® Core™ i7-12700TE (8PC+4EC/20T, 1.4 GHz, 35W) Intel® Core™ i5-12500E (6C/12T, 2.9 GHz, 65W) Intel® Core™ i5-12500TE (6C/12T, 1.9 GHz, 35W) Intel® Core™ i3-12100E (4C/8T, 3.2 GHz, 60W) Intel® Core™ i3-12100TE (4C/8T, 2.1 GHz, 35W) Intel® Celeron® Processor G6900TE (2C/2T, 2.4 GHz, 35W)
Chipset	Intel® 600 Series Chipset (R680E/Q670E/H610E)
Memory Type	DDR5 4800, Dual Channel SODIMM x 2, Max 32GB (up to 16GB per SODIMM, ECC support for Intel® R680E & Q670E chipsets)
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	TPM 2.0 (Optional)
RTC Battery	Lithium Battery 3V/240mAh
Dimension	4.53" x 6.50" (115mm x 165mm)
OS Support	Windows® 10 (64-bit) Ubuntu 20.04.1/Kernel 5.11.0-27-generic x86_64 or above

Power

Power Requirement	+12V
Power Supply Type	AT/ATX
Connector	ATX 4-Pin Connector
Power Consumption	Intel® Core™ i7-12700E, DDR5 16GB x 2, 11.15A @12V, 133.8W (Typical) Intel® Core™ i7-12700E, DDR5 16GB x 2, 18.15A @12V, 217.8W (Max)

Display

Controller	Intel® UHD Graphics 770 (i5 SKU and above) Intel® UHD Graphics 730 (i3 SKU) Intel® UHD Graphics 710 (Celeron® G6900TE SKU)
LVDS/eDP	LVDS x 1, Dual Channel 24/48-bit, up to 1920 x 1080 eDP 1.4 x 1, up to 1920 x 1080 (optional)
Display Interface	HDMI 2.0 x 1, up to 3840 x 2160 @60Hz DP 1.4 x 2, up to 3840 x 2160 @60Hz
Multiple Display	Up to 4 Simultaneous Displays

Audio

Codec	Realtek ALC269
Audio Interface	Line In/Line Out/Mic
Speaker	-

External I/O

Ethernet	Intel® I225-LM, 2.5GbE RJ-45 x 1 Intel® I219-LM, 1GbE RJ-45 x 1
USB	USB 3.2 Gen 2/Gen 1 x 4 (Gen 2 Support for Intel® R680E & Q670E chipsets) USB Type-C x 1 (USB 3.2 Gen 2x2 (20Gbps), Support for R680E & Q670E chipsets)
Serial Port	-
Video	HDMI 2.0 x 1, up to 3840 x 2160 @60Hz DP 1.4 x 2, up to 3840 x 2160 @60Hz

Internal I/O

USB	USB 2.0 x 4
Serial Port	COM 1, COM 3, COM 4 (RS-232/422/485, supports RI only) COM 2 (RS-232/422/485, supports 5V/12V, RI)
Video	LVDS (Default) or eDP x 1 LVDS Inverter 5V/12V @2A
SATA	SATA 6Gb/s x 2 +5V SATA Power Connector x 2
Audio	Realtek ALC269
DIO/GPIO	GPIO 8-bit
SMBus/I2C	SMBus/I2C (Default: SMBus)
Touch	-
Fan	4-pin Smart Fan
SIM	Nano SIM x 1 (R680E & Q670E chipsets only)
Front Panel	Power Button, Reset Button, Power LED, SATA LED, Buzzer
Others	TCC x 1 (Intel® R680E SKU only)

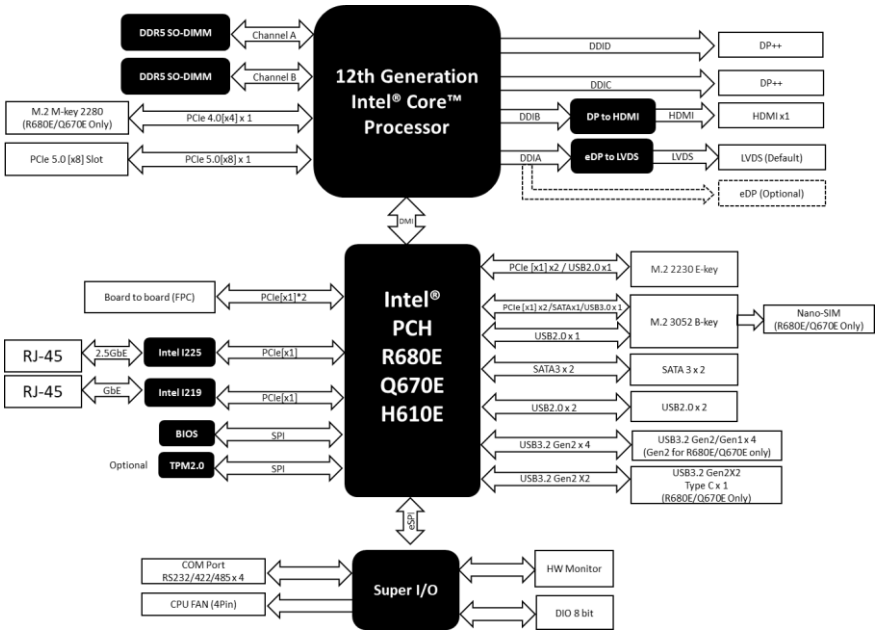
Expansion

Mini PCIe/mSATA	-
M.2	M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1, support by SKU) M.2 3052 B-Key x 1 (PCIe 3.0 [x2] + USB 3.0 or PCIe [x2] + USB 2.0 by SKU) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0) *Please check HSIO function list for more details
Others	PCIe 5.0 [x8] Slot x 1 (Supply maximum 25W to the PCIe peripheral) Board-to-Board FPC Connector x 1 (PCIe 3.0 [x2] x 1)

Environmental

Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	308,264
EMC	CE/FCC Class A

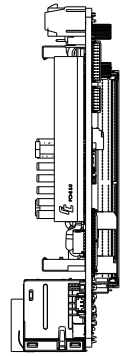
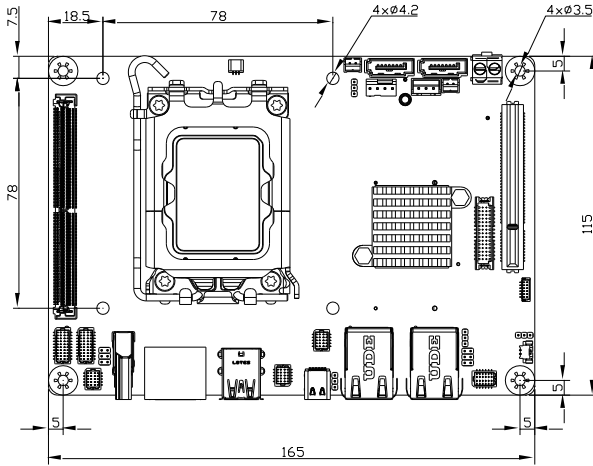
1.2 Block Diagram



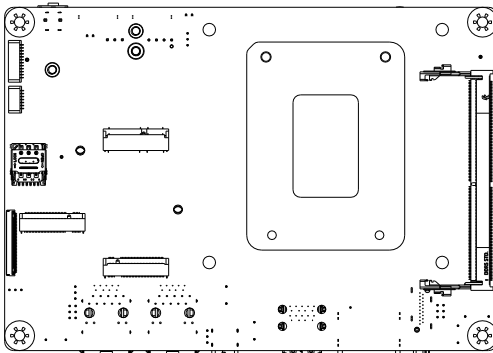
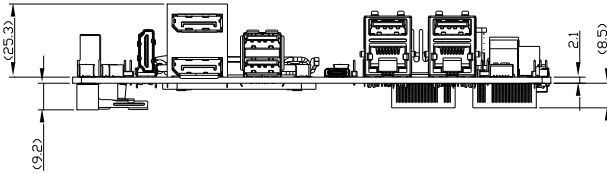
Chapter 2

Hardware Information

2.1 Dimensions

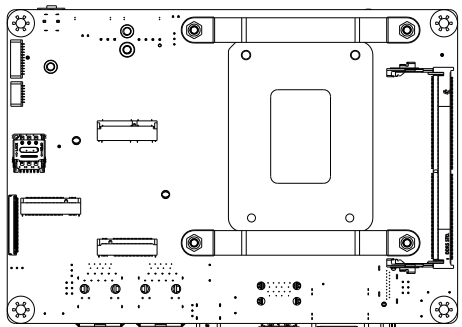
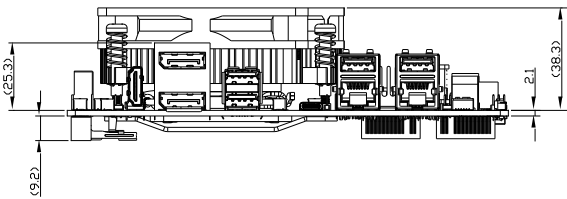
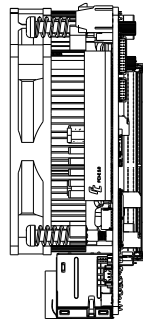
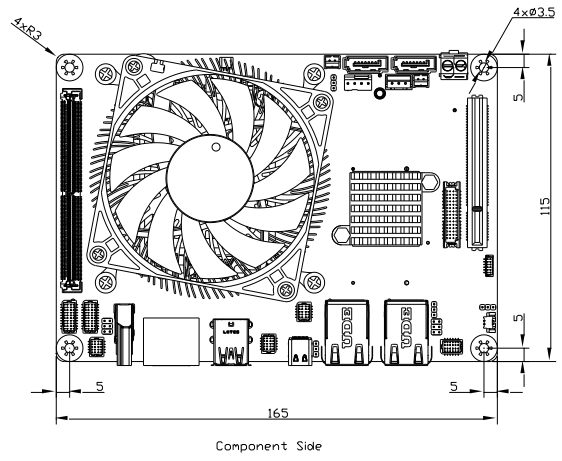


Component Side

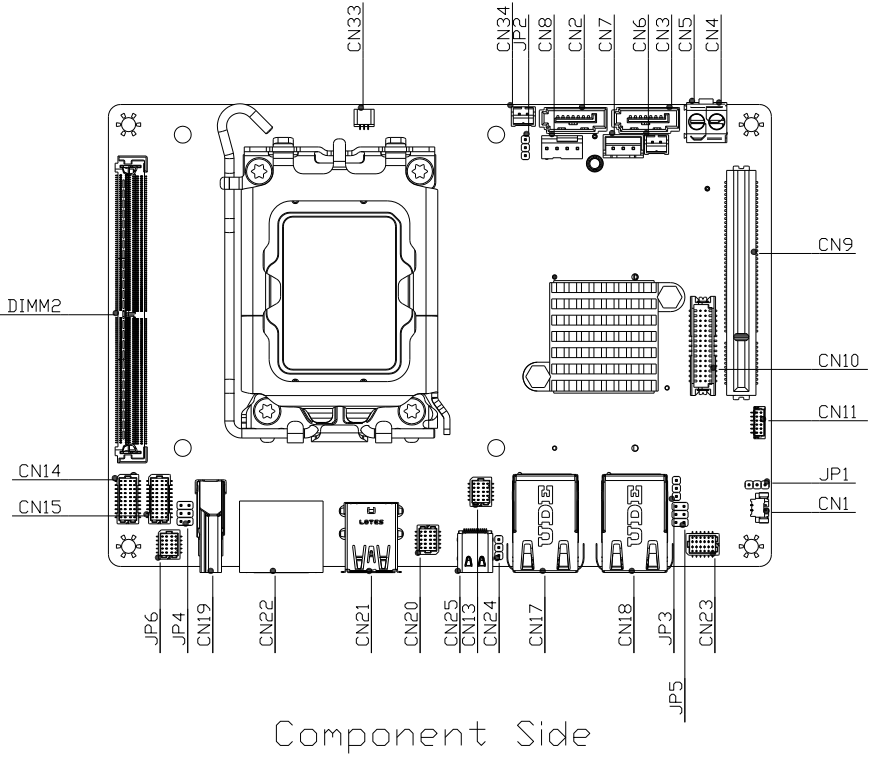


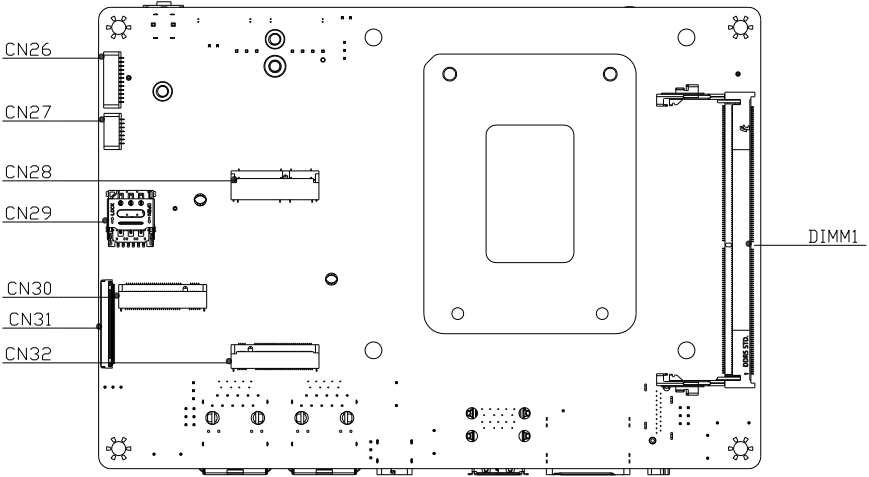
Solder Side

3D Model



2.2 Jumpers and Connectors





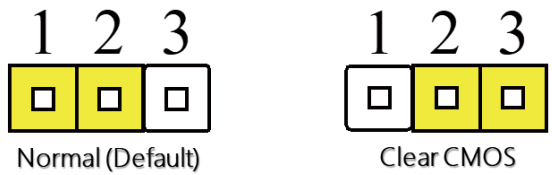
Solder Side

2.3 List of Jumpers

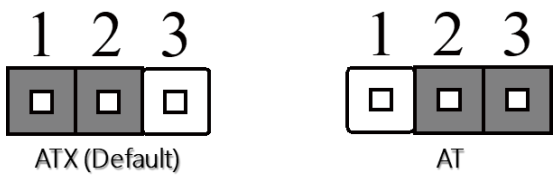
The board features a number of jumpers which can be configured for your application. Please refer to the table below and following sections for all jumpers which can be configured.

Label	Function
JP1	Clear CMOS Jumper
JP2	Auto Power Button AT/ATX Selection
JP4	COM 2 Pin 8 Function Selection
JP6	Front Panel Connector

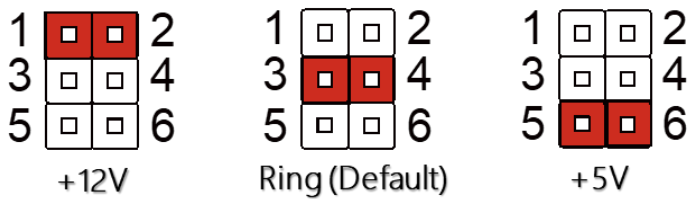
2.3.1 Clear CMOS Jumper (JP6)



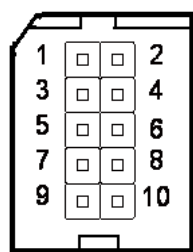
2.3.2 Auto Power Button AT/ATX Selection (JP2)



2.3.3 COM 2 Pin 8 Function Selection (JP4)



2.3.4 Front Panel Connector (JP6)



Pin	Signal Description	Pin	Signal Description
1	GND	2	EXT_PWRBTN#
3	FP_HDLED-	4	FP_HDLED+
5	FP_SPKR-	6	+V5S
7	GND	8	PWRLED+
9	GND	10	HWRST#

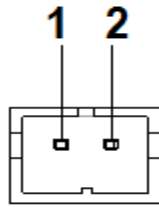
2.4 List of Connectors

This section details the connectors featured on the board, which can be configured for your application.

Label	Function
CN1	RTC Connector
CN2	SATA Connector
CN3	SATA Connector
CN4	4 Pin DC in ATX Connector
CN6	SATA Power Connector
CN7	External +5VSB Input Connector
CN8	CPU Fan Connector
CN9	PCIe [x8] Slot
CN13	USB 2.0 Connector
CN14	COM 1~2 Connector (RS-232/422/485)
CN15	COM 3~4 Connector (RS-232/422/485)
CN17	Intel® I219-LM RJ-45 Port + USB 3.2 Gen 2 Connector
CN18	Intel® I225-LM RJ-45 Port + USB 3.2 Gen 2 Connector
CN19	HDMI Connector
CN20	Digital I/O Port
CN21	USB 3.2 Gen 2 Connector
CN22	DP++ 1~2 Connector
CN23	Audio I/O Port
CN24	VCore Programming Connector
CN25	USB 3.2 Gen 2x2 (Type-C) Connector
CN26	LPC Connector for Debug
CN27	SPI BIOS Debug Port
CN28	M.2 2230 E-Key

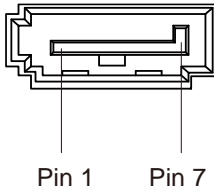
Label	Function
CN29	Nano SIM Card Socket
CN30	M.2 3052 B-Key
CN31	FPC Connector (PCIe [x2])
CN32	M.2 2280 M-Key
CN33	TCC
CN34	SATA Power Connector
CPU1	CPU Socket
DIMM1	DDR5 SODIMM Slot
DIMM2	DDR5 SODIMM Slot

2.4.1 RTC Connector (CN1)



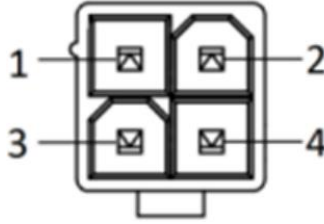
Pin	Pin Name	Signal Type	Signal Level
1	+3.3V	PWR	3.3V
2	GND	GND	

2.4.2 SATA Connector (CN2/CN3)



Pin	Pin Name	Signal Type	Signal Level
1	GND	GND	
2	SATA_TX+	DIFF	
3	SATA_TX-	DIFF	
4	GND	GND	
5	SATA_RX-	DIFF	
6	SATA_RX+	DIFF	
7	GND	GND	

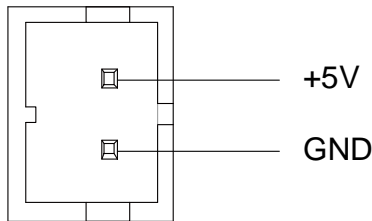
2.4.3 4 Pin DC in ATX Connector (CN4)



Pin	Pin Name	Signal Type	Signal Level
1	GND	GND	
2	GND	GND	
3	+VIN	PWR	12V
4	+VIN	PWR	12V

Note: 12V only.

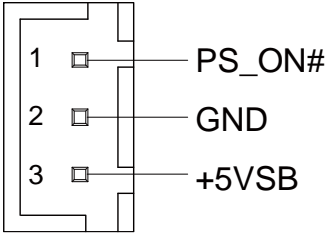
2.4.4 SATA Power Connector (CN6)



Pin	Pin Name	Signal Type	Signal Level
1	+5V	PWR	+5V(2A)
2	GND	GND	

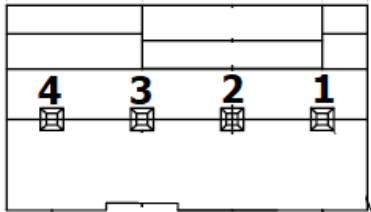
Note: CN6 offers 2A current for SATA connector.

2.4.5 External +5VSB Input Connector (CN7)



Pin	Pin Name	Signal Type	Signal Level
1	PS_ON#	OUT	+5V
2	GND	GND	
3	+5VSB	PWR	+5V (2A)

2.4.6 CPU Fan (CN8)

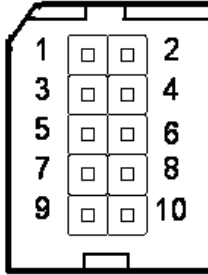


Pin	Pin Name	Signal Type	Signal Level
1	GND	GND	
2	FAN_POWER	PWR	+12V (1A)
3	FAN_TAC	IN	
4	FAN_CTL	OUT	

2.4.7 PCIe [x8] Slot (CN9)

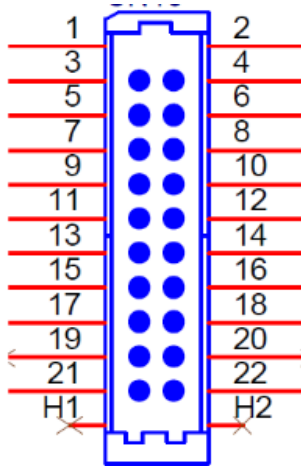
Standard Specification.

2.4.8 USB 2.0 Connector (CN13)



Pin	Pin Name	Pin	Signal Level
1	+5VSB (0.5A)	2	+5VSB (0.5A)
3	USB5_D-	4	USB6_D-
5	USB5_D+	6	USB6_D+
7	GND	8	GND
9	GND	10	GND

2.4.9 COM Port 1~2 Connector (CN14)



RS-232

Pin Port 1	Pin Port 2	Pin Name	Signal Type	Signal Level
1	2	DCD	IN	
3	4	RX	IN	
5	6	TX	OUT	±5V
7	8	DTR	OUT	±5V
9	10	GND	GND	
11	12	DSR	IN	
13	14	RTS	OUT	±5V
15	16	CTS	IN	
17	18	RI	IN	
19	20	NC		

RS-485

Pin Port 1	Pin Port 2	Pin Name	Signal Type	Signal Level
1	2	RS485_D-	I/O	±5V
3	4	RS485_D+	I/O	±5V
5	6	NC		
7	8	NC		
9	10	GND	GND	
11	12	NC		
13	14	NC		
15	16	NC		
17	18	RI/+5V/+12V(0.5A)	PWR	+5V/+12V
19	20	NC		

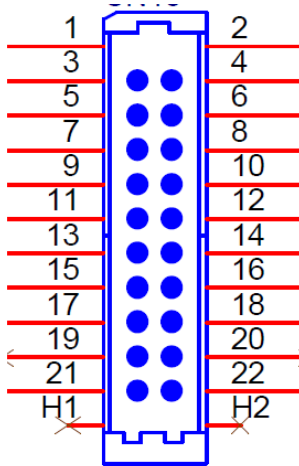
RS-422

Pin Port 1	Pin Port 2	Pin Name	Signal Type	Signal Level
1	2	RS422_TX-	OUT	±5V
3	4	RS422_TX+	OUT	±5V
5	6	RS422_RX+	IN	
7	8	RS422_RX-	IN	
9	10	GND	GND	
11	12	NC		
13	14	NC		
15	16	NC		
17	18	RI/+5V/+12V(0.5A)	PWR	+5V/+12V
19	20	NC		

Note: COM 2 RS-232/422/485 can be set by BIOS setting. Default is RS-232.

Note: Pin 17 RI only ; Pin18 function can be select by JP4.

2.4.10 COM Port 3~4 Connector (CN15)



RS-232

Pin Port 1	Pin Port 2	Pin Name	Signal Type	Signal Level
1	2	DCD	IN	
3	4	RX	IN	
5	6	TX	OUT	±5V
7	8	DTR	OUT	±5V
9	10	GND	GND	
11	12	DSR	IN	
13	14	RTS	OUT	±5V
15	16	CTS	IN	
17	18	RI	IN	
19	20	NC		

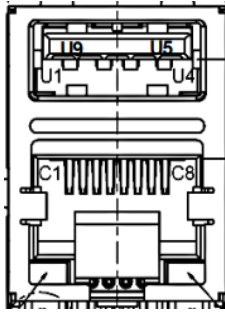
RS-485

Pin Port 1	Pin Port 2	Pin Name	Signal Type	Signal Level
1	2	RS485_D-	I/O	±5V
3	4	RS485_D+	I/O	±5V
5	6	NC		
7	8	NC		
9	10	GND	GND	
11	12	NC		
13	14	NC		
15	16	NC		
17	18	RI	IN	
19	20	NC		

RS-422

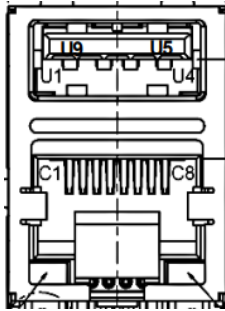
Pin Port 1	Pin Port 2	Pin Name	Signal Type	Signal Level
1	2	RS422_TX-	OUT	±5V
3	4	RS422_TX+	OUT	±5V
5	6	RS422_RX+	IN	
7	8	RS422_RX-	IN	
9	10	GND	GND	
11	12	NC		
13	14	NC		
15	16	NC		
17	18	RI	IN	
19	20	NC		

2.4.11 Intel® I219-LM RJ-45 Port + USB 3.2 Gen 2 (CN17)



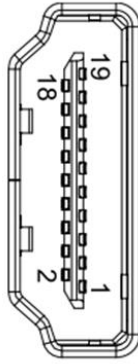
Pin	Pin Name	Signal Type	Signal Level
U1	+5VSB	PWR	+5V(0.9A)
U2	USB2_1_DN	DIFF	
U3	USB2_1_DP	DIFF	
U4	GND	GND	GND
U5	USB3_1_RXN	DIFF	
U6	USB3_1_RXP	DIFF	
U7	GND	GND	GND
U8	USB3_1_TXN	DIFF	
U9	USB3_1_TXP	DIFF	
R2	LAN1_MDI0_P	DIFF	
R3	LAN1_MDI0_N	DIFF	
R4	LAN1_MDI1_P	DIFF	
R5	LAN1_MDI1_N	DIFF	
R6	LAN1_MDI2_P	DIFF	
R7	LAN1_MDI2_N	DIFF	
R8	LAN1_MDI3_P	DIFF	
R9	LAN1_MDI3_N	DIFF	

2.4.12 Intel® I225-LM RJ-45 Port + USB 3.2 Gen 2 (CN18)



Pin	Pin Name	Signal Type	Signal Level
U1	+5VSB	PWR	+5V(0.9A)
U2	USB2_2_DN	DIFF	
U3	USB2_2_DP	DIFF	
U4	GND	GND	GND
U5	USB3_2_RXN	DIFF	
U6	USB3_2_RXP	DIFF	
U7	GND	GND	GND
U8	USB3_2_TXN	DIFF	
U9	USB3_2_TXP	DIFF	
R2	LAN2_MDIO_P	DIFF	
R3	LAN2_MDIO_N	DIFF	
R4	LAN2_MDII_P	DIFF	
R5	LAN2_MDII_N	DIFF	
R6	LAN2_MDI2_P	DIFF	
R7	LAN2_MDI2_N	DIFF	
R8	LAN2_MDI3_P	DIFF	
R9	LAN2_MDI3_N	DIFF	

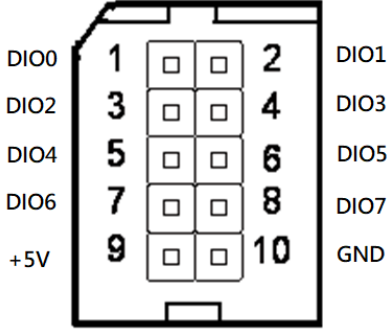
2.4.13 HDMI Connector (CN19)



Pin	Pin Name	Signal Type	Signal Level
1	HDMI_TX2+	DIFF	
2	GND	GND	
3	HDMI_TX2-	DIFF	
4	HDMI_TX1+	DIFF	
5	GND	GND	
6	HDMI_TX1-	DIFF	
7	HDMI_TX0+	DIFF	
8	GND	GND	
9	HDMI_TX0-	DIFF	
10	HDMI_CLK+	DIFF	
11	GND	GND	
12	HDMI_CLK-	DIFF	
13	NC		
14	NC		
15	DDC_CLK	I/O	+5V
16	DDC_DATA	I/O	+5V
17	GND	GND	

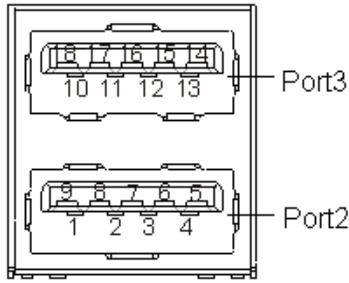
Pin	Pin Name	Signal Type	Signal Level
18	+5V	PWR	+5V
19	HDMI_HPD		

2.4.14 Digital I/O Port (CN20)



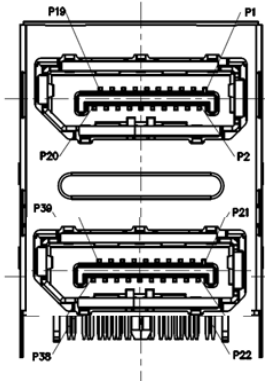
Pin	Signal Description	Pin	Signal Description
1	PD0	2	PD1
3	PD2	4	PD3
5	PD4	6	PD5
7	PD6	8	PD7
9	+V5S(0.5A)	10	GND

2.4.15 USB 3.2 Gen 2 Connector (CN21)



Pin	Pin Name	Signal Type	Signal Level
1	+5VSB	PWR	+5V(0.9A)
2	USB2_3D-	DIFF	
3	USB2_3D+	DIFF	
4	GND	GND	
5	USB3_3_SSRX-	DIFF	
6	USB3_3_SSRX+	DIFF	
7	GND	GND	
8	USB3_3_SSTX-	DIFF	
9	USB3_3_SSTX+	DIFF	
10	+5VSB	PWR	+5V(0.9A)
11	USB2_4_D-	DIFF	
12	USB2_4_D+	DIFF	
13	GND	GND	
14	USB3_4_SSRX-	DIFF	
15	USB3_4_SSRX+	DIFF	
16	GND	GND	
17	USB3_4_SSTX-	DIFF	
18	USB3_4_SSTX+	DIFF	

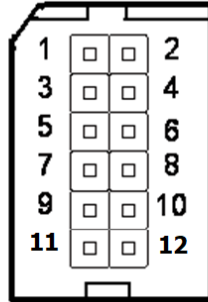
2.4.16 DP++ 1~2 Connector (CN22)



Pin	Pin Name	Signal Type	Signal Level
1	DP1_TX0_DP	DIFF	
2	GND	GND	
3	DP1_TX0_DN	DIFF	
4	DP1_TX1_DP	DIFF	
5	GND	GND	
6	DP1_TX1_DN	DIFF	
7	DP1_TX2_DP	DIFF	
8	GND	GND	
9	DP1_TX2_DN	DIFF	
10	DP1_TX3_DP	DIFF	
11	GND	GND	
12	DP1_TX3_DN	DIFF	
13	DDC_AUX_EN	H(HDMI/L(DP)	
14	GND	GND	
15	DP1_AUX_DP	I/O	
16	GND	GND	
17	DP1_AUX_DN	I/O	

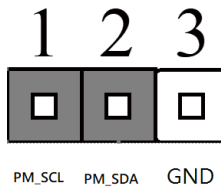
Pin	Pin Name	Signal Type	Signal Level
18	HDMI_HPD	I/O	
19	GND	GND	
20	+V3P3S	PWR	+3.3V
21	DP1_TX0_DP	DIFF	
22	GND	GND	
23	DP1_TX0_DN	DIFF	
24	DP1_TX1_DP	DIFF	
25	GND	GND	
26	DP1_TX1_DN	DIFF	
27	DP1_TX2_DP	DIFF	
28	GND	GND	
29	DP1_TX2_DN	DIFF	
30	DP1_TX3_DP	DIFF	
31	GND	GND	
32	DP1_TX3_DN	DIFF	
33	DDC_AUX_EN	H(HDMI/L(DP)	
34	GND	GND	
35	DP1_AUX_DP	I/O	
36	GND	GND	
37	DP1_AUX_DN	I/O	
38	HDMI_HPD	I/O	
39	GND	GND	
40	+V3P3S	PWR	+3.3V

2.4.17 Audio I/O Port (CN23)



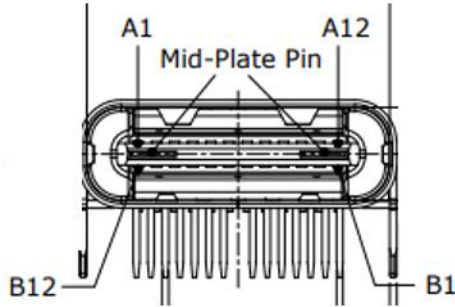
Pin	Pin Name	Signal Type	Pin	Pin Name	Signal Type
1	LOUT_R	OUT	2	MIC_L	IN
3	LOUT_L	OUT	4	MIC_R	IN
5	JD_LOUT	IN	6	JD_MIC	IN
7	AUD_GND	GND	8	AUD_GND	GND
9	LINE_R_IN	IN	10	LIN_R	IN
11	+VDD_AUD	PWR	12	LIN_L	IN

2.4.18 VCore Progaming Connector (CN24)



Pin	Pin Name	Signal Type	Signal Level
1	PM_SCL	IN/OUT	3.3V
2	PM_SDA	IN/OUT	3.3V
3	GND	GND	

2.4.19 USB 3.2 Gen 2x2 (Type-C) Connector (CN25)

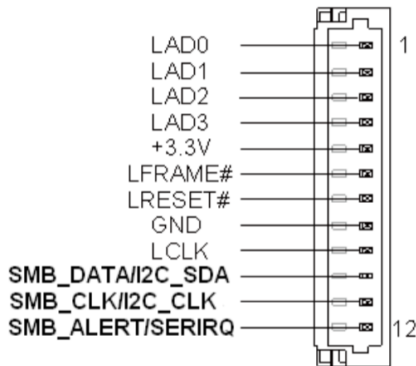


Pin	Pin Name	Signal Type	Signal Level
A1	GND	GND	GND
A2	SSTXP1	DIFF	
A3	SSTXN1	DIFF	
A4	+5VSB	PWR	+5V
A5	CON_CC1	IN	
A6	USB_P0_DP_C	DIFF	
A7	USB_P0_DN_C	DIFF	
A8	DP2_AUXP_CON	DIFF	
A9	+5VSB	PWR	+5V
A10	SSRXN2	DIFF	
A11	SSRXP2	DIFF	
A12	GND	GND	GND
B1	GND	GND	GND
B2	SSTXP2	DIFF	
B3	SSTXN2	DIFF	
B4	+5VSB	PWR	+5V
B5	CON_CC2	IN	
B6	USB_P0_DP_C	DIFF	

Pin	Pin Name	Signal Type	Signal Level
B7	USB_P0_DN_C	DIFF	
B8	DP2_AUXN_CON	DIFF	
B9	+5VSB	PWR	+5V
B10	SSRXN1	DIFF	
B11	SSRXP1	DIFF	
B12	GND	GND	GND

Note: Type-C supports USB 3.2 Gen 2x2 only, +5V current supports 3A.

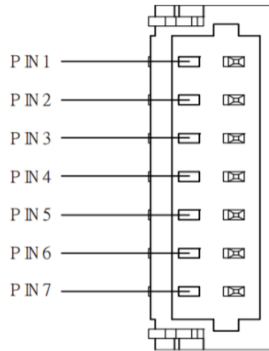
2.4.20 LPC Connector for Debug (CN26)



Pin	Pin Name	Signal Type	Signal Level
1	ESPI_IO0	IN/OUT	+1.8V
2	ESPI_IO1	IN/OUT	+1.8V
3	ESPI_IO2	IN/OUT	+1.8V
4	ESPI_IO3	IN/OUT	+1.8V
5	+V3P3S	PWR	+3.3V
6	ESPI_CS	IN	+1.8V
7	ESPI_RST#	OUT	+1.8V

Pin	Pin Name	Signal Type	Signal Level
8	GND	GND	GND
9	ESPI_CLK	OUT	
10	SMB_DATA/ I2C_SDA	IN/OUT	+3.3V
11	SMB_CLK/ I2C_CLK	OUT	+3.3V
12	SMB_ALERT	IN	+3.3V

2.4.21 SPI BIOS Debug Port (CN27)

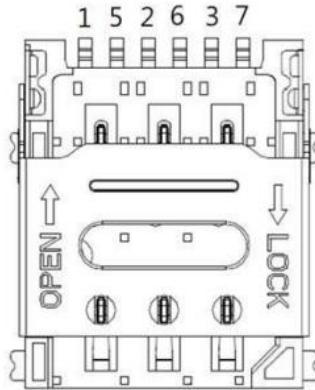


Pin	Pin Name	Signal Type	Signal Level
1	SPI_MISO	OUT	
2	GND	GND	GND
3	SPI_CLK	IN	
4	+3.3VSB	PWR	+3.3V
5	SPI_MOSI	IN	
6	SPI_CS	IN	
7	NC		

2.4.22 M.2 2230 E-Key (CN28)

Standard specification.

2.4.23 Nano SIM Card Socket (CN29)



Pin	Pin Name	Signal Type	Signal Level
1	UIM_PWR	PWR	
2	UIM_RST	IN	
3	UIM_CLK	IN	
4	NC		
5	GND	GND	
6	UIM_VPP	PWR	
7	UIM_DATA	I/O	
8	NC		

2.4.24 M.2 3052 B-Key (CN30)

Standard specification.

2.4.25 FPC Connector (PCIe [x2]) (CN31)

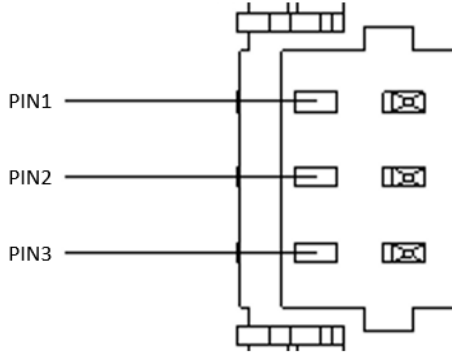
Pin	Pin Name	Signal Type	Signal Level
1	+V3P3S	PWR	3.3V
2	+V3P3S	PWR	3.3V
3	+V3P3S	PWR	3.3V
4	SMB_DATA	IN/OUT	
5	SMB_CLK	OUT	
6	BUF_PLT_RST#		
7	+V3P3A	PWR	3.3V
8	GND	GND	
9	NC		
10	NC		
11	GND	GND	
12	PCIE_6_RXP	DIFF	
13	PCIE_6_RXN	DIFF	
14	GND	GND	
15	PCIE_5_RXP	DIFF	
16	PCIE_5_RXN	DIFF	
17	GND	GND	
18	NC		
19	NC		
20	GND	GND	
21	PCIE_6_TXN	DIFF	
22	PCIE_6_TXP	DIFF	
23	GND	GND	
24	PCIE_5_TXN	DIFF	
25	PCIE_5_TXP	DIFF	

Pin	Pin Name	Signal Type	Signal Level
26	GND	GND	
27	NC		
28	NC		
29	GND	GND	
30	PCIE_7_CLK_DN	DIFF	
31	PCIE_7_CLK_DP	DIFF	
32	GND	GND	
33	NC		
34	NC		
35	GND	GND	
36	+V12V	PWR	12V
37	+V12V	PWR	12V
38	+V12V	PWR	12V
39	+V12V	PWR	12V
40	+V12V	PWR	12V

2.4.26 M.2 2280 M-Key (CN32)

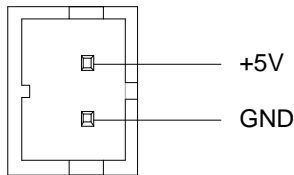
Standard specification.

2.4.27 TCC (CN33)



Pin	Pin Name	Signal Type	Signal Level
1	TIME_SYNC0	IN/OUT	3.3V
2	TIME_SYNC1	IN/OUT	3.3V
3	GND	GND	

2.4.28 SATA Power Connector (CN34)



Pin	Pin Name	Signal Type	Signal Level
1	+5V	PWR	+5V(2A)
2	GND	GND	

Note: CN34 offers 2A current for SATA connector.

2.4.29 CPU Socket (CPU1)

Standard specification.

2.4.30 DDR5 SODIMM Slot (DIMM1)

Standard specification (vertical).

2.4.31 DDR5 SODIMM Slot (DIMM2)

Standard specification.

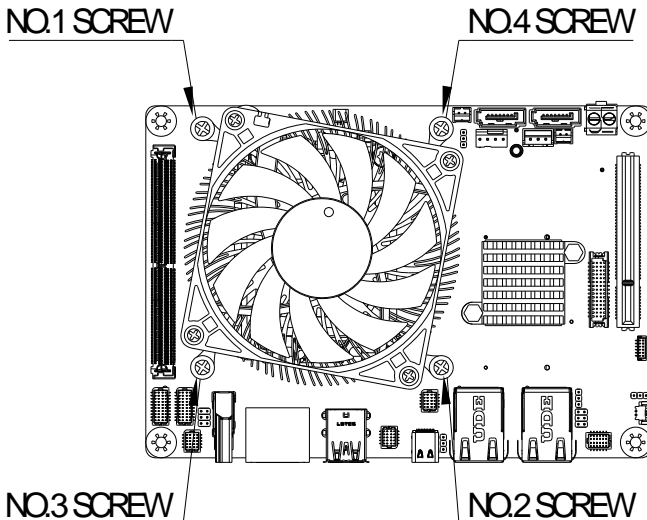
2.5 Heatsink Installation

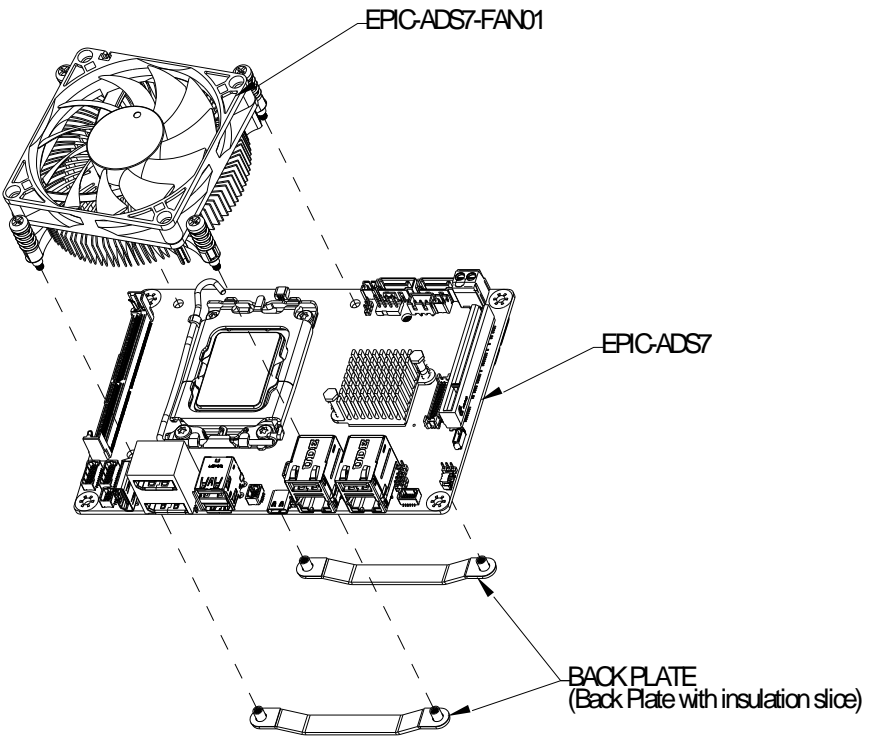
Installation Instructions

1. Do not apply any thermal grease to the heatsink - the required amount has already been applied.
2. The back plate should be pre-attached to the underside of the motherboard.

Remember to peel off the insulation slice liner prior to installation.

3. Place the heatsink directly on top of the CPU so that the heatsink screws are aligned with the mounting holes on the back plate.
4. Make sure screwdriver torque setting is no more than 5.0 kgf-cm (4.3 lbf-in) and keep heatsink screws direction vertical.
5. Screw in two diagonal screws (i.e. the #1 and #2 screws) until they are just snug (do not fully tighten), then do the same with the remaining two diagonal screws.
6. Finish by fully tightening all four screws.
7. Connect the fan cable to the CPU fan connector on the motherboard.





Chapter 3

AMI BIOS Setup

3.1 System Test and Initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors.

System configuration verification

These routines check the current system configuration stored in the CMOS memory and BIOS NVRAM. If system configuration is not found or system configuration data error is detected, system will load optimized default and re-boot with this default system configuration automatically.

There are four situations in which you will need to setup system configuration:

1. You are starting your system for the first time
2. You have changed the hardware attached to your system
3. The system configuration is reset by Clear-CMOS jumper
4. The CMOS memory has lost power and the configuration information has been erased.

The EPIC-ADS7 CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs down.

3.2 AMI BIOS Setup

AMI 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 CMOS RAM and BIOS NVRAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press or <ESC> immediately. This will allow you to enter Setup.

Main

Set the date, use tab to switch between date elements.

Advanced

Enable/disable boot option for legacy network devices.

Chipset

Host bridge parameters.

Security

Set setup administrator password.

Boot

Enables/disables quiet boot option.

Save & Exit

Exit system setup after saving the changes.

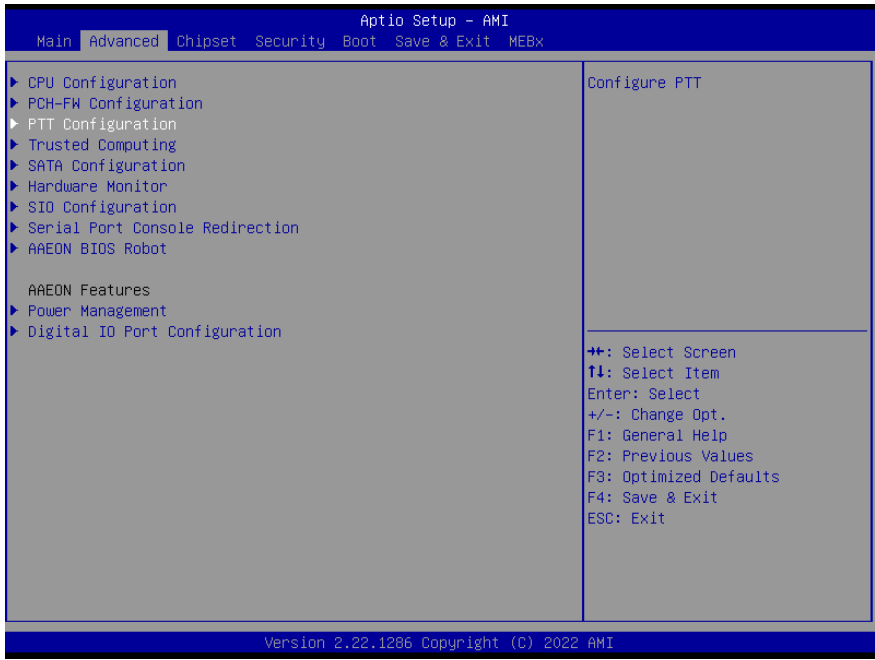
MEBx

Set management firmware and Intel ME configuration user interface.

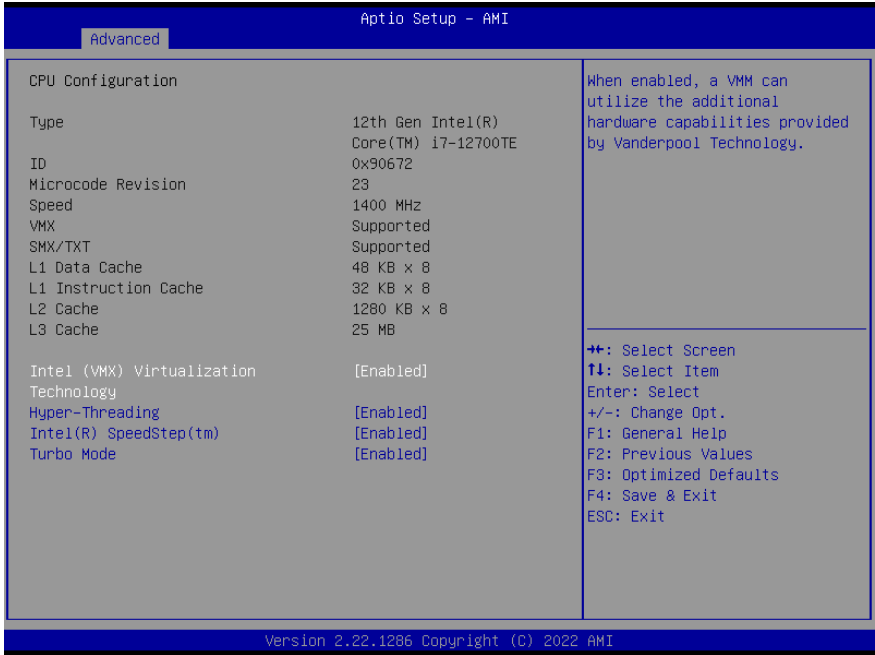
3.3 Setup Submenu: Main



3.4 Setup Submenu: Advanced

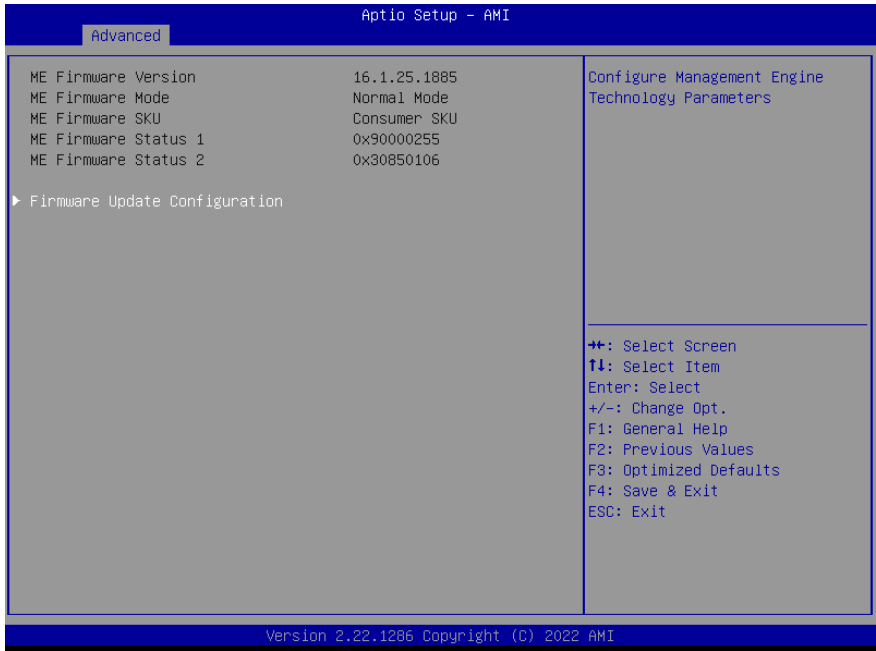


3.4.1 CPU Configuration



Options Summary		
Intel (VMX) Virtualization Technology	Disabled	
	Enabled	Optimal Default, Failsafe Default
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.		
Hyper-Threading	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable or Disable Hyper-Threading Technology.		
Intel® SpeedStep™	Disabled	
	Enabled	Optimal Default, Failsafe Default
Allows more than two frequency ranges to be supported.		
Turbo Mode	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable or Disable processor Turbo Mode (requires EMTTM enable too). AUTO means enabled.		

3.4.2 PCH-FW Configuration



3.4.3 Firmware Update Configuration



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

3.4.4 PTT Configuration



Options Summary		
TPM Device Selection	dTPM	Optimal Default, Failsafe Default
	PTT	
<p>Selects TPM device: PTT or discrete TPM. PTT - enables PTT in SkuMgr. dTPM - disables PTT in SkuMgr Warning! PTT/dTPM will be disabled and all data saved on it will be lost.</p>		

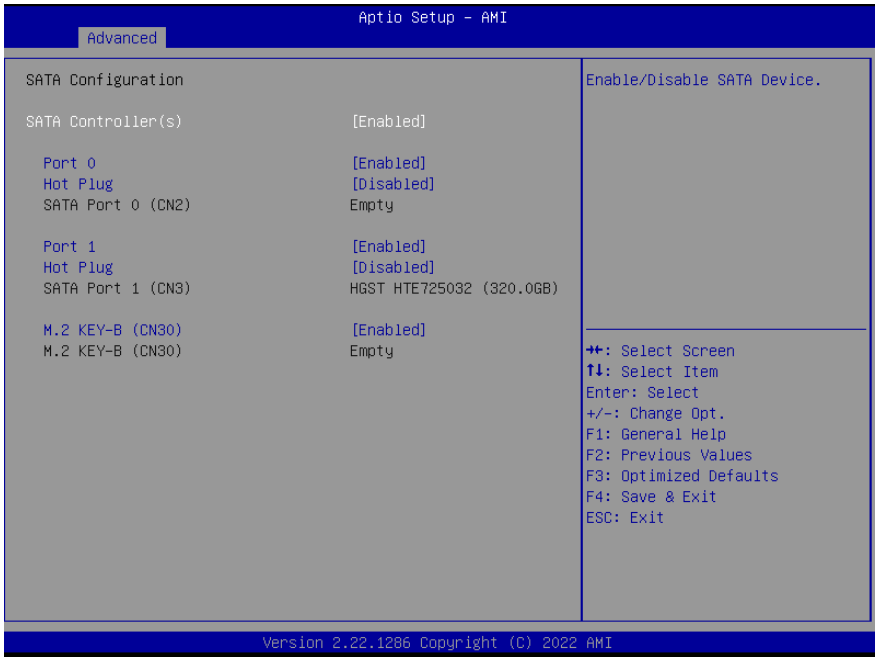
3.4.5 Trusted Computing



Options Summary		
Security Device Support	Enable	Optimal Default, Failsafe Default
	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	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable SHA256 PCR Bank.		
SHA384 PCR Bank	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable SHA384 PCR Bank.		
Pending operation	None	Optimal Default, Failsafe Default
	TPM Clear	
Schedule an Operation for the Security Device.		
NOTE: Your Computer will reboot during restart in order to change State of Security Device.		

Options Summary		
Platform Hierarchy	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable Platform Hierarchy.		
Storage Hierarchy	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable Storage Hierarchy.		
Endorsement Hierarchy	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable Endorsement Hierarchy.		
Physical Presence Spec Version	1.3	Optimal Default, Failsafe Default
	1.2	
Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3.		
Device Select	Auto	
	TPM 1.2	
	TPM 2.0	Optimal Default, Failsafe Default
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.		

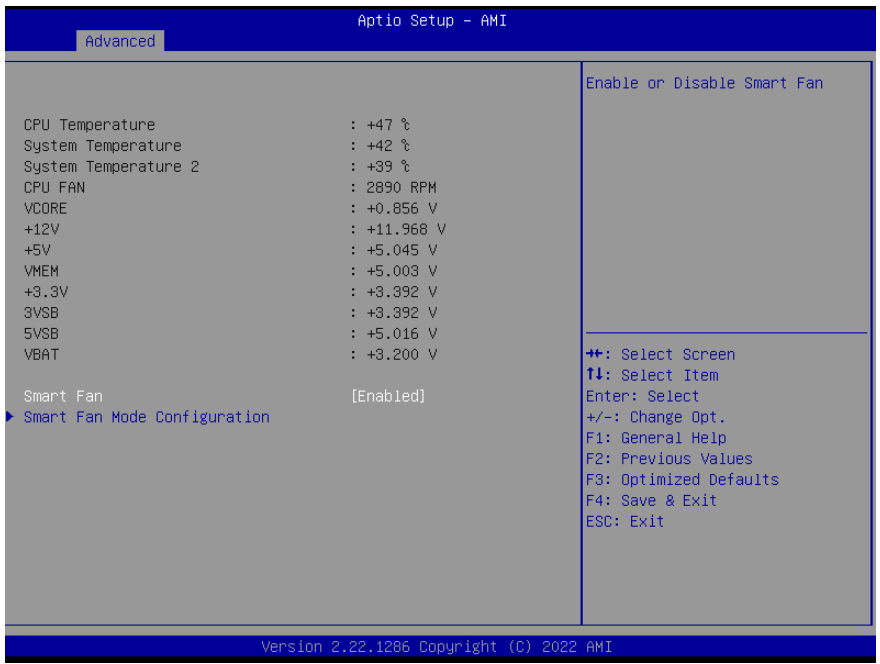
3.4.6 SATA Configuration



Options Summary		
SATA Controller(s)	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable/Disable SATA Device.		
Port 0	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable SATA Port.		
Hot Plug	Disabled	Optimal Default, Failsafe Default
	Enabled	
Designates this port as Hot Pluggable.		
Port 1	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable SATA Port.		
Hot Plug	Disabled	Optimal Default, Failsafe Default
	Enabled	

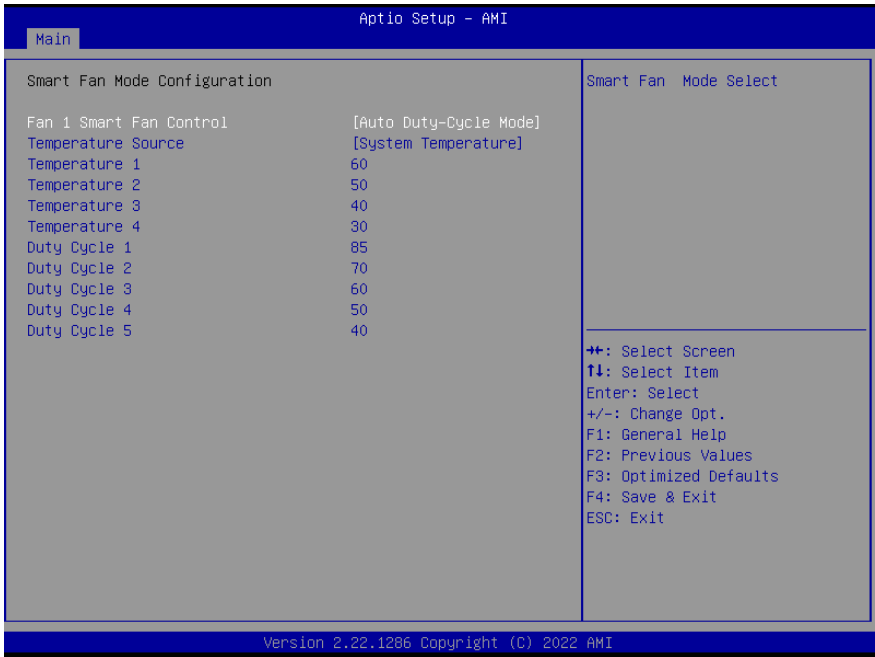
Options Summary		
Designates this port as Hot Pluggable.		
M.2 KEY-B (CN30)	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable SATA Port.		

3.4.7 Hardware Monitor



Options Summary		
Smart Fan	Disable	
	Enable	Optimal Default, Failsafe Default
Enables or Disables Smart Fan.		

3.4.8 Smart Fan Mode Configuration

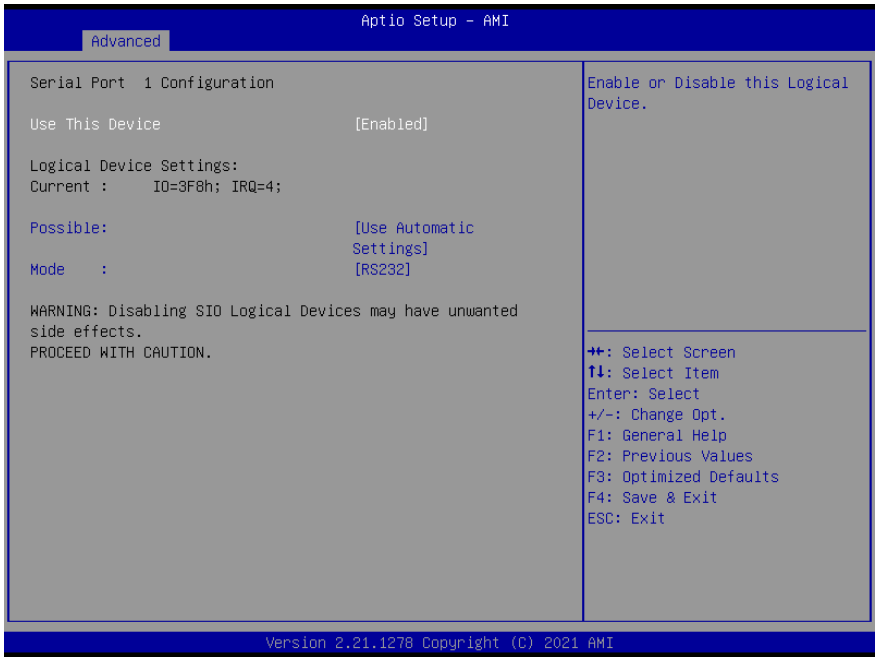


Options Summary		
Fan 1 Smart Fan Control	Manual Duty Mode	
	Auto Duty-Cycle Mode	Optimal Default, Failsafe Default
Smart Fan Mode Select.		
Temperature Source	CPU Temperature	
	System Temperature	Optimal Default, Failsafe Default
	System Temperature 2	
Select the monitored temperature source for this fan.		
Temperature 1	60	
Duty Cycle 1	85	
Auto fan speed control. Fan speed will follow different temperature by different duty cycle 1-100.		

3.4.9 SIO Configuration

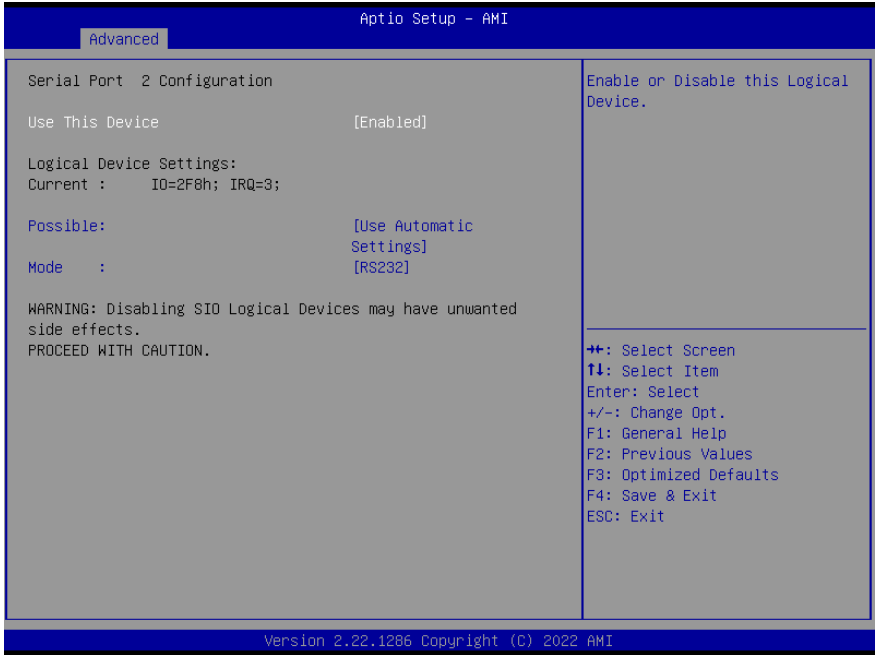


3.4.9.1 Serial Port 1 Configuration



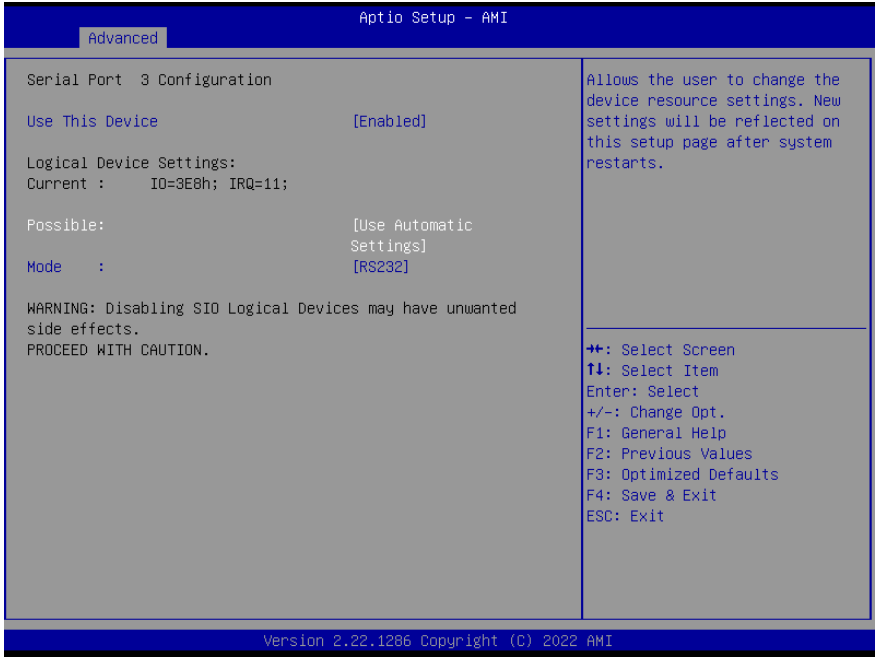
Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=3F8h; IRQ=4	
	IO=2F8h; IRQ=3	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		
Mode:	RS232	Optimal Default, Failsafe Default
	RS422	
	RS485	
UART RS232, 422, 485 selection.		

3.4.9.2 Serial Port 2 Configuration



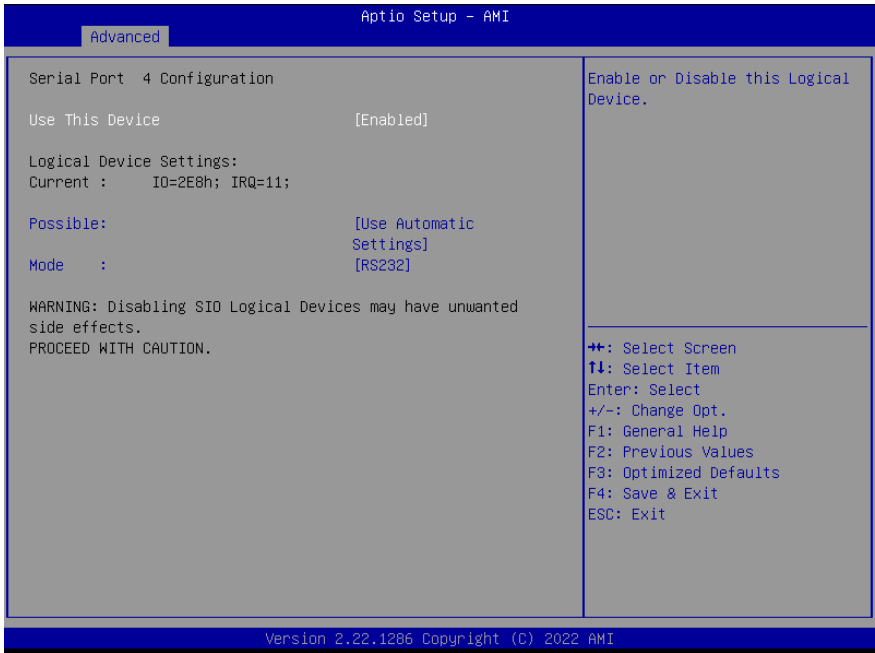
Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=2F8h; IRQ=3	
	IO=3F8h; IRQ=4	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		
Mode:	RS232	Optimal Default, Failsafe Default
	RS422	
	RS485	
UART RS232, 422, 485 selection.		

3.4.9.3 Serial Port 3 Configuration



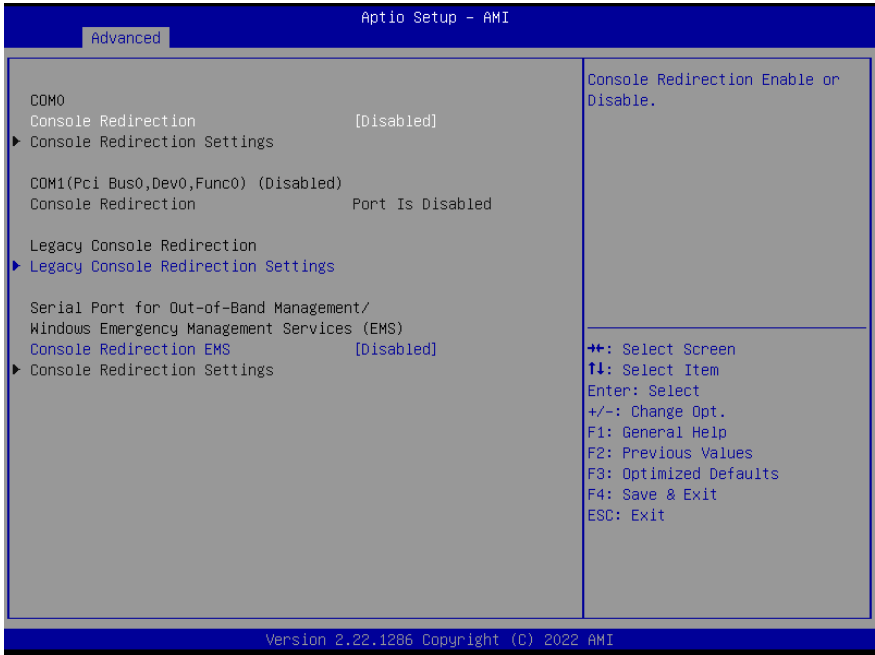
Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=3E8h; IRQ=11	
	IO=2E8h; IRQ=11	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		
Mode:	RS232	Optimal Default, Failsafe Default
	RS422	
	RS485	
UART RS232, 422, 485 selection.		

3.4.9.4 Serial Port 4 Configuration



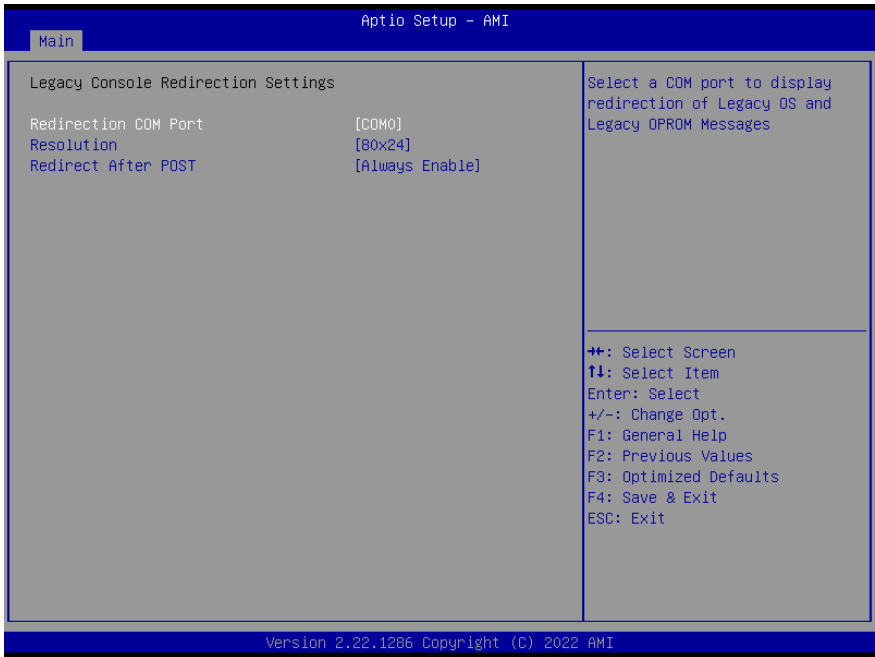
Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=2E8h; IRQ=11	
	IO=3E8h; IRQ=11	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		
Mode:	RS232	Optimal Default, Failsafe Default
	RS422	
	RS485	
UART RS232, 422, 485 selection.		

3.4.10 Serial Port Console Redirection



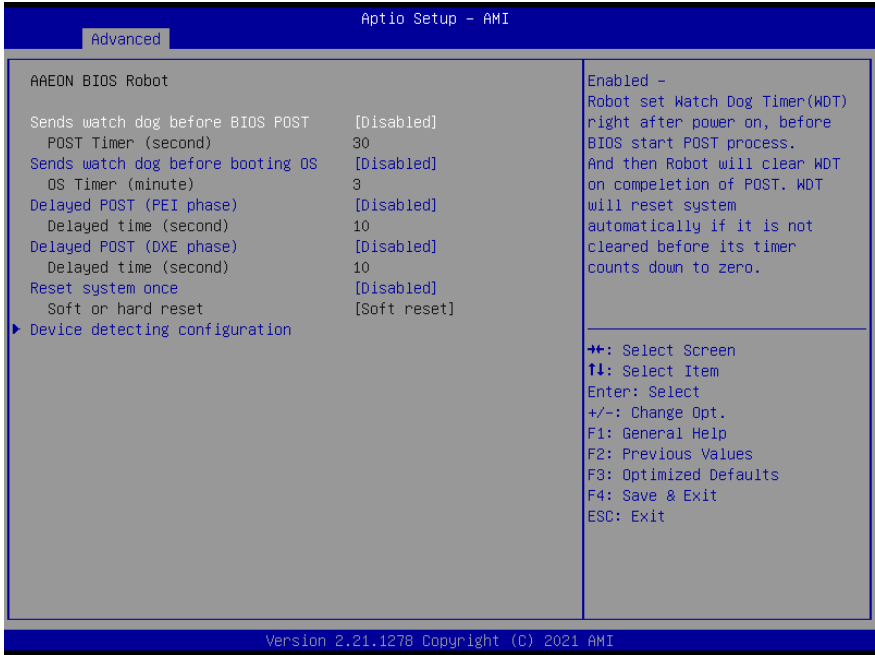
Options Summary		
Console Redirection	Disabled	Optimal Default, Failsafe Default
	Enabled	
Console Redirection Enable or Disable.		
Console Redirection EMS	Disabled	Optimal Default, Failsafe Default
	Enabled	
Console Redirection Enable or Disable.		

3.4.11 Legacy Console Redirection Settings



Options Summary		
Redirection COM port	COM0	Optimal Default, Failsafe Default
	COM1(Pci Bus0, Dev0, Func0) (Disabled)	
Select a COM Port to display redirection of Legacy OS and Legacy OPRM message.		
Resolution	80x24	Optimal Default, Failsafe Default
	80x25	
On Legacy OS, the number of Rows and Columns supported redirection.		
Redirect After POST	Always Enable	Optimal Default, Failsafe Default
	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.		

3.4.12 AAEON BIOS Robot



Options Summary		
Sends watch dog before BIOS POST	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enabled - Robot set Watch Dog Timer (WDT) right after power on, before BIOS start POST process. And then Robot will clear WDT on completion of POST. WDT will reset system automatically if it is not cleared before its timer counts down to zero.		
POST Timer (second)	30	Optimal Default, Failsafe Default
Timer count set to Watch Dog Timer for POST. WARNING: Do not set to a value equal or shorter than normal POST time, otherwise system may never complete POST unless clearing BIOS settings. More than 2x normal POST time is suggested.		
Sends watch dog before booting OS	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enabled - Robot set Watch Dog Timer (WDT) after POST completion, before BIOS transfer control to OS. WARNING: Before enabling this function, a program in OS must be in responsible for clearing WDT. Also, this function should be disabled if OS is going to update itself.		

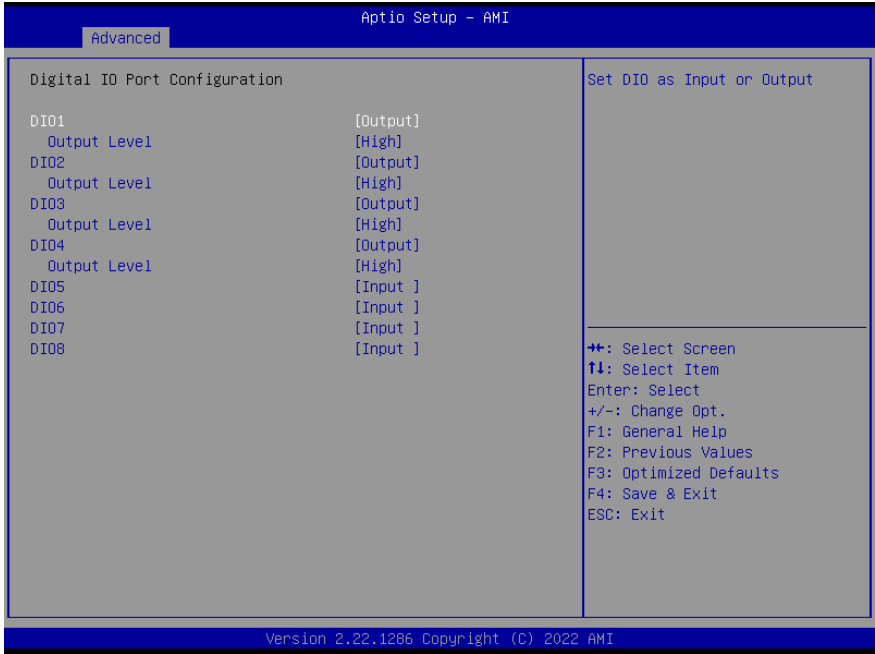
Options Summary		
OS Timer (minute)	3	Optimal Default, Failsafe Default
Timer count set to Watch Dog Timer for OS loading.		
Delayed POST (PEI phase)	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enabled - Robot holds BIOS from starting POST, right after power on. This allows BIOS POST to start with stable power or start after system is physically warmed-up. Note: Robot does this before 'Sends watch dog'.		
Delayed time (second)	10	Optimal Default, Failsafe Default
Period of time for Robot to hold BIOS from POST.		
Delayed POST (DXE phase)	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enabled - Robot holds BIOS before POST completion. This allows BIOS POST to start with stable power or start after system is physically warmed-up. Note: Robot does this after 'Sends watch dog before BIOS POST'.		
Delayed time (second)	10	Optimal Default, Failsafe Default
Period of time for Robot to hold BIOS from POST.		
Reset system once	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enabled - Robot resets system for one time on each boot. This will send a soft or hard reset to onboard devices, thus puts devices to more stable state.		
Soft or hard reset	Soft reset	Optimal Default, Failsafe Default
	Hard reset"	
Select reset type robot should send on each boot.		

3.4.13 Power Management



Options Summary		
Power Mode	ATX Type	Optimal Default, Failsafe Default
	AT Type	
Select power supply mode.		
Restore AC Power Loss	Last State	Optimal Default, Failsafe Default
	Always On	
	Always Off	
Select power state when power is re-applied after a power failure.		
RTC wake system from S5	Disable	Optimal Default, Failsafe Default
	Fixed Time	
	Bypass	
Fixed Time: System will wake on the hr::min::sec specified. Bypass: BIOS will not control RTC wake function during system shutdown.		

3.4.14 Digital IO Port Configuration



Options Summary		
DIO Port*	Output	
	Input	
Set DIO as Input or Output.		
Output Level	High	
	Low	
Set output level when DIO pin is output.		

3.5 Setup Submenu: Chipset

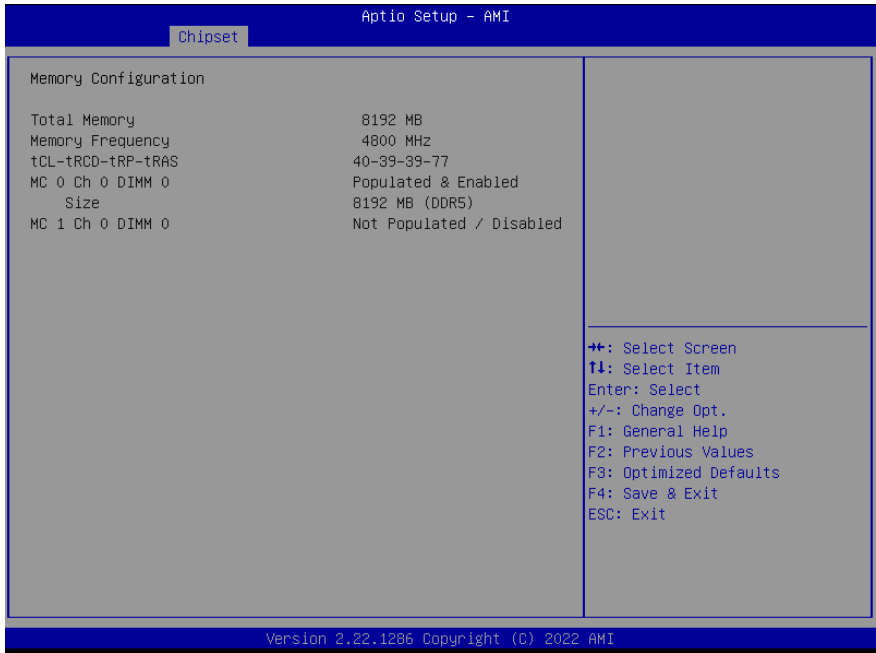


3.5.1 System Agent (SA) Configuration

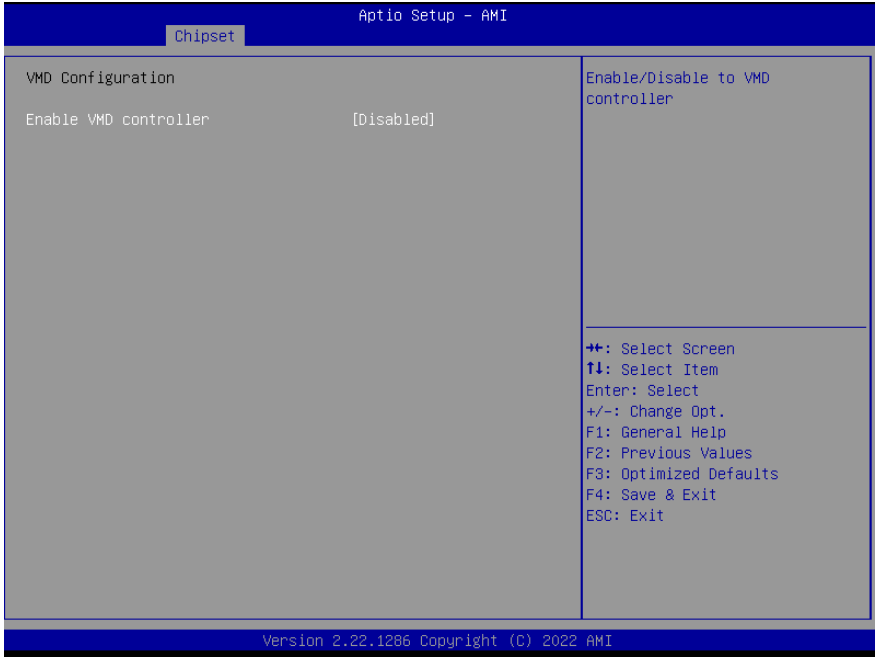


Options Summary		
VT-d	Disabled	Optimal Default, Failsafe Default
	Enabled	
VT-d capability.		

3.5.2 Memory Configuration

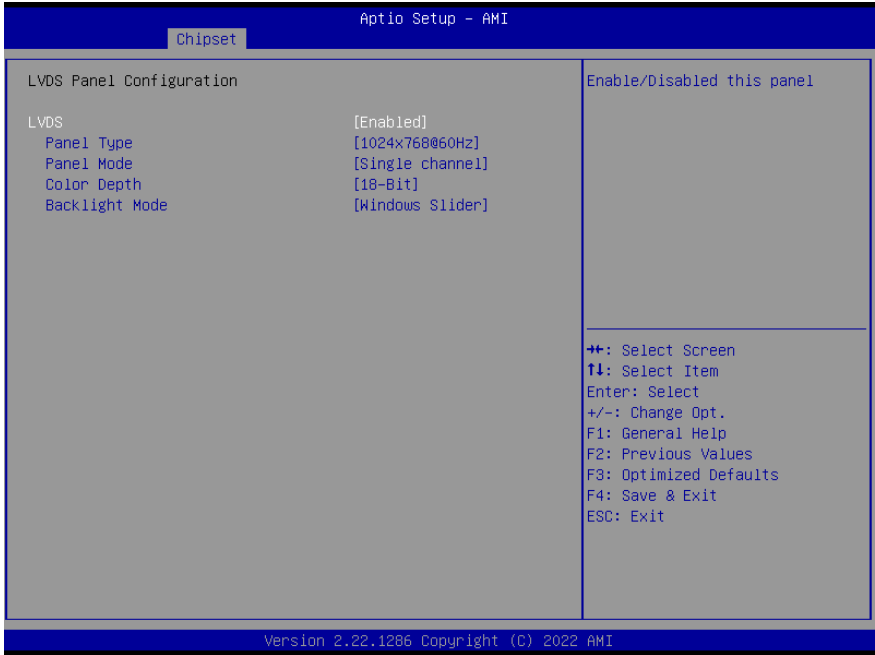


3.5.3 VMD Setup Menu



Options Summary		
Enable VMD Controller	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enable/Disable to VMD Controller.		

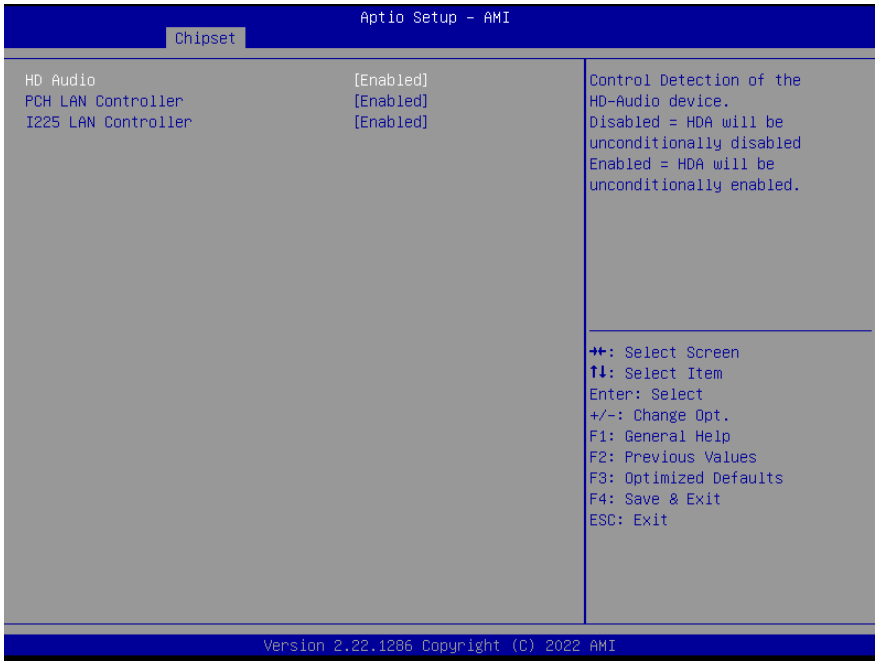
3.5.4 LVDS Panel Configuration



Options Summary		
LVDS	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disabled this panel.		
LVDS Panel Type	640x480,18bit,60Hz	
	800x480,18bit,60Hz	
	800x600,18bit,60Hz	
	1024x600,18bit,60Hz	
	1024x768,18bit,60Hz	
	1024x768,24bit,60Hz	Optimal Default, Failsafe Default
	1280x768,24bit,60Hz	
	1280x1024,48bit,60Hz	
	1366x768,24bit,60Hz	
	1440x900,48bit,60Hz	
	1600x1200,48bit,60Hz	
1920x1080,48bit,60Hz		

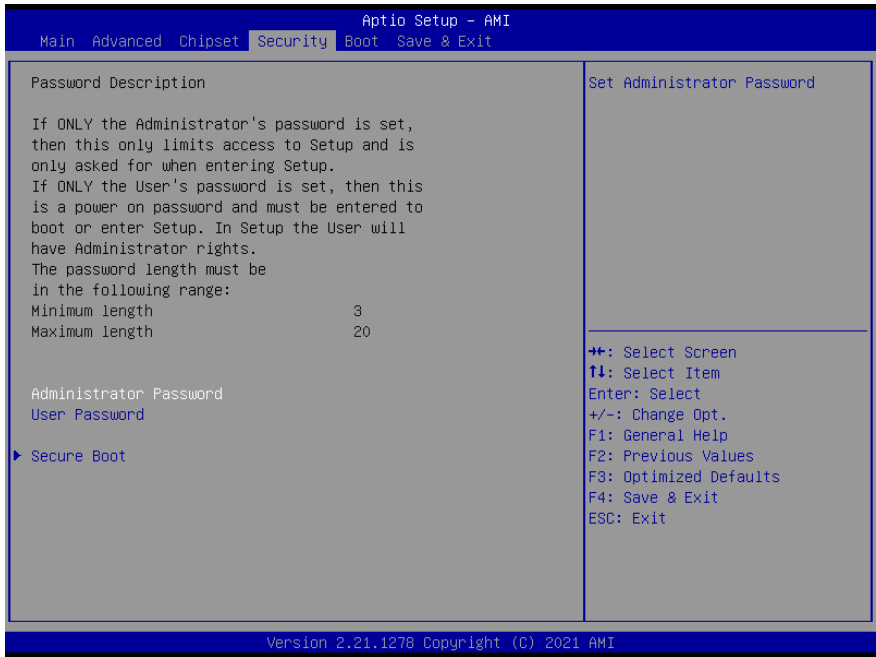
Options Summary		
	1920x1200,48bit,60Hz	
Select LCD panel used by Internal Graphics Device by selecting the appropriate setup item.		
Panel Mode	Single Channel	Optimal Default, Failsafe Default
	Dual Channel	
Panel mode selection for Single channel or Dual channel.		
Color Depth	18-bit	Optimal Default, Failsafe Default
	24-bit	
	36-bit	
	48-bit	
Select panel type.		
Backlight Mode	BIOS & Application	
	Windows Slider	Optimal Default, Failsafe Default
Select backlight control signal type.		

3.5.5 PCH-IO Configuration



Options Summary		
HD Audio	Disabled	
	Enabled	Optimal Default, Failsafe Default
Control Detection of the HD-Audio Device. Disabled = HDA will unconditionally disabled. Enabled = HDA will be unconditionally enabled.		
PCH LAN Controller	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disable onboard NIC.		
I225 LAN Controller	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disable I225 LAN Controller.		

3.6 Setup Submenu: Security



Change User/Supervisor Password

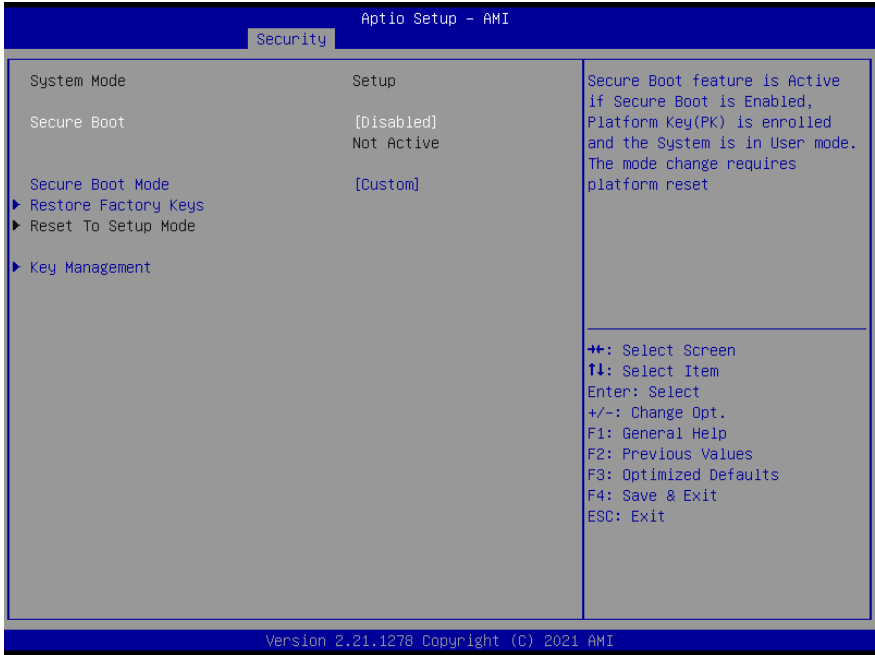
You can install a Supervisor password, and if you install a supervisor password, you can then install a user password. A user password does not provide access to many of the features in the Setup utility.

If you highlight these items and press Enter, a dialog box appears which lets you enter a password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. A second dialog box asks you to retype the password for confirmation. Press Enter after you have retyped it correctly. The password is required at boot time, or when the user enters the Setup utility.

Removing the Password

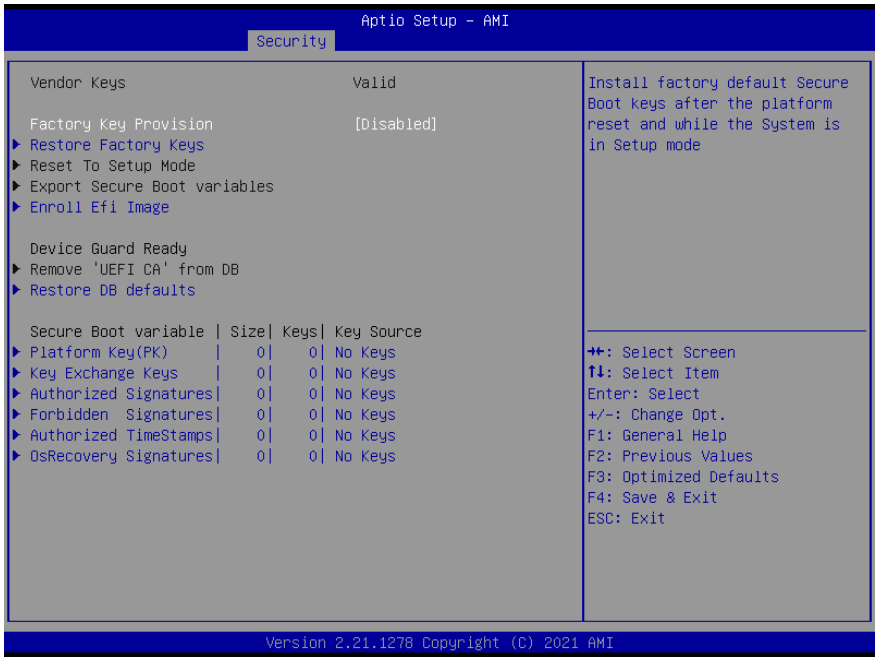
Highlight this item and type in the current password. At the next dialog box press Enter to disable password protection.

3.6.1 Secure Boot



Options Summary		
Secure Boot	Disabled	Optimal Default, Failsafe Default
	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 Mode	Custom	Optimal Default, Failsafe Default
	Standard	
Secure Boot mode options: Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.		
Restore Factory Keys		
Force System to User Mode. Install factory default Secure Boot key databases		
Reset to Setup Mode		
Delete all Secure Boot key databases from NVRAM.		

3.6.2 Key Management



Options Summary		
Factory Key Provision	Disabled	Optimal Default, Failsafe Default
	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.		
Restore Factory Keys		
Force System to User Mode. Install factory default Secure Boot key databases.		
Reset to Setup Mode		
Delete all Secure Boot key databases from NVRAM.		
Export Secure Boot variables		
Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device.		
Enroll Efi Image		
Allow the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).		
Remove 'UEFI CA' from DB		

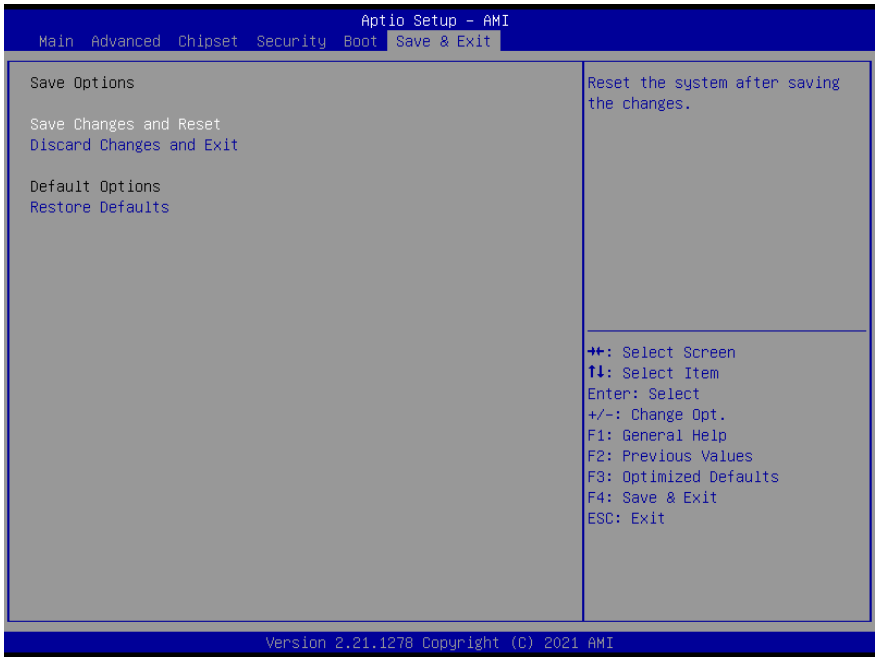
Options Summary	
Device Guard ready system must not list 'Microsoft UEFI CA' Certificate in Authorized Signature database (db).	
Restore DB defaults	
Restore DB variable to factory defaults	
Platform Key (PK)	Details
	Export
	Update
	Delete
Key Exchange Keys	Details
	Export
	Update
	Append
	Delete
Authorized Signatures	Details
	Export
	Update
	Append
	Delete
Forbidden Signatures	Details
	Export
	Update
	Append
	Delete
Authorized TimeStamps	Update
	Append
OsRecovery Signatures	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, External, Mixed	

3.7 Setup Submenu: Boot



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

3.8 Setup Submenu: Save & Exit

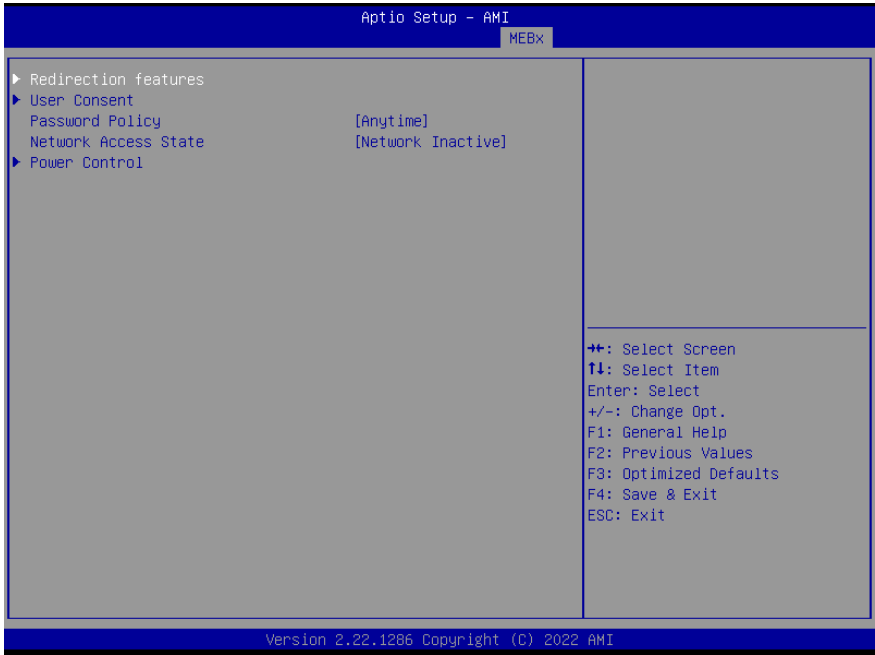


Options Summary	
Save Changes and Reset	Reset the system after saving the changes.
Discard Changes and Exit	Exit system setup without saving any changes.
Restore Defaults	Restore/Load Default values for all the setup options.

3.9 Setup Submenu: MEBx

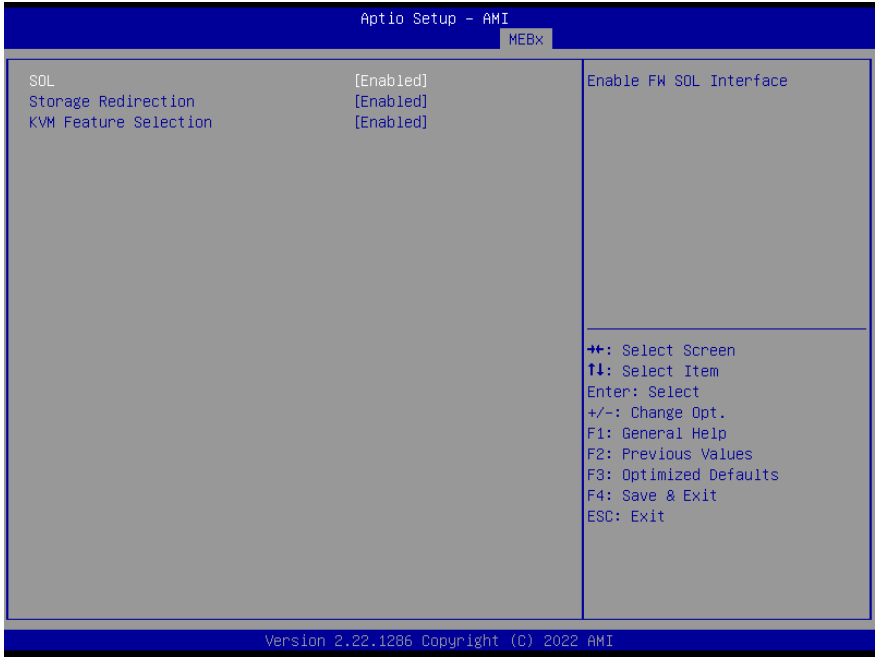


3.9.1 Intel® AMT Configuration



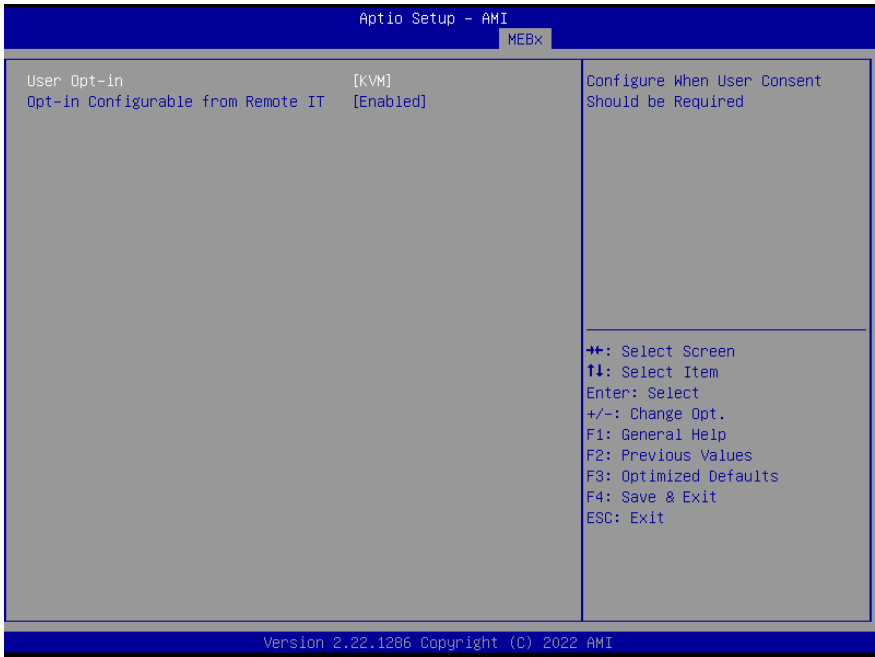
Options Summary		
Password Policy	Default Password Only	
	During Setup and Configuration	
	Anytime	Optimal Default, Failsafe Default
Network Access State	Network Active	
	Network Inactive	Optimal Default, Failsafe Default
	Full Unprovision	
Changes network state of ME. When disabling, it will also clear some other settings.		

3.9.2 Redirection Features



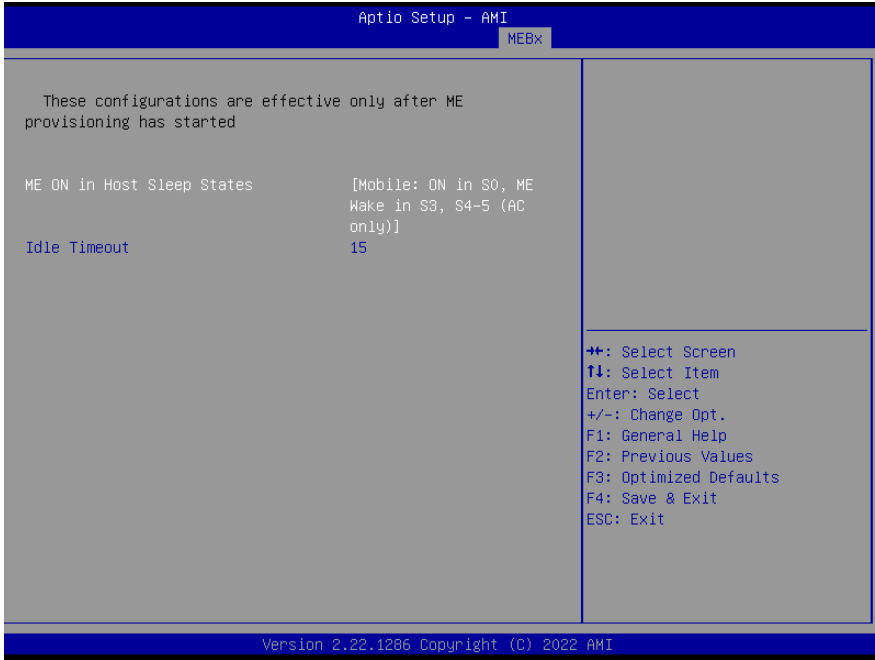
Options Summary		
SOL	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable FW SOL Interface.		
Storage Redirection	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable FW Remote – Storage Redirection.		
KVM Features Selection	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable FW KVM Feature.		

3.9.3 User Content



Options Summary		
User Opt-in	None	
	KVM	Optimal Default, Failsafe Default
	ALL	
Configure When User Consent Should be Required.		
Opt-in Configurable from Remote IT	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disable Remote Change Capability of User Consent Feature.		

3.9.4 Power Control



Options Summary		
ME ON in Host Sleep States	Mobile: ON in S0	Optimal Default, Failsafe Default
	Mobile: ON in S0, ME Wake in S3, S4-5(AC only)	
Idle Timeout	15	
Timeout Value (1-65536).		

Chapter 4

Drivers Installation

4.1 Drivers Download and Installation

Drivers for the EPIC-ADS7 can be downloaded from the product page on the AAEON website by following this link:

<https://www.aaeon.com/en/>

Download the driver(s) you need and follow the steps below to install them.

Step 1 – Install Chipset Drivers

1. Open the **Step 1 – Chipset** folder
2. Open the **SetupChipset.exe** file
3. Follow the instructions
4. Drivers will be installed automatically

Step 2 – Install Graphics Driver

1. Open the **Step 2 - Graphics** folder
2. Open the **Installer.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 3 – Install LAN Driver

1. Open the **Step 3 – Network** folder
2. Open the **.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 4 – Install Audio Driver

1. Open the **Step 4 – Audio** folder
2. Open the **Setup.exe** file
3. Follow the instructions
4. Drivers will be installed automatically

Step 5 – Install Peripheral Driver

1. Open the **Step 5 – Peripheral Driver** folder
2. Open the **SetupSerialIO.exe** file
3. Follow the instructions
4. Drivers will be installed automatically

Step 6 – Install ME & TXE Drivers

1. Open the **Step 6 – ME & TXE Driver** folder
2. Open the **SetupME.exe** file
3. Follow the instructions
4. Drivers will be installed automatically

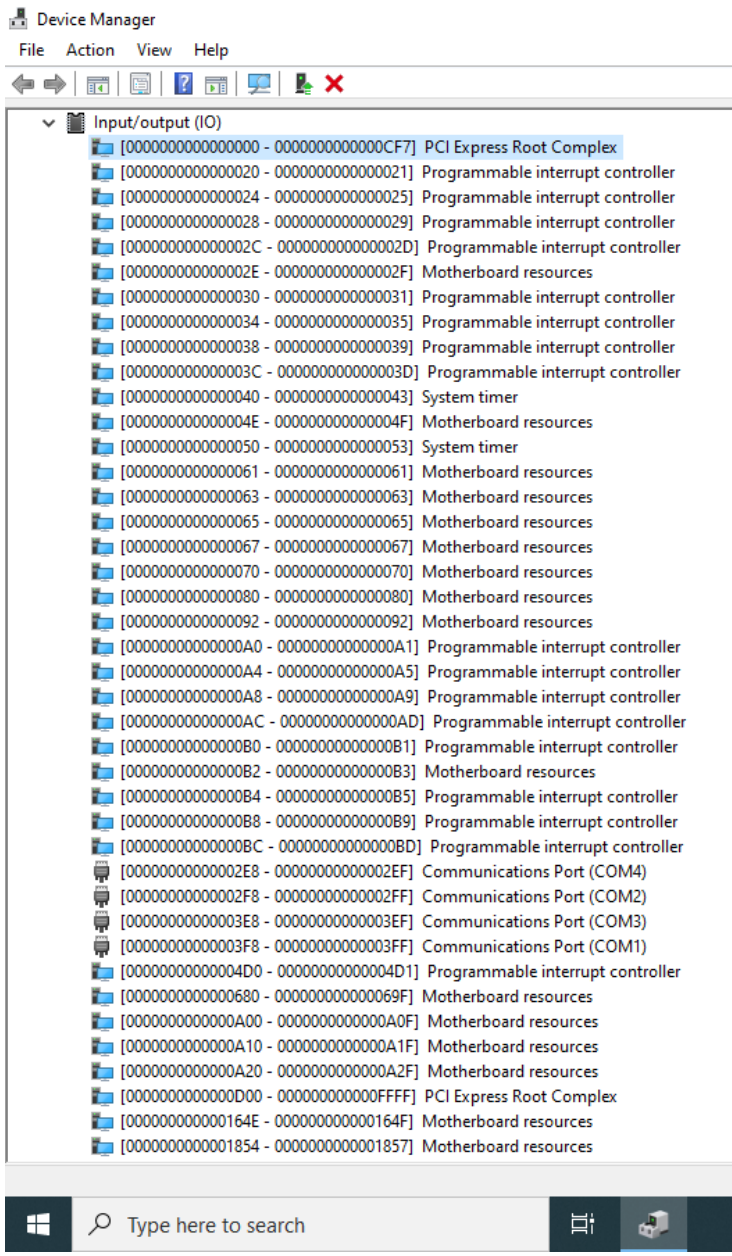
Step 7 – Install Touch Controller Driver








































1. Open the **Step 7 – Touch Controller Driver** folder
2. Open the **Setup.exe** file
3. Follow the instructions
4. Drivers will be installed automatically

Appendix A

I/O Information

A.1 I/O Address Map



	[0000000000000038 - 0000000000000039]	Programmable interrupt controller
	[000000000000003C - 000000000000003D]	Programmable interrupt controller
	[0000000000000040 - 0000000000000043]	System timer
	[000000000000004E - 000000000000004F]	Motherboard resources
	[0000000000000050 - 0000000000000053]	System timer
	[0000000000000061 - 0000000000000061]	Motherboard resources
	[0000000000000063 - 0000000000000063]	Motherboard resources
	[0000000000000065 - 0000000000000065]	Motherboard resources
	[0000000000000067 - 0000000000000067]	Motherboard resources
	[0000000000000070 - 0000000000000070]	Motherboard resources
	[0000000000000080 - 0000000000000080]	Motherboard resources
	[0000000000000092 - 0000000000000092]	Motherboard resources
	[00000000000000A0 - 00000000000000A1]	Programmable interrupt controller
	[00000000000000A4 - 00000000000000A5]	Programmable interrupt controller
	[00000000000000A8 - 00000000000000A9]	Programmable interrupt controller
	[00000000000000AC - 00000000000000AD]	Programmable interrupt controller
	[00000000000000B0 - 00000000000000B1]	Programmable interrupt controller
	[00000000000000B2 - 00000000000000B3]	Motherboard resources
	[00000000000000B4 - 00000000000000B5]	Programmable interrupt controller
	[00000000000000B8 - 00000000000000B9]	Programmable interrupt controller
	[00000000000000BC - 00000000000000BD]	Programmable interrupt controller
	[00000000000002E8 - 00000000000002EF]	Communications Port (COM4)
	[00000000000002F8 - 00000000000002FF]	Communications Port (COM2)
	[00000000000003E8 - 00000000000003EF]	Communications Port (COM3)
	[00000000000003F8 - 00000000000003FF]	Communications Port (COM1)
	[00000000000004D0 - 00000000000004D1]	Programmable interrupt controller
	[0000000000000680 - 000000000000069F]	Motherboard resources
	[0000000000000A00 - 0000000000000A0F]	Motherboard resources
	[0000000000000A10 - 0000000000000A1F]	Motherboard resources
	[0000000000000A20 - 0000000000000A2F]	Motherboard resources
	[0000000000000D00 - 000000000000FFFF]	PCI Express Root Complex
	[000000000000164E - 000000000000164F]	Motherboard resources
	[0000000000001854 - 0000000000001857]	Motherboard resources
	[0000000000002000 - 00000000000020FE]	Motherboard resources
	[0000000000003000 - 000000000000303F]	Intel(R) UHD Graphics
	[0000000000003060 - 000000000000307F]	Standard SATA AHCI Controller
	[0000000000003080 - 0000000000003083]	Standard SATA AHCI Controller
	[0000000000003090 - 0000000000003097]	Standard SATA AHCI Controller
	[000000000000EFA0 - 000000000000EFBF]	Intel(R) SMBus - TAA3

A.2 Memory Address Map

Memory	
[0000000000A0000 - 0000000000BFFFF]	PCI Express Root Complex
[0000000080400000 - 00000000804FFFF]	Intel(R) Ethernet Controller (3) I225-LM
[0000000080400000 - 00000000805FFFF]	Intel(R) PCI Express Root Port #8 - TABF
[0000000080400000 - 00000000BFFFFFFF]	PCI Express Root Complex
[0000000080500000 - 0000000080503FFF]	Intel(R) Ethernet Controller (3) I225-LM
[0000000080600000 - 000000008061FFFF]	Intel(R) Ethernet Connection (17) I219-LM
[0000000080620000 - 0000000080621FFF]	Standard SATA AHCI Controller
[0000000080622000 - 00000000806227FF]	Standard SATA AHCI Controller
[0000000080623000 - 00000000806230FF]	Standard SATA AHCI Controller
[00000000C0000000 - 00000000CFFFFFFF]	Motherboard resources
[00000000E0690000 - 00000000E069FFFF]	Intel(R) Serial IO GPIO Host Controller - INTC1056
[00000000E06A0000 - 00000000E06AFFFF]	Intel(R) Serial IO GPIO Host Controller - INTC1056
[00000000E06B0000 - 00000000E06BFFFF]	Intel(R) Serial IO GPIO Host Controller - INTC1056
[00000000E06D0000 - 00000000E06DFFFF]	Intel(R) Serial IO GPIO Host Controller - INTC1056
[00000000E06E0000 - 00000000E06EFFFF]	Intel(R) Serial IO GPIO Host Controller - INTC1056
[00000000FE010000 - 00000000FE010FFF]	Intel(R) SPI (flash) Controller - 7AA4
[00000000FED00000 - 00000000FED003FF]	High precision event timer
[00000000FED20000 - 00000000FED27FFF]	Motherboard resources
[00000000FED40000 - 00000000FED44FFF]	Trusted Platform Module 2.0
[00000000FED45000 - 00000000FED48FFF]	Motherboard resources
[00000000FED90000 - 00000000FED93FFF]	Motherboard resources
[00000000FEDA0000 - 00000000FEDA0FFF]	Motherboard resources
[00000000FEDA1000 - 00000000FEDA1FFF]	Motherboard resources
[00000000FEDC0000 - 00000000FEDC7FFF]	Motherboard resources
[00000000FEE00000 - 00000000FEEFFFFF]	Motherboard resources
[0000004000000000 - 000000400FFFFFFF]	Intel(R) UHD Graphics
[0000006000000000 - 0000006000FFFFFFF]	Intel(R) UHD Graphics
[0000006001100000 - 000000600110FFFF]	Intel(R) USB 3.20 eXtensible Host Controller - 1.20 (Microsoft)
[0000006001110000 - 0000006001117FFF]	Performance Monitor
[0000006001120000 - 00000060011200FF]	Intel(R) SMBus - 7AA3
[0000007FFFEF7000 - 0000007FFFEF7FFF]	Intel(R) Serial IO I2C Host Controller - 7ACF
[0000007FFFEF8000 - 0000007FFFEF8FFF]	Intel(R) Serial IO I2C Host Controller - 7ACE
[0000007FFFEF9000 - 0000007FFFEF9FFF]	Intel(R) Serial IO I2C Host Controller - 7ACD
[0000007FFFEFA000 - 0000007FFFEFAFFF]	Intel(R) Serial IO I2C Host Controller - 7ACD
[0000007FFFEFB000 - 0000007FFFEFBFFF]	Intel(R) Management Engine Interface #1
[0000007FFFEFC000 - 0000007FFFEFFFFF]	High Definition Audio Controller
[0000007FFFF00000 - 0000007FFFFFFFFF]	High Definition Audio Controller

A.3 IRQ Mapping Chart

The screenshot displays the Windows Device Manager window, specifically the 'Interrupt request (IRQ)' section. The window title is 'Device Manager' and it has a menu bar with 'File', 'Action', 'View', and 'Help'. Below the menu bar is a toolbar with icons for navigation and actions. The main content area shows a tree view under 'Interrupt request (IRQ)' with the following entries:

- (ISA) 0x00000000 (00) System timer
- (ISA) 0x00000003 (03) Communications Port (COM2)
- (ISA) 0x00000004 (04) Communications Port (COM1)
- (ISA) 0x0000000B (11) Communications Port (COM3)
- (ISA) 0x0000000B (11) Communications Port (COM4)
- (ISA) 0x0000000E (14) Intel(R) Serial IO GPIO Host Controller - INTC1056
- (ISA) 0x00000037 (55) Microsoft ACPI-Compliant System
- (ISA) 0x00000038 (56) Microsoft ACPI-Compliant System
- (ISA) 0x00000039 (57) Microsoft ACPI-Compliant System
- (ISA) 0x0000003A (58) Microsoft ACPI-Compliant System
- (ISA) 0x0000003B (59) Microsoft ACPI-Compliant System
- (ISA) 0x0000003C (60) Microsoft ACPI-Compliant System
- (ISA) 0x0000003D (61) Microsoft ACPI-Compliant System
- (ISA) 0x0000003E (62) Microsoft ACPI-Compliant System
- (ISA) 0x0000003F (63) Microsoft ACPI-Compliant System
- (ISA) 0x00000040 (64) Microsoft ACPI-Compliant System
- (ISA) 0x00000041 (65) Microsoft ACPI-Compliant System
- (ISA) 0x00000042 (66) Microsoft ACPI-Compliant System
- (ISA) 0x00000043 (67) Microsoft ACPI-Compliant System
- (ISA) 0x00000044 (68) Microsoft ACPI-Compliant System
- (ISA) 0x00000045 (69) Microsoft ACPI-Compliant System
- (ISA) 0x00000046 (70) Microsoft ACPI-Compliant System
- (ISA) 0x00000047 (71) Microsoft ACPI-Compliant System
- (ISA) 0x00000048 (72) Microsoft ACPI-Compliant System
- (ISA) 0x00000049 (73) Microsoft ACPI-Compliant System
- (ISA) 0x0000004A (74) Microsoft ACPI-Compliant System
- (ISA) 0x0000004B (75) Microsoft ACPI-Compliant System
- (ISA) 0x0000004C (76) Microsoft ACPI-Compliant System
- (ISA) 0x0000004D (77) Microsoft ACPI-Compliant System
- (ISA) 0x0000004E (78) Microsoft ACPI-Compliant System
- (ISA) 0x0000004F (79) Microsoft ACPI-Compliant System
- (ISA) 0x00000050 (80) Microsoft ACPI-Compliant System
- (ISA) 0x00000051 (81) Microsoft ACPI-Compliant System
- (ISA) 0x00000052 (82) Microsoft ACPI-Compliant System
- (ISA) 0x00000053 (83) Microsoft ACPI-Compliant System
- (ISA) 0x00000054 (84) Microsoft ACPI-Compliant System
- (ISA) 0x00000055 (85) Microsoft ACPI-Compliant System
- (ISA) 0x00000056 (86) Microsoft ACPI-Compliant System
- (ISA) 0x00000057 (87) Microsoft ACPI-Compliant System
- (ISA) 0x00000058 (88) Microsoft ACPI-Compliant System
- (ISA) 0x00000059 (89) Microsoft ACPI-Compliant System

The bottom of the screenshot shows the Windows taskbar with the Start button, a search bar containing 'Type here to search', and the task view icon.

Device Manager
 File Action View Help

← → [Refresh] [Update] [Help] [Monitor] [Disconnect]

[Folder]	(ISA) 0x0000005A (90)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000005B (91)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000005C (92)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000005D (93)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000005E (94)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000005F (95)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000060 (96)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000061 (97)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000062 (98)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000063 (99)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000064 (100)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000065 (101)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000066 (102)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000067 (103)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000068 (104)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000069 (105)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000006A (106)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000006B (107)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000006C (108)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000006D (109)	Microsoft ACPI-Compliant System
[Key]	(ISA) 0x0000006D (109)	Trusted Platform Module 2.0
[Folder]	(ISA) 0x0000006E (110)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000006F (111)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000070 (112)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000071 (113)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000072 (114)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000073 (115)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000074 (116)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000075 (117)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000076 (118)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000077 (119)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000078 (120)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000079 (121)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000007A (122)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000007B (123)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000007C (124)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000007D (125)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000007E (126)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x0000007F (127)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000080 (128)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000081 (129)	Microsoft ACPI-Compliant System
[Folder]	(ISA) 0x00000082 (130)	Microsoft ACPI-Compliant System

Windows Start | Search: Type here to search | Taskbar: [Task View] [Device Manager] [System Tray]

Device Manager

File Action View Help

← → 🏠 📄 ? 📄 🖨️ 🗑️

📁 (ISA) 0x000001EC (492)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001ED (493)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001EE (494)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001EF (495)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F0 (496)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F1 (497)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F2 (498)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F3 (499)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F4 (500)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F5 (501)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F6 (502)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F7 (503)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F8 (504)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001F9 (505)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001FA (506)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001FB (507)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001FC (508)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001FD (509)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001FE (510)	Microsoft ACPI-Compliant System
📁 (ISA) 0x000001FF (511)	Microsoft ACPI-Compliant System
📁 (PCI) 0x00000011 (17)	High Definition Audio Controller
📁 (PCI) 0x0000001B (27)	Intel(R) Serial IO I2C Host Controller - 7ACC
📁 (PCI) 0x0000001D (29)	Intel(R) Serial IO I2C Host Controller - 7ACE
📁 (PCI) 0x00000028 (40)	Intel(R) Serial IO I2C Host Controller - 7ACD
📁 (PCI) 0x0000002B (43)	Intel(R) Serial IO I2C Host Controller - 7ACF
📁 (PCI) 0xFFFFFFFF (-19)	Intel(R) Management Engine Interface #1
📁 (PCI) 0xFFFFFFFFE (-18)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFFF (-17)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF0 (-16)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF1 (-15)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF2 (-14)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF3 (-13)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF4 (-12)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF5 (-11)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF6 (-10)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF7 (-9)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF8 (-8)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFF9 (-7)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFFA (-6)	Intel(R) Ethernet Controller (3) I225-LM
📁 (PCI) 0xFFFFFFFFB (-5)	Intel(R) USB 3.20 eXtensible Host Controller - 1.20 (Microsoft)
📁 (PCI) 0xFFFFFFFFC (-4)	Intel(R) UHD Graphics
📁 (PCI) 0xFFFFFFFFD (-3)	Intel(R) Ethernet Connection (17) I219-LM

🏠 🔍 Type here to search 🖨️ 🗑️

Appendix B

Mating Connectors

B.1 List of Mating Connectors and Cables

Con. Label	Function	Mating Connector		Available Cable	Cable P/N
		Vendor	Model No.		
CN1	External RTC Connector	Molex	51021-0200	Battery Cable	175011901C
CN2	SATA Connector	Molex	887505318	SATA Cable	170X000593
CN3	SATA Connector	Molex	887505318	SATA Cable	170X000593
CN4	DC Vin Connector	Catch	1121-700-045	Power Cable to DC Jack	170X000594
CN6/ CN34	SATA Power Connector	PINREX	PHR-2	2 Pins for SATA Power	1702150155
CN7	External +5VSB Power Input and PS_ON#	JST	PHR-3	External 3 pin ATX power Cable	170220020B
CN8	CPU Fan Connector	Molex	2 2-01-2035	N/A	N/A
CN10	LVDS Connector	HIROSE	DF13-30DS-1.25C	N/A	N/A
CN11	LVDS Inverter Connector	Aces	50228-00671-001	Inverter cable	170X000152
CN13	USB Port Connector	Aces	50238-01041-003	USB 2.0 Cable	170X000346
CN14	COM1/2	Molex	51021-0900	Serial Port Cable	170X000508
CN15	COM3/4	Molex	51021-0900	Serial Port Cable	170X000508
CN20	Digital I/O Connector	Neltron	2026B-10	D-SUB Connector	170X000622
CN23	Audio Connector	ACES	50247-012H0H0-001	Audio Cable	170X000156
CN26	I2C/SMBUS/ DebugConnector	JST	SHR-12V-S-B	I2C/SM BUS Cable	1703120130
CN31	FPC Connector	SFT	AE-2S3059	FPC Cable	170X000441
CN33	TCC CONN	PINREX	710-74-03TWR6	TCC Cable	170X000505
JP6	Front Panel Connector	Flyingway	FWAA-1049	LED cable	1709100108

Appendix C

3-Pin ATX Behavior Description

C.1 3-Pin ATX Behavior Description

For board level power design, the EPIC-ADS7 supports the 3-Pin ATX Power Scheme, and there are 3 scenarios.

Single Input Power Source – AT mode

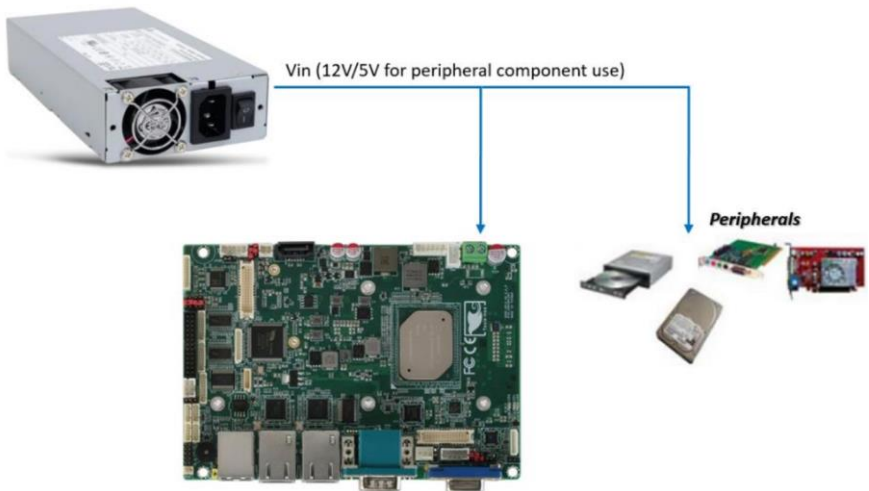
Operate as “AT” mode, which the HW design supports “Auto Power Button: Enable”

Case 1: When power supply or power adapter is “powered”, the system will boot up. Manually trigger PWRBTN# to turn off the computer. However, this only turns off the system, while the power source continues to supply power to the peripherals, such as cooler, SATA drive, USB ports, etc.

Case 2: When power supply or power adapter is “powered”, the system will boot up. Manually turn off the power source directly to perform computer shut down. In this case, the system is turned off, and the power source will NOT supply power to the peripherals, meaning the whole system is shut down.

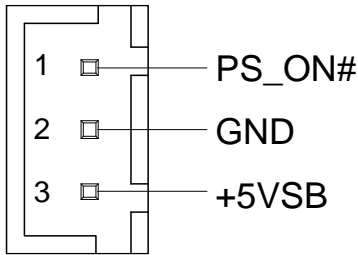
Single Input Power Source – ATX mode

Operating in “ATX mode”, wherein the H/W auto power button sets: disable, you must manually trigger the power button signal in order to power up or turn off the system. In this mode, when the power supply or power source is “powered”, manually trigger the PWRBTN# signal to turn on or shut down the system. However, this only turns off the system, while the power source continues to supply power to the peripherals, such as cooler, SATA drive, USB ports, etc.



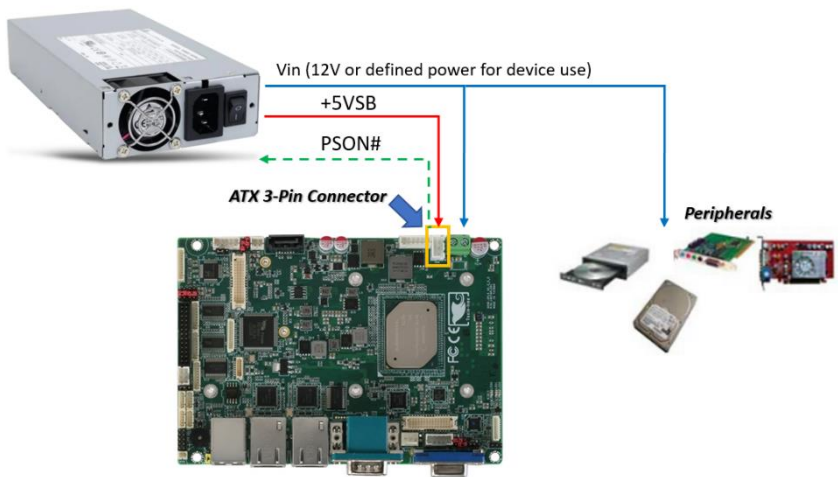
12V Input Power with 3-pin ATX External Connector

Operating in "ATX mode", manually triggering PWRBTN# is necessary to power up or shut down the system. All peripherals are powered by the S-rail powers, and S-rail powers (such as +12V and +5V), so they will power on or off with the power source.



Pin	Pin Name	Signal Type	Signal Level
1	PS_ON#	OUT	+5V
2	GND	GND	
3	+5VSB	PWR	+5V (2A)

The 3-pin ATX External Connector



C.2 ATX Power Table

Type		Power Supply Unit Turn On	Power Supply Unit Turn Off
Single Input Power Source-AT Mode	SBC Mainboard	Powered	No Power
	External Peripherals	Powered	Powered
Single Input Power Source-ATX Mode	SBC Mainboard	Powered	No Power
	External Peripherals	Powered	Powered
12V Input Power with 3-pin ATX External Connector	SBC Mainboard	Powered	No Power
	External Peripherals	Powered	No Power