

QBiP-x7433REB

3.5" SBC Boards

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Packing List

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

Item	Quantity
QBiP-x7433REB MB	1
SATA power cable	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 GIGAIPC.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.

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
GIGAIPC 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	○	○	○	○	○	○
外部信号 连接器及线材	○	○	○	○	○	○

○: 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 GIGAIPC 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	O	O	O	O	O	O
Wires & Connectors for External Connections	O	O	O	O	O	O

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.
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.
Note: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only

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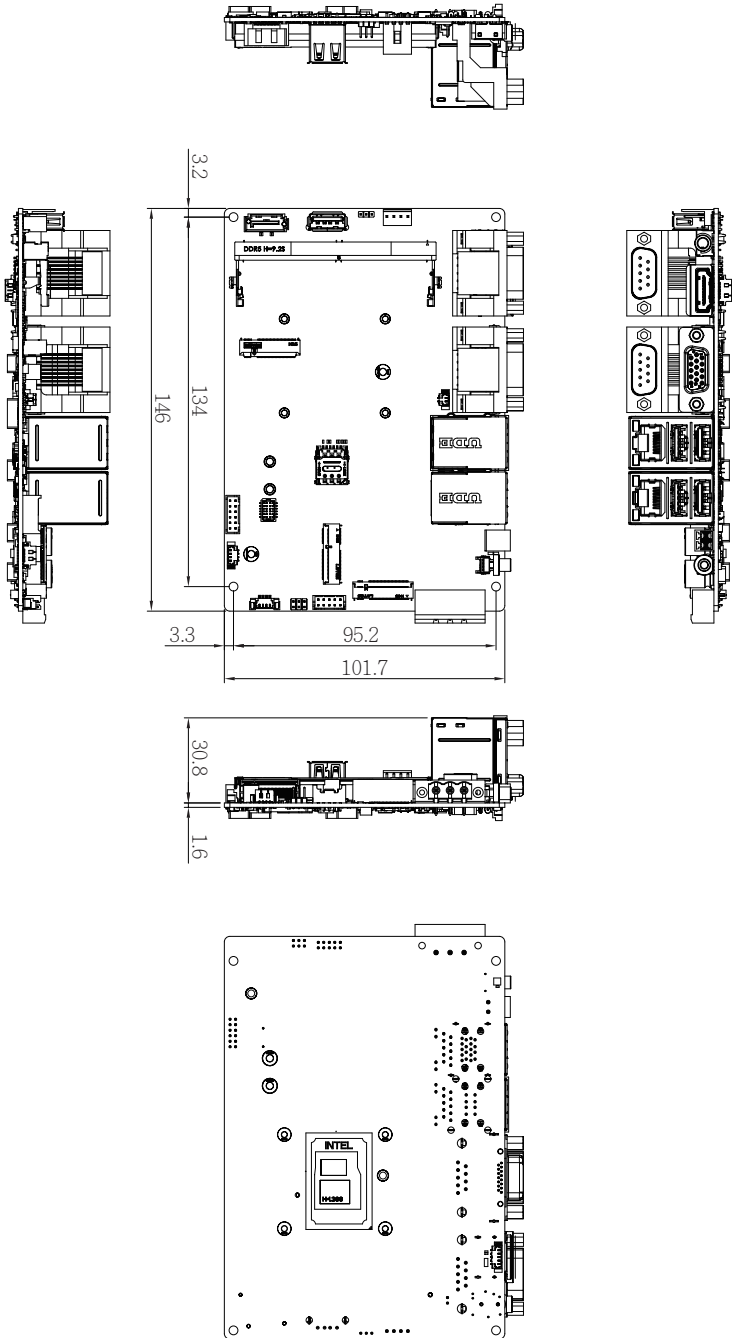
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Chapter 1

Chapter 1 - Product Specifications



1.1 Specifications- QBiP-x7433REB

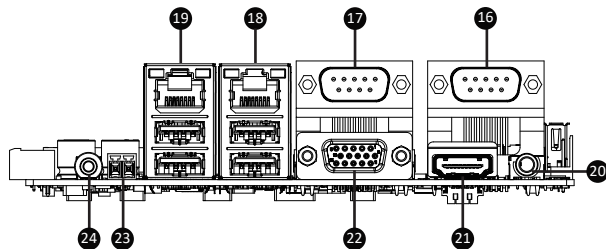
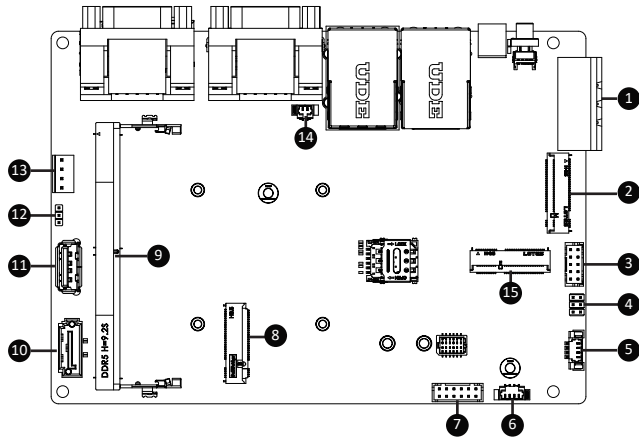
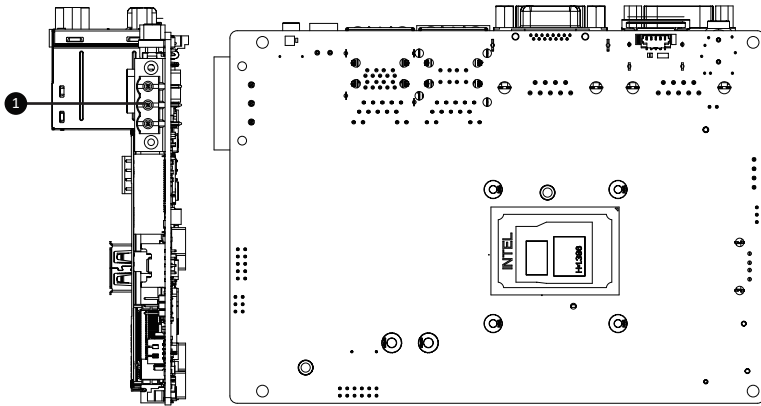
Motherboard	QBiP-x7433REB
Form Factor	3.5" SBC 146W x 101.7D (mm)
CPU	Intel® Atom® x7433RE Processor Intel 7, 4 cores, up to 3.40 GHz TDP 9W
Socket	1 x FCBGA1264
Memory	1 x DDR5 SO-DIMM socket, Max. Capacity 16 GB Support Single Channel DDR5 4800 MHz memory modules
Ethernet	2 x 2.5GbE LAN Ports (Intel® I226IT)
Video	Integrated Graphics Processor - Intel® UHD Graphics support: 1 x HDMI 2.0 port, supporting a maximum resolution of 4096x2160 @60Hz 1 x VGA port, supporting a maximum resolution of 1920x1080 @60Hz (2 independent display outputs)
Audio	Realtek® ALC269
Storage	1 x SATA 6Gb/s Port
Expansion Slots	1 x 2280 M.2 M-Key (PCIe Gen3x1, SATA 6Gb/s) 1 x 2230 M.2 E-Key 1 x 3052/3042 M.2 B-key with SIM Slot – 4G/5G Support 1 x Vertical USB 2.0
Internal I/O	1 x CPU fan header 1 x SATA Power header 1 x Front panel header 1 x COM header (RS-232/422/485 & RI/5V/12V) 1 x CANBus header 1 x AT/ATX mode select jumper 1 x GPIO (8 bits) header

Motherboard	QBIP-x7433REB
Front I/O	2 x RJ45 LAN Ports 2 x USB 3.2 Gen 1 2 x USB 2.0 1 x HDMI 1 x VGA 1 x Remote control connector 2 x COM Ports (RS-232/422/485 & RI/5V/12V) 1 x Power button with LED 1 x Combo audio jack (Headphone & Headset)
Side I/O	1 x 3-pin Terminal Block (DC in +9V~36VDC)
TPM	Onboard TPM 2.0 security chip Nuvoton NPCT764AABYX
OS Compatibility	Windows 11 IoT Enterprise LTSC 2024(24H2) 64bits Windows 10 IoT Enterprise LTSC 2021(21H2) 64bits Ubuntu 22.04.5 LTS Ubuntu 24.04.1 LTS Ubuntu 24.10
Operating Properties	Operating temperature: -20°C to 70°C Operating humidity: 60°C @ 20-95% (non-condensing) Non-operating temperature: -40°C to 85°C Non-operating humidity: 85°C @ 95% (non-condensing)

Chapter 2

Chapter 2 – Hardware Information

2.1 Jumpers and Connectors

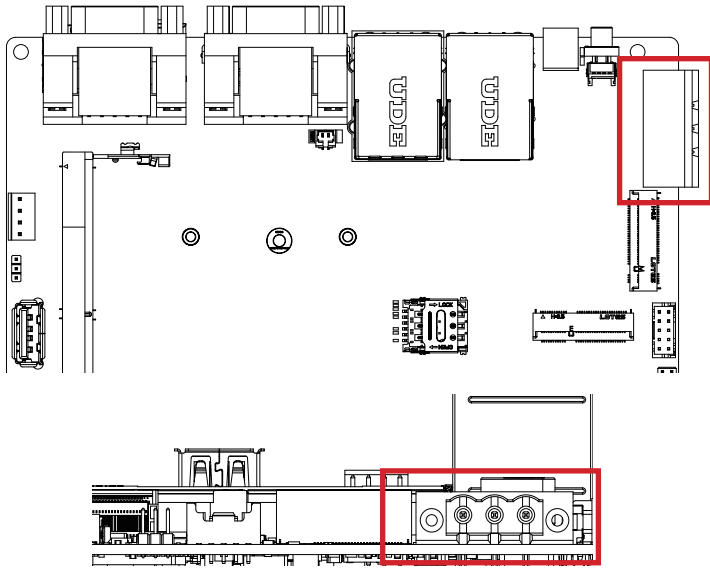


	Code	Description
1	DC_IN	DC IN 1 x 3-pin Terminal block (Side)
2	M2M	M.2 Slot, M-Key, NGFF 2280
3	COM3	Serial port header (RS-232/422/485 & RI/5V/12V)
4	JCOM3	RI# pin RI#/5V/12V Select jumper for COM3 Port
5	CAN_BUS	CANBus header
6	SYS_PANEL	Front panel header
7	GPIO_CN	General purpose input/output header
8	M2B	M.2 Slot, B-Key, NGFF 3052/3042
9	SODIMM	DDR5 SO-DIMM Slot
10	SATA	SATA 6Gb/s Connector
11	USB_V	Vertical USB 2.0 connector
12	AT_CN	AT/ATX mode select jumper
13	SATAPW	SATA power connector
14	BAT	Battery cable connector
15	M2E	M.2 Slot, E-key, NGFF 2230
16	COM2	Serial Port connector, COM Port (RS-232/422/485 & RI/5V/12V) <small>*RI/5V/12V setting are supported by BIOS selection.</small>
17	COM1	Serial Port connector, COM Port (RS-232/422/485 & RI/5V/12V) <small>*RI/5V/12V setting are supported by BIOS selection.</small>
18	USB_LAN2	LAN Connector (Top)
		USB 2.0 Connector (Bottom)

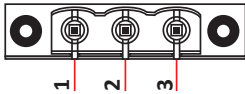
	Code	Description
19	USB_LAN1	LAN Connector (Top)
		USB 3.2 Gen 1 Connector (Bottom)
20	HP_MIC	Headphone & Headset Combo Jack
21	HDMI	HDMI connector
22	VGA	VGA Connector
23	PWR_SW	Remote Control connector
24	PWR_BUTTON	Power button with LED

2.2.1 DC_IN (DC IN 1x3-pin Terminal Block)

1



DC_IN Connector



Connector PN

2EHDRRM-0562-03P

Vendor

DINKLE

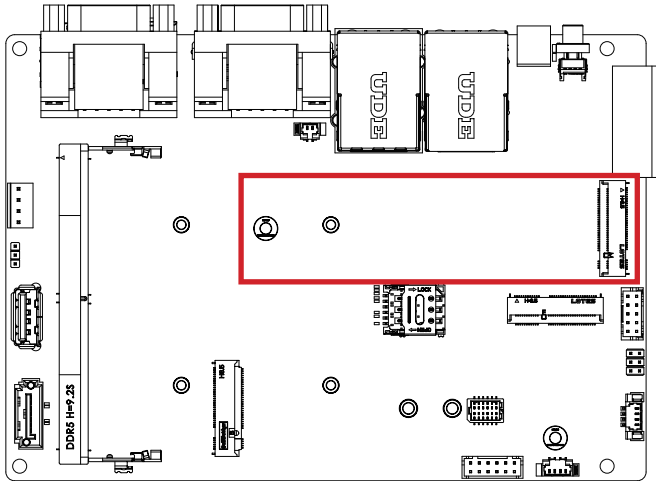
Connector type

1x3pin header, pitch 5.08mm

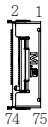
Pin No.	Definition
1	CH_GND
2	DCVIN
3	GND

2.2.2 M2M (M.2 Slot, M-Key, NGFF2280)

2



M.2 M Key Connector



Pin No.	Definition	Pin No.	Definition
1	GND	2	3.3V
3	GND	4	3.3V
5	NC	6	NC
7	NC	8	NC
9	GND	10	M2_LED
11	NC	12	3.3V
13	NC	14	3.3V
15	GND	16	3.3V
17	NC	18	3.3V
19	NC	20	NC
21	GND	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	NC
31	NC	32	NC
33	GND	34	NC
35	NC	36	NC

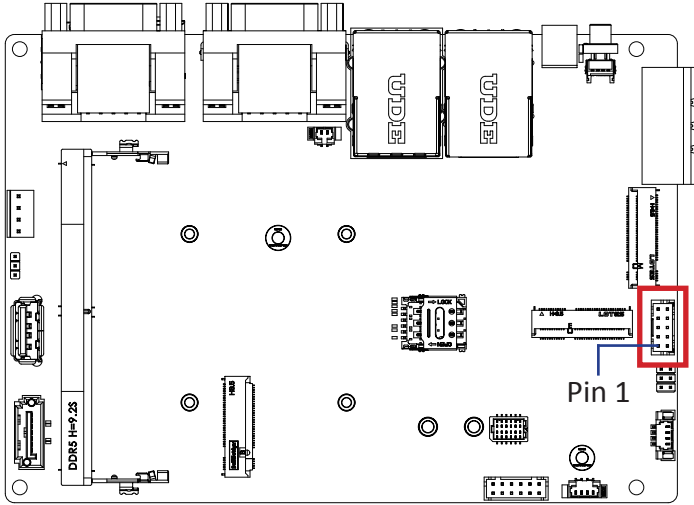
Pin No.	Definition	Pin No.	Definition
37	NC	38	GND
39	GND	40	NC
41	PCIE_SATA_RXp	42	NC
43	PCIE_SATA_RXn	44	NC
45	GND	46	NC
47	PCIE_SATA_TXn	48	NC
49	PCIE_SATA_TXp	50	PLT_RST
51	GND	52	CLK_REQ
53	CLK_Dn	54	PCIE_WAKE#
55	CLK_Dp	56	NC
57	GND	58	NC

Pin No.	Definition	Pin No.	Definition
67	NC	68	NC
69	M.2_PEDET	70	3.3V
71	GND	72	3.3V
73	GND	74	3.3V
75	GND		

Connector PN	Vendor
80159-8521	BELLWETHER

2.2.3 COM3 (Serial port header, RS-232/422/485 & RI/5V/12V)

3



Serial Port Cable Connector



Connector PN

725-81-10TW00

Vendor

PINREX

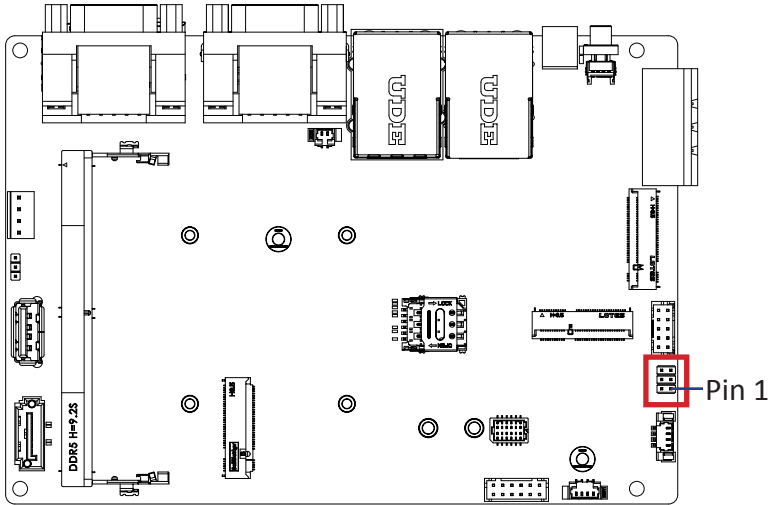
Connector type

2x5pin header, pitch 2.0mm

Pin No.	RS-232	RS-422 Full Duplex	RS-485 Half Duplex
1	RXD	TXD+	D+
2	DCD	TXD-	D-
3	DTR	RXD-	—
4	TXD	RXD+	—
5	DSR	—	—
6	GND	—	—
7	CTS	—	—
8	RTS	—	—
9	No Connect	—	—
10	RI/5V/12V	—	—

2.2.4 JCOM3 (RI# pin RI#/5V/12V Select jumper for COM3 Port)

4

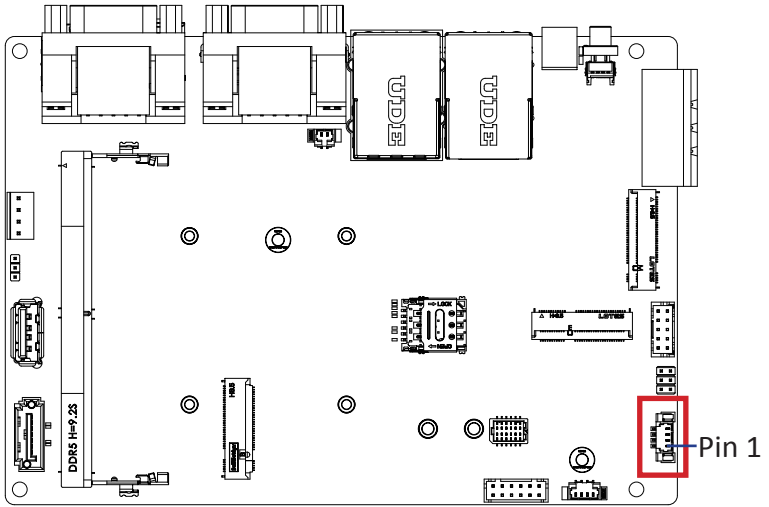


JCOM3 Jumper Select	
<p>6 5 2 1</p>	<p>1-2 Close: 5V (Power COM)</p>
<p>6 5 2 1</p>	<p>3-4 Close: RI (Stand COM)</p>
<p>6 5 2 1</p>	<p>5-6 Close: 12V (Power COM)</p>

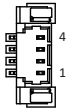
Connector PN	Vendor
220-97-03GB01	PINREX
PH06N53BAZ000	HORNGTONG
Connector type	
2x3pin header, pitch 2.0mm	

2.2.5 CAN_BUS (CANBus header)

5



CAN Bus Connector



Pin No.	Definition
1	GND
2	CAN_High
3	CAN_Low
4	5V

Connector PN

85205-0470N

Vendor

ACES

A1250WV-S-04PC

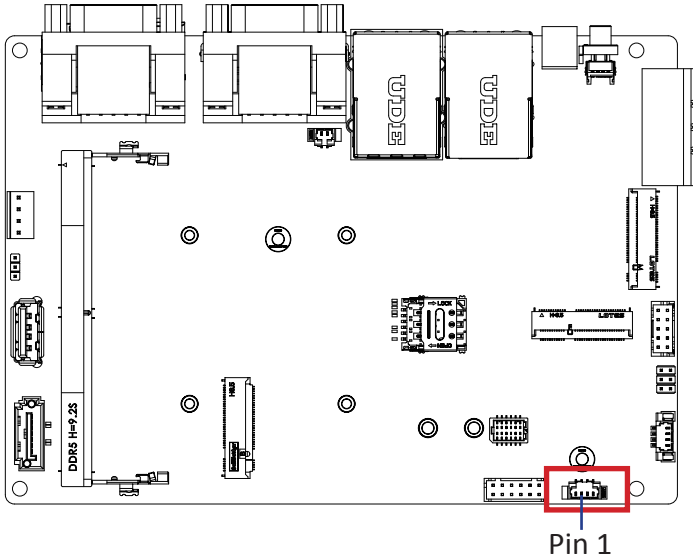
JOINT-TECH

Connector type

1x4pin header, pitch 1.25mm

2.2.6 SYS_PANEL (Front panel header)

6



Pin 1

System Panel Header



Pin No.	Definition
1	HD-
2	HD+
3	+V3.3A_FUSE
4	WIFI_LED

Connector PN

85205-0470N

A1250WV-S-04PC

Vendor

ACES

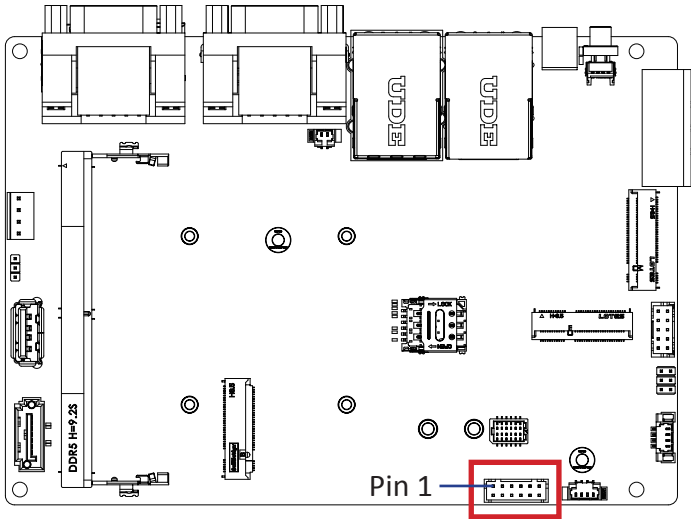
JOINT-TECH

Connector type

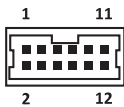
1x4pin header, pitch 1.25mm

2.2.7 GPIO_CN (General Purpose input/output header)

7



GPIO Connector



Pin No.	Definition
1	GPIO-output_1
2	GPIO-input_1
3	GPIO-output_2
4	GPIO-input_2
5	GPIO-output_3
6	GPIO-input_3
7	GPIO-output_4
8	GPIO-input_4
9	SMBus Clock
10	SMBus DATA
11	5V
12	GND

Connector PN

725-81-12TW00

Vendor

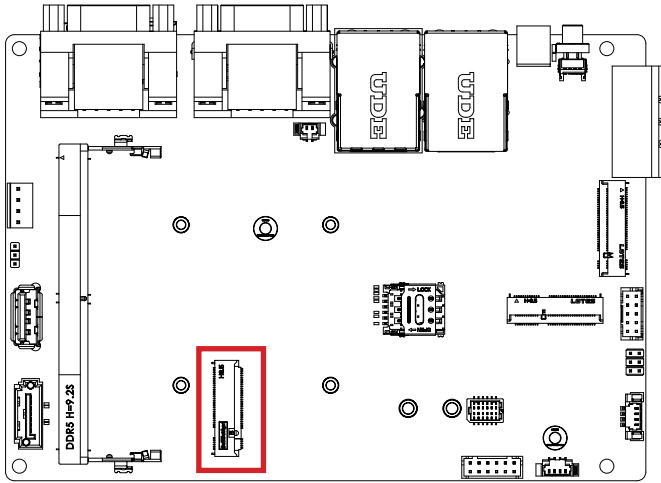
PINREX

Connector type

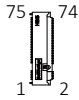
2x6pin header, pitch 2.0mm

2.2.8 M2B (M.2 Slot, B-Key, NGFF 3052/3042)

8



M.2 B-Key Connector



Pin No.	Definition	Pin No.	Definition
1	3.3V	2	3.3V
3	GND	4	3.3V
5	GND	6	WWAN_PWR_OFF
7	USB D+	8	WWAN_Disable
9	USB D-	10	LED
11	GND		

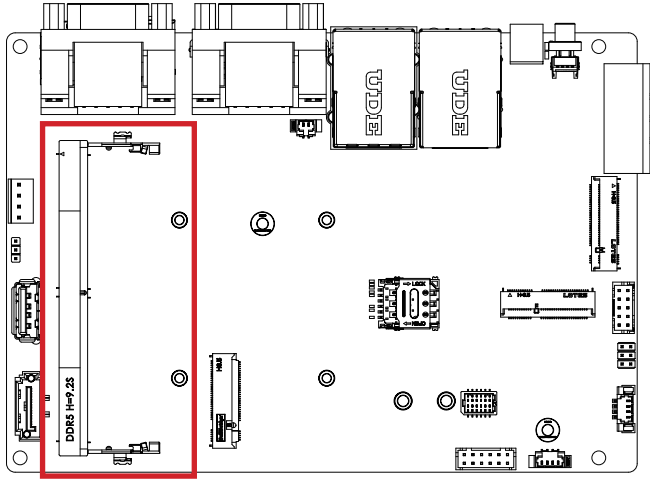
Pin No.	Definition	Pin No.	Definition
21	NC	20	NC
23	NC	22	NC
25	M2B_DRP	24	NC
27	GND	26	WWAN_Disable2
29	USB3_RXn	28	NC
31	USB3_RXp	30	SIM_RST#
33	GND	32	SIM_CLK
35	USB3_TXn	34	SIM_DATA

Pin No.	Definition	Pin No.	Definition
37	USB3_TXp	36	SIM_PWR
39	GND	38	NC
41	PCIE_RXn	40	NC
43	PCIE_RXp	42	NC
45	GND	44	NC
47	PCIE_TXn	46	NC
49	PCIE_TXp	48	NC
51	GND	50	PLT_RST
53	CLK_n	52	CK_REQ
55	CLK_p	54	PCIE_WAKE
57	GND	56	NC
59	NC	58	NC
61	NC	60	NC
63	NC	62	NC
65	NC	64	NC
67	GPP_RESET	66	NC
69	M2B_DET	68	NC
71	GND	70	3.3V
73	GND	72	3.3V
75	NC	74	3.3V

Connector PN	Vendor
80149-8521	BELLWETHER
2E0BC21-S85BB-7H	FOXCONN

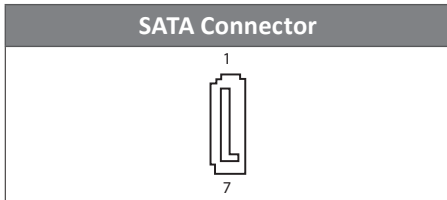
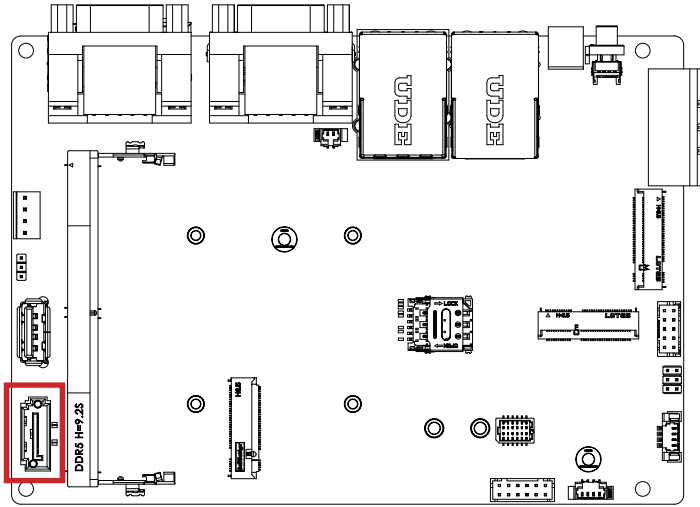
2.2.9 SODIMM (DDR5 SO-DIMM Slot)

9



2.2.10 SATA (SATA 6Gb/s Connector)

10

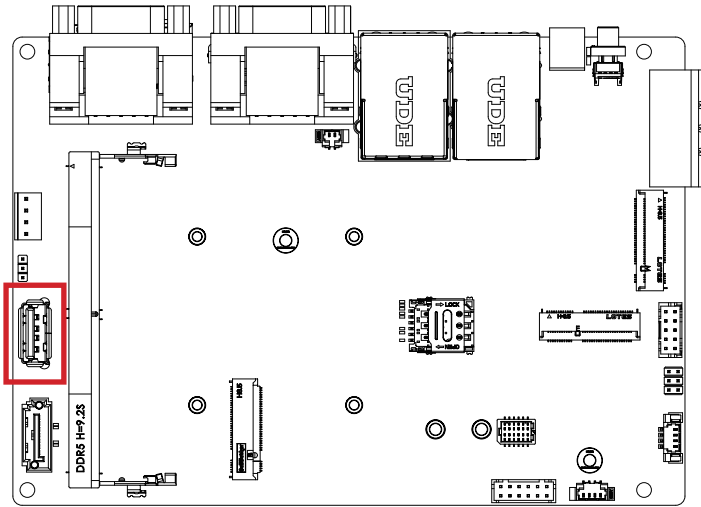


Connector PN	Vendor
WATF-07DBLBA1UW	WINWIN

Pin No.	Definition
1	GND
2	TXp
3	TXn
4	GND
5	RXn
6	RXp
7	GND

2.2.11 USB_V (Vertical USB2.0 connector)

11



USB 2.0 connector



Connector PN

Vendor

UB0112C-4FH9-4H

FOXCONN

UB0112C-4HH9-4F

FOXCONN

Pin No.

Definition

1

5V

2

D1n

3

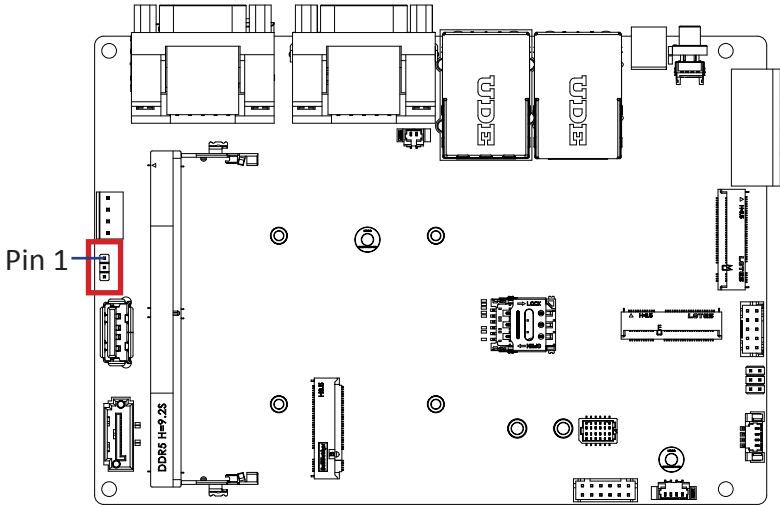
D1p

4

GND

2.2.12 AT_CN (AT/ATX mode select jumper)

12



AT/ATX mode select jumper



Pin No.	Definition
1	AT MODE
2	Detect
3	ATX MODE

Jumper setting
 1-2 Close : AT mode.
 2-3 Close : ATX mode. (Default setting)

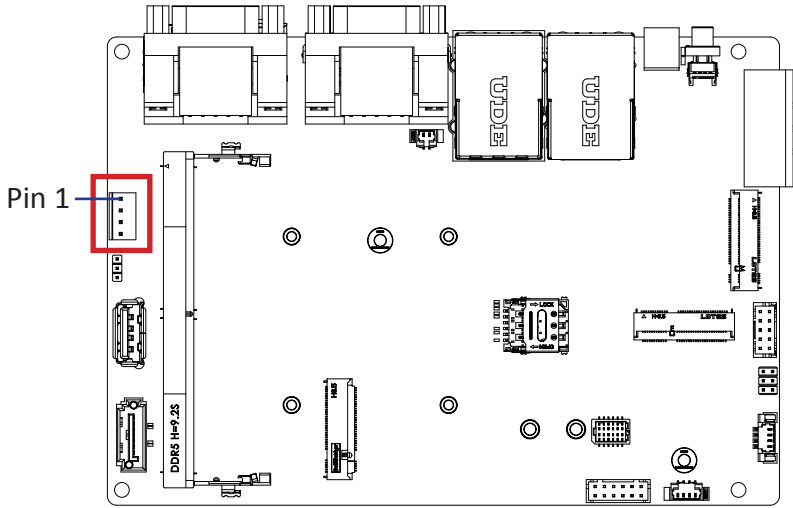
Connector PN	Vendor
A2015WV-03P6T	JOINT-TECH
220-96-03GB001K	PINREX

Connector type

1x3pin header, pitch 2.0mm

2.2.13 SATAPW (SATA power connector)

13



Hard Disk Power Connector



Connector PN

743-91-045W00

Vendor

PINREX

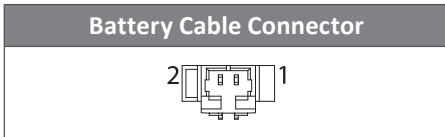
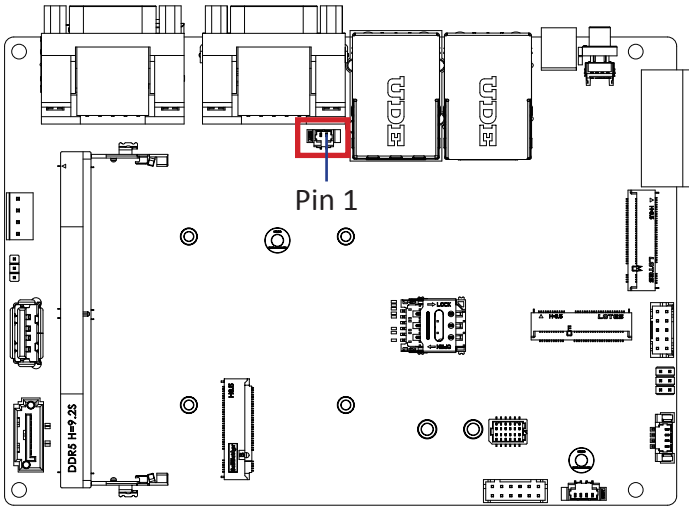
Connector type

1x4pin header, pitch 2.54mm

Pin No.	Definition
1	NC
2	GND
3	GND
4	5V

2.2.14 BAT (Battery cable connector)

14

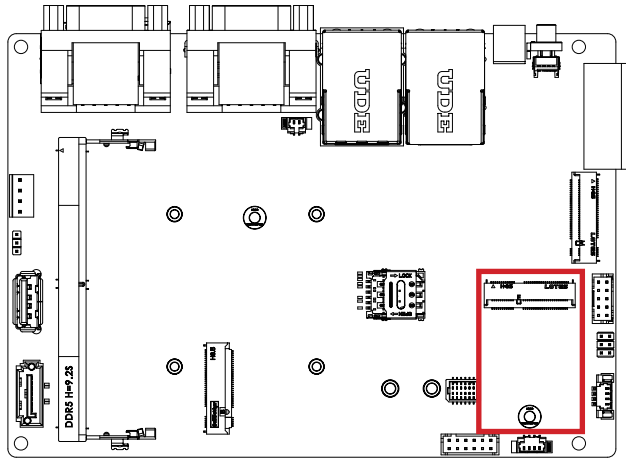


Connector PN	Vendor
85205-0270L	ACES
A1250WV-S-02PC	JOINT-TECH

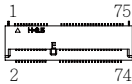
Pin No.	Definition
1	3.3V
2	GND

2.2.15 M2E (M.2 Slot, E-key, NGFF2230)

15



M.2 E Key Connector



Pin No.	Definition	Pin No.	Definition
1	GND	2	3.3V
3	USBp	4	3.3V
5	USBn	6	WiFi_LED
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	NC	16	BT_LED
17	NC	18	GND
19	NC	20	NC
21	NC	22	NC
23	NC		

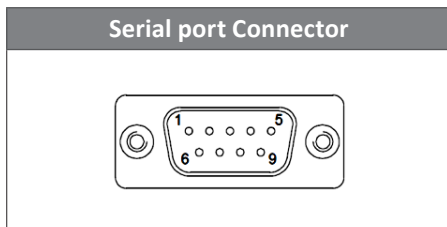
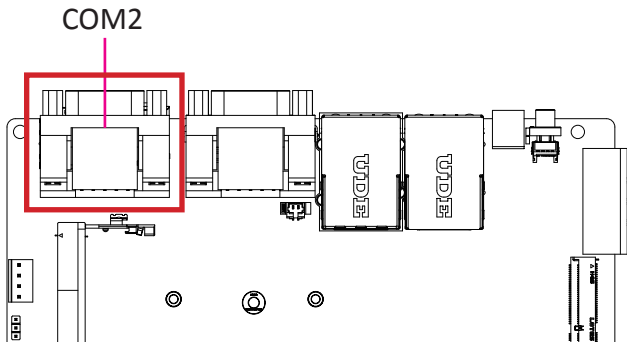
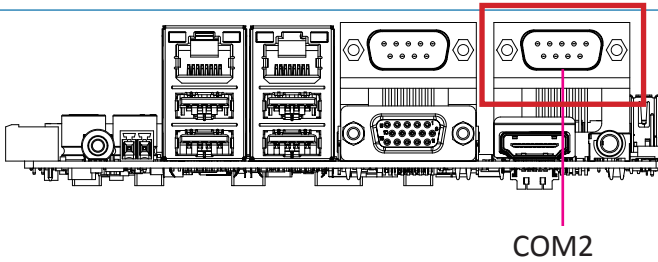
Pin No.	Definition	Pin No.	Definition
33	GND	32	NC
35	PCIE_TXp	34	NC
37	PCIE_TXn	36	NC
39	GND	38	NC

41	PCIE_RXp	40	NC
43	PCIE_RXn	42	NC
45	GND	44	NC
47	PCIE_CLKp	46	NC
49	PCIE_CLKn	48	NC
51	GND	50	SUSCLK
53	PCIE_CLKREQ	52	Reset
55	PCIE_WAKE	54	BT_Disable#
57	GND	56	WiFi_Disable#
59	NC	58	NC
61	NC	60	NC
63	GND	62	NC
65	NC	64	NC
67	NC	66	NC
69	GND	68	NC
71	NC	70	NC
73	NC	72	3.3V
75	GND	74	3.3V

Connector PN	Vendor
APCI0095-P002A	LOTES
80152-8521	BELLWETHER

2.2.16 COM2 (Serial Port connector (RS-232/422/485 & RI/5V/12V))

16

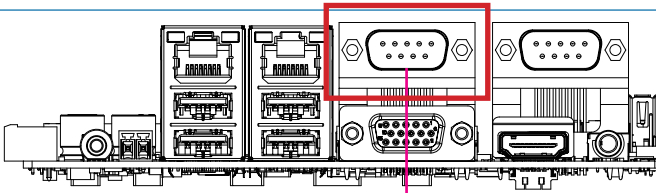


Pin No.	RS-232	RS-422 Full Duplex	RS-485 Half Duplex
1	DCD	TXD-	D-
2	RXD	TXD+	D+
3	TXD	RXD+	—
4	DTR	RXD-	—
5	GND		
6	DSR	—	—
7	RTS	—	—
8	CTS	—	—
9	RI	—	—

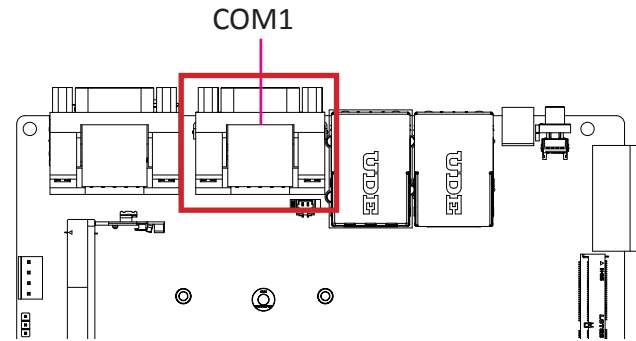
*NOTE : RI/5V/12V are supported by BIOS selection.
(please refer to Page 68)

2.2.17 COM1 (Serial Port connector (RS-232/422/485 & RI/5V/12V))

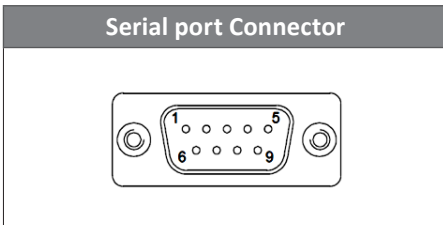
17



COM1



COM1



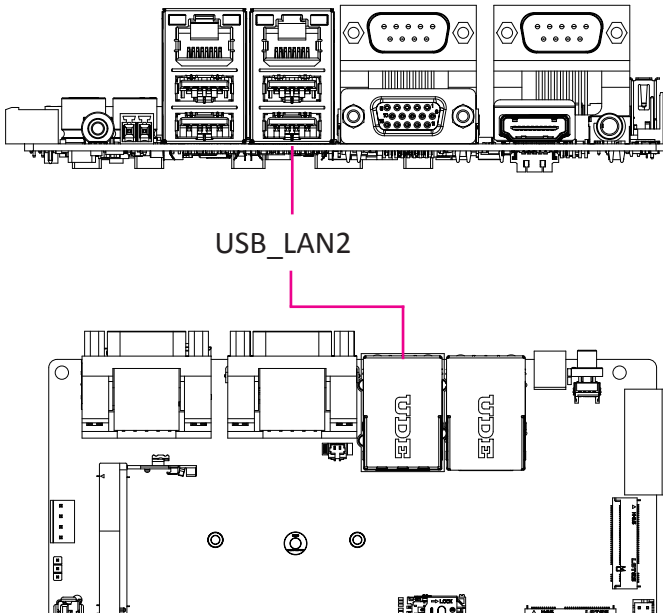
Serial port Connector

Pin No.	RS-232	RS-422 Full Duplex	RS-485 Half Duplex
1	DCD	TXD-	D-
2	RXD	TXD+	D+
3	TXD	RXD+	—
4	DTR	RXD-	—
5	GND		
6	DSR	—	—
7	RTS	—	—
8	CTS	—	—
9	RI	—	—

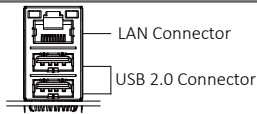
*NOTE : RI/5V/12V are supported by BIOS selection. (please refer to Page 68)

2.2.18 USB_LAN2 (LAN Connector (top) + USB 2.0 Connector (bottom))

18



USB & LAN connector



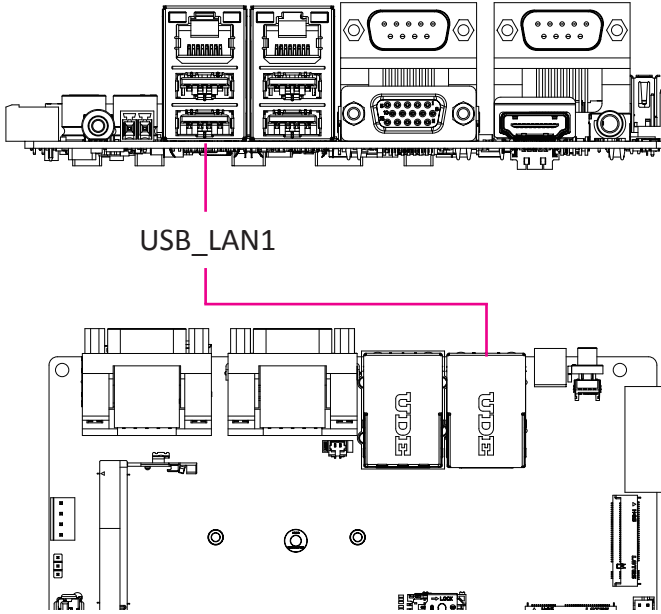
USB Connector			
Pin No.	Definition	Pin No.	Definition
1	5V	5	5V
2	D1n	6	D0n
3	D1p	7	D0p
4	GND	8	GND

LAN Connector			
Pin No.	Definition	Pin No.	Definition
1	GND	6	BI_DC-
2	BI_DA+	7	BI_DB-
3	BI_DA-	8	BI_DD+
4	BI_DB+	9	BI_DD-
5	BI_DC+	10	GND

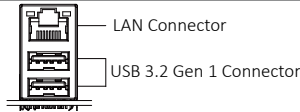
State	Description
Orange On	2.5Gbps data rate
Green On	1Gbps data rate
Off	100M & 10Mbps data rate

2.2.19 USB_LAN1 (LAN Connector (top) + USB 3.2 Gen 1 Connector (bottom))

19



USB & LAN connector



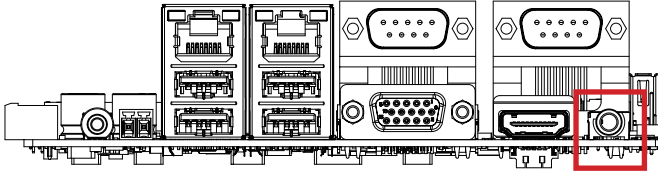
USB Connector			
Pin No.	Definition	Pin No.	Definition
1	5V	10	5V
2	D1n	11	D0n
3	D1p	12	D0p
4	GND	13	GND
5	USB3_RX1n	14	USB3_RX2n
6	USB3_RX1p	15	USB3_RX2p
7	GND	16	GND
8	USB3_TX1n	17	USB3_TX2n
9	USB3_TX1p	18	USB3_TX2p

LAN Connector			
Pin No.	Definition	Pin No.	Definition
1	GND	6	BI_DC-
2	BI_DA+	7	BI_DB-
3	BI_DA-	8	BI_DD+
4	BI_DB+	9	BI_DD-
5	BI_DC+	10	GND

State	Description
Orange On	2.5Gbps data rate
Green On	1Gbps data rate
Off	100M & 10Mbps data rate

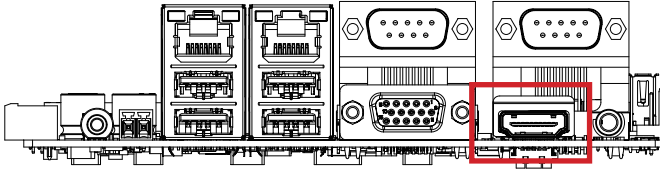
2.2.20 HP_MIC (Headphone & Headset Combo Jack)

20



2.2.21 HDMI (HDMI Connector)

21



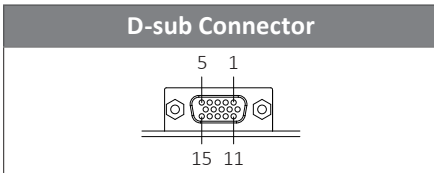
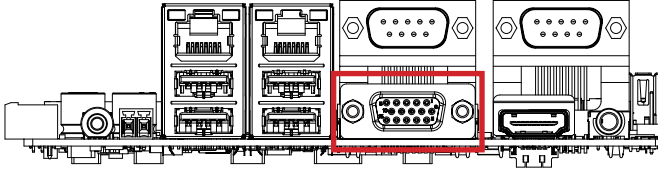
HDMI Connector



Pin No.	Definition	Pin No.	Definition
1	TX2p	11	GND
2	GND	12	CLKn
3	TX2n	13	NC
4	TX1p	14	NC
5	GND	15	SCL
6	TX1n	16	SDA
7	TX0p	17	GND
8	GND	18	5V
9	TX0n	19	Hot Plug Detect
10	CLKp		

2.2.22 VGA (DB-15 VGA Connector)

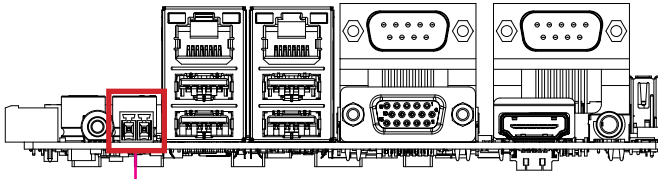
22



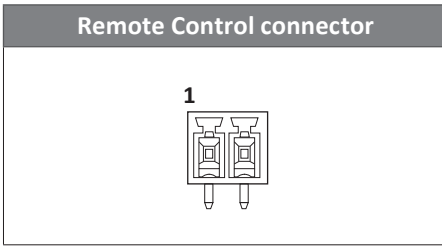
Pin No.	Definition	Pin No.	Definition
1	Red	9	5V
2	Green	10	GND
3	Blue	11	NC
4	NC	12	DDCSDA
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	DDCSCL
8	GND		

2.2.23 PWR_SW (Remote Control connector)

23



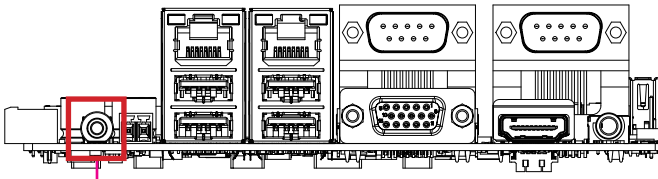
Power Switch



Pin No.	Definition
1	PWRBTSW
2	GND

3.2.24 PWR_BUTTON (Power button with LED)

24



Power Button with LED

Chapter 3

Chapter 3 – BIOS

3.1 Introduction

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

3.1.1 How to Entering into BIOS menu

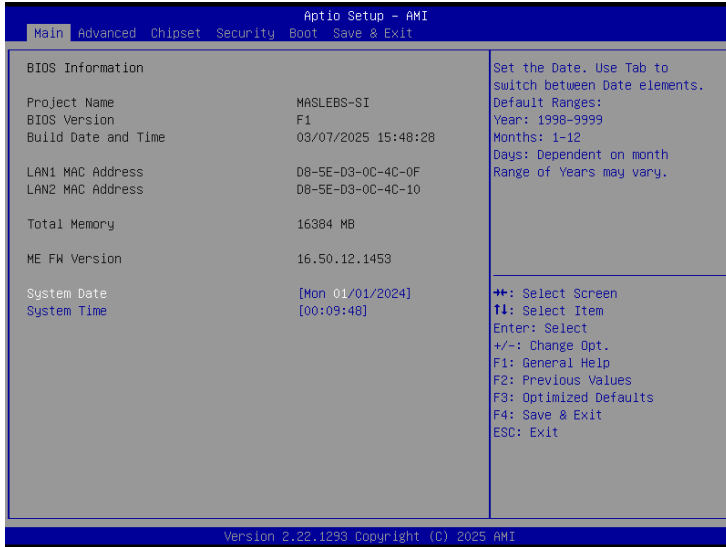
Once the system is power on, press the key as soon as possible to access into BIOS Setup program.

3.1.2 Function Keys to setup in BIOS Setup program

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

3.2 The Main Menu

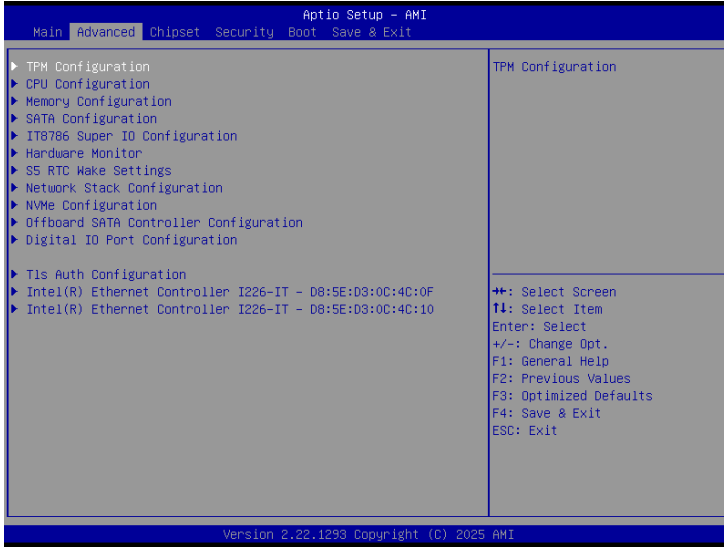
The main menu shows the basic system information. Use arrow keys to move among the items.



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

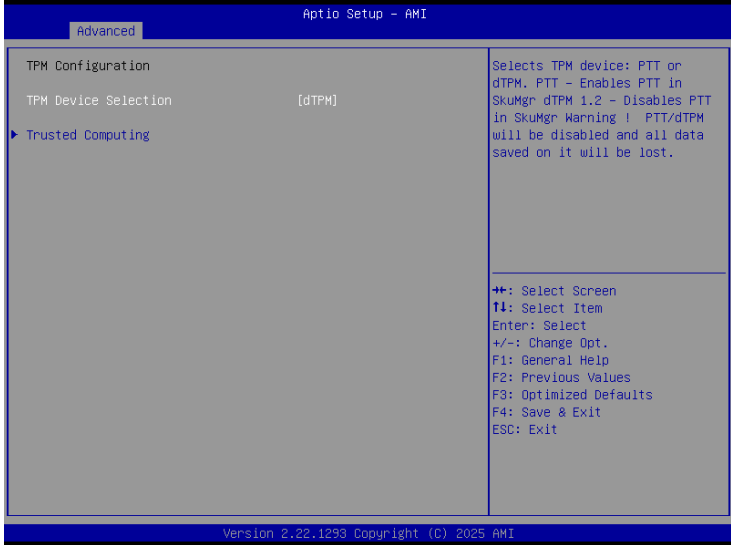
3.3 Advanced

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



3.3.1 TPM Configuration

Use TPM Configuration submenu to choose TPM interface.



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

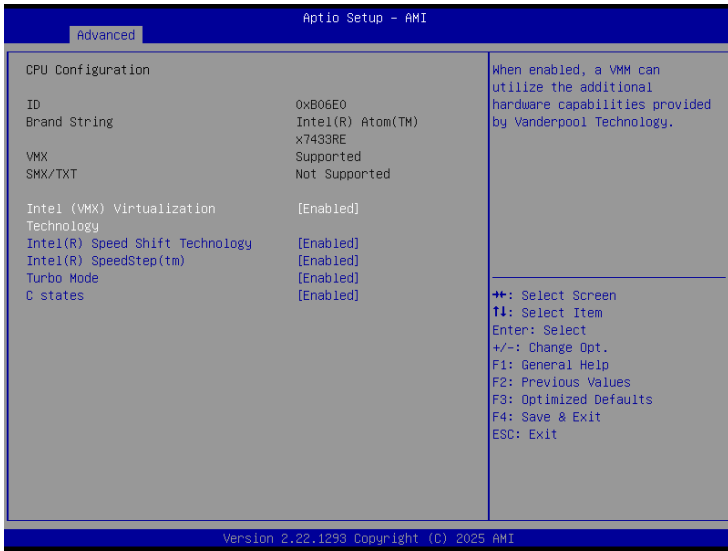
Trusted Computing : Shows TPM information, and TPM module configuration setting.



Item	Description
Security Device support	Enabled : Enables TPM feature (Default setting) Disabled : Disables TPM feature
Pending operation	None : No execution will be conducted (Default setting) TPM clear : Set to clear data on TPM

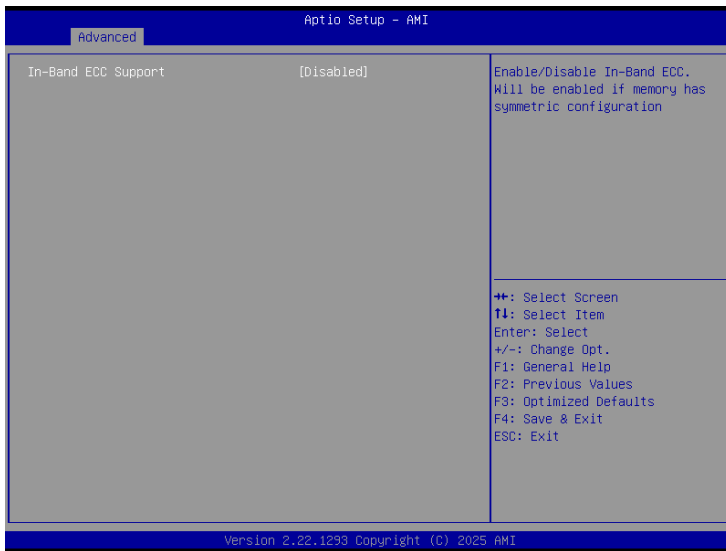
3.3.2 CPU Configuration

This submenu shows detailed CPU informations.



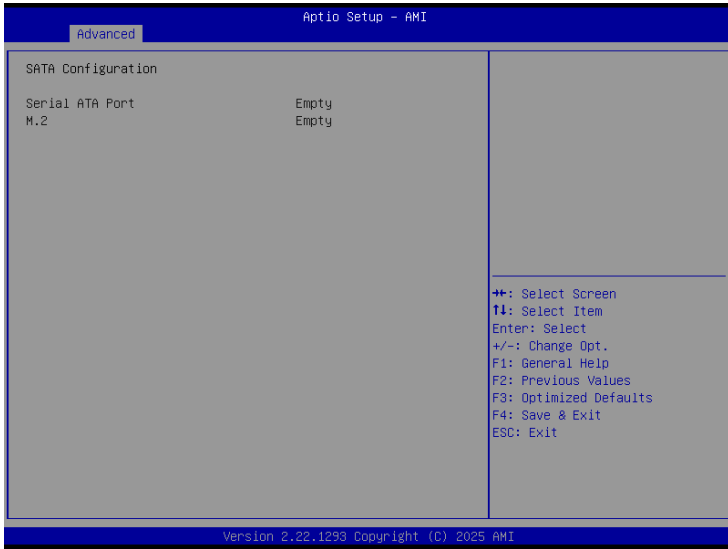
Item	Description
Intel (VMX) Virtualization Technology	Virtualization enhanced by Intel® Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems. Enabled : Enables Intel Virtualization Technology (Default setting) Disabled : Disables Intel Virtualization Technology
Intel(R) Speed Shift Technology	To speed up CPU frequency transition time from basic frequency to maximum frequency. Enabled : Enables Intel(R) Speed Shift Technology (Default setting) Disabled : Disables Intel(R) Speed Shift Technology
Intel(R) SpeedStep(tm)	According to Intel CPU loading, Intel SpeedStep Technology will automatically adjust the CPU voltage and core frequency to decrease heat and power consumption for power saving. Enabled : Enables Intel SpeedStep Technology (Default setting) Disabled : Disables Intel SpeedStep Technology
Turbo Mode	Enabled : Enables Turbo Mode (Default setting) Disabled : Disables Turbo Mode
C states	Command CPU to enter into low power consumption mode when CPU is under idle mode. Enabled : Enables C states (Default setting) Disabled : Disables C states

3.3.3 Memory Configuration



Item	Description
In-Band ECC Support	Enable or Disable In-Band ECC Support function. Disabled : Disables In-Band ECC Support. (Default setting) Enabled : Enables In-Band ECC Support.

3.3.4 SATA Configuration



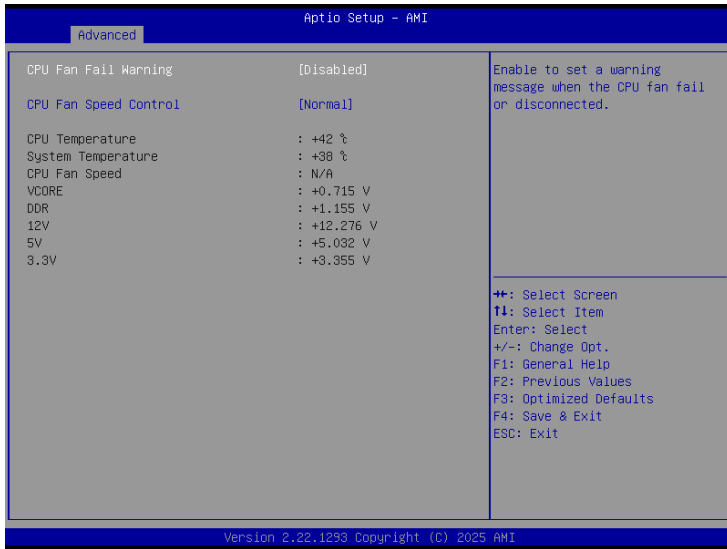
Item	Description
Serial ATA Port	shows 2.5" SATA HDD/SSD information
M.2	shows M.2 SSD information

3.3.5 IT8786 Super IO Configuration



Item	Description
Serial Port 1 Configuration	<p>Press [Enter] to configure advanced items :</p> <p>Serial Port : Enabled : Enables allows you to configure the serial port settings Disabled : if Disabled, displays no configuration for the serial port</p>
Serial Port 2 Configuration	<p>Select Power : Choose pin 9 is 12V, 5V or Disabled</p> <p>Device settings : Display the specified Serial Port base I/O address and IRQ</p> <p>COM Port Mode : Choose RS-232, RS-422, or RS-485 feature</p>
Serial Port 3 Configuration	<p>Press [Enter] to configure advanced items :</p> <p>Serial Port : Enabled : Enables allows you to configure the serial port settings Disabled : if Disabled, displays no configuration for the serial port</p> <p>Device settings : Display the specified Serial Port base I/O address and IRQ</p>

3.3.6 Hardware Monitor



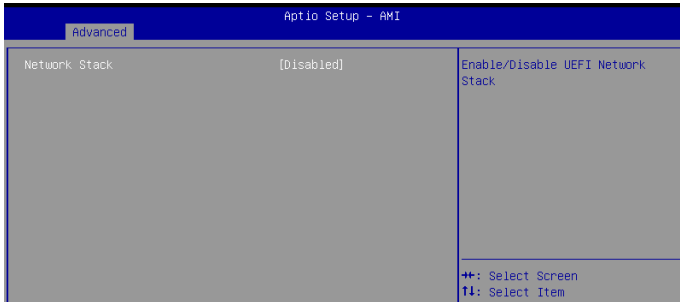
Item	Description
CPU Fan Fail Warning	Enabled : Enables CPU FAN Fail warning alert function Disabled : Disables CPU FAN Fail warning alert function (Default setting)
CPU Fan Speed Control	Normal : Fan speed set by BIOS default (Default setting) Full Speed : Set Fan operates at full speed
CPU Temperature	Shows current CPU temperature
System Temperature	Shows current System temperature
CPU Fan Speed	Shows current CPU fan Speed

3.3.7 S5 RTC Wake Settings

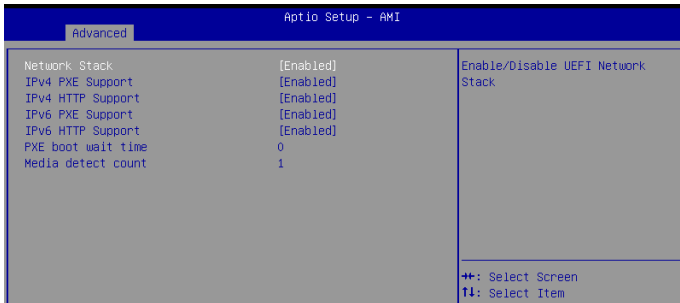


Item	Description
<p>Wake system from S5</p>	<p>Enable or Disable System to wake on a specific time. Disabled : Disables system to wake on a specific time (Default setting) Fixed Time : Enables system to wake on a specific time (Format : hr : min : sec)</p>

3.3.8 Network Stack Configuration



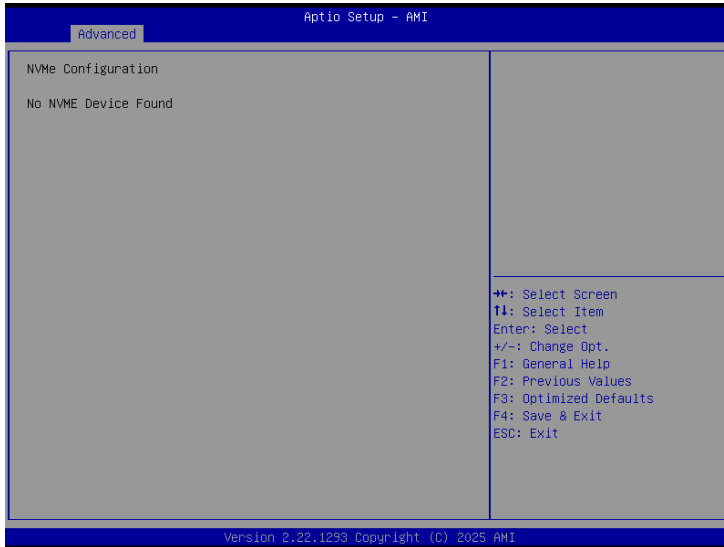
When Network stack is enabled :



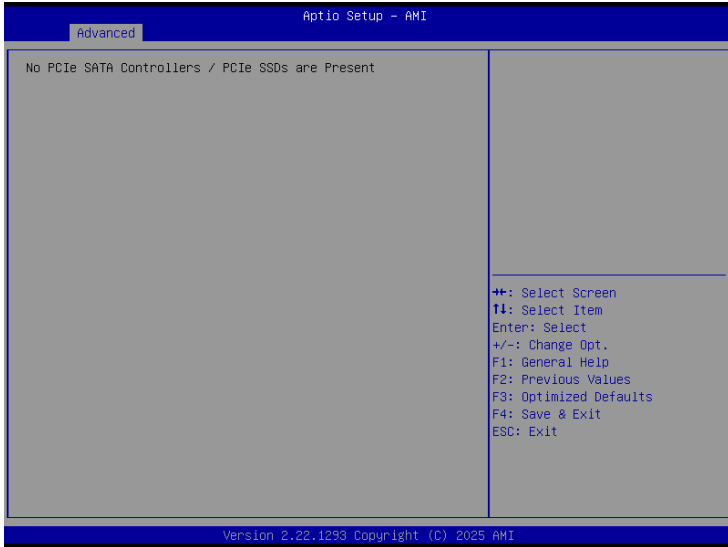
Item	Description
Network Stack	When system is power on, install LAN driver under UEFI mode Disabled : Disables UEFI Network Stack (Default setting) Enabled : Enables UEFI Network Stack
IPv4 PXE Support	When Network stack is enabled : Disabled : Disables Ipv4 PXE Support Enabled : Enables Ipv4 PXE Support
IPv4 HTTP Support	When Network stack is enabled : Disabled : Disables Ipv6 PXE Support Enabled : Enables Ipv6 PXE Support
IPv6 PXE Support	When Network stack is enabled : Disabled : Disables Ipv4 PXE Support Enabled : Enables Ipv4 PXE Support
IPv6 HTTP Support	When Network stack is enabled : Disabled : Disables Ipv6 PXE Support Enabled : Enables Ipv6 PXE Support
PXE boot wait time	Wait time in seconds, or use ESC key to abort the PXE boot.
Media detect count	Number of times the presence of media will be checked.

3.3.9 NVMe Configuration

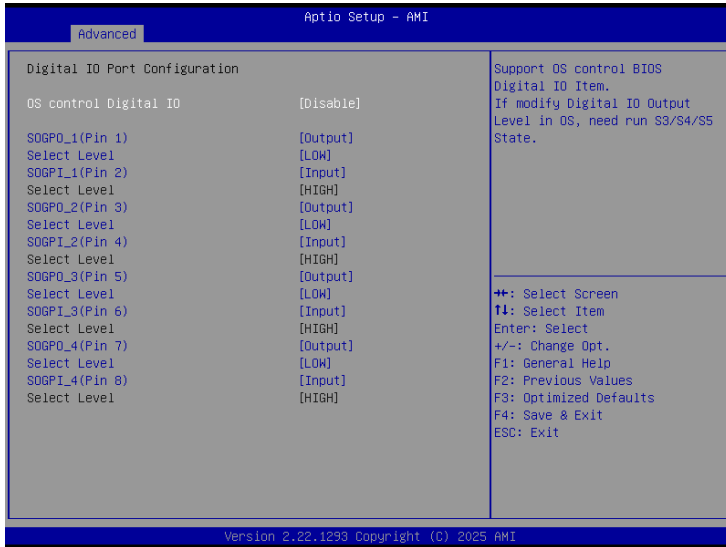
NVMe Configuration shows information when your M.2 NVMe PCIe SSD is installed.



3.3.10 Offboard SATA Controller Configuration

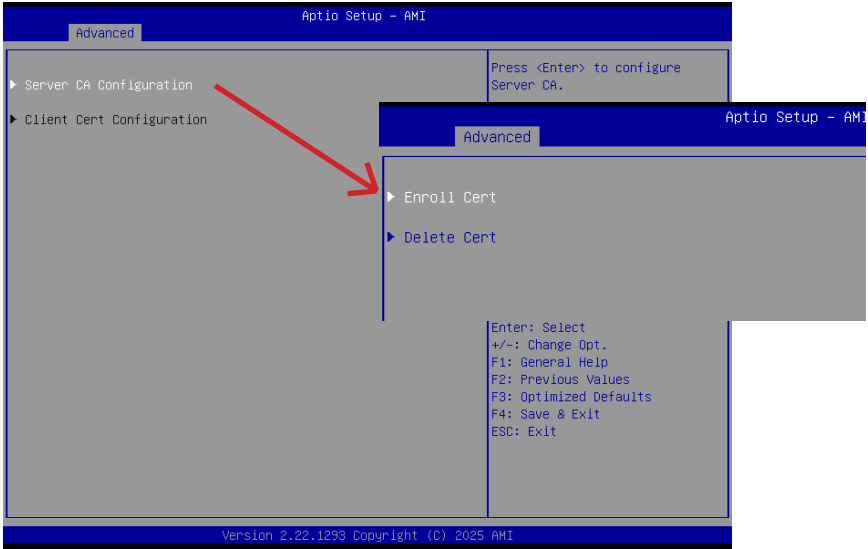


3.3.11 Digital IO Port Configuration



Item	Description
OS control Digital IO	<p>Disabled : If Digital IO Output value/level is modified in OS, they will not be memorized and kept. (Default setting)</p> <p>Enabled : If Digital IO Output value/level is modified in OS, they will be memorized and kept.</p>
SOGPO_1 (Pin 1) SOGPI_1 (Pin 2) SOGPO_2 (Pin 3) SOGPI_2 (Pin 4) SOGPO_3 (Pin 5) SOGPI_3 (Pin 6) SOGPO_4 (Pin 7) SOGPI_4 (Pin 8)	Configure Digital IO Input or Output values for each pin.

3.3.12 Tls Auth Configuration



Item	Description
Enroll Cert	<p>Press [Enter] to configure advanced items :</p> <p>Server CA Configuration :</p> <p>Enroll Cert :</p> <ol style="list-style-type: none"> 1. Enroll Cert Using File 2. Cert GUID : Input digit character in 11111111-2222-3333-4444-1234567 890ab format. 3. Commit Changes and Exit 4. Discard Changes and Exit

3.3.13 Intel(R) Ethernet Controller I226-IT - D8-5E-D3-0C-4C-0F (MAC address may varied based on different motherboard)

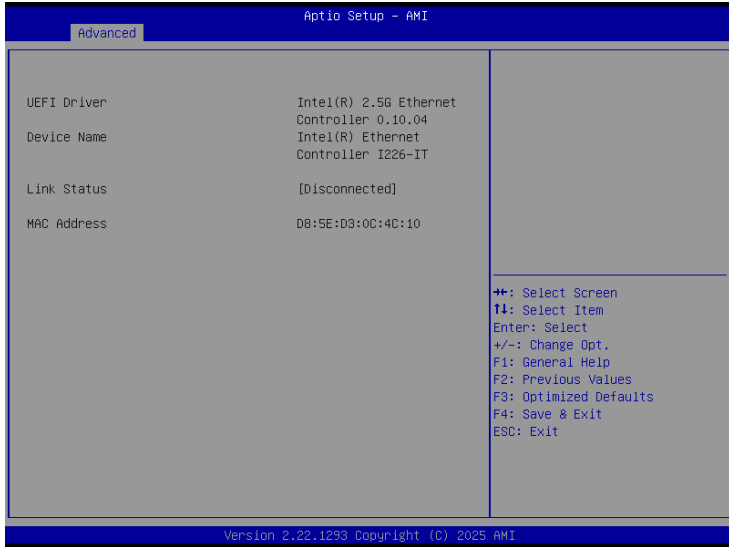
Shows Intel Ethernet controller information



NOTE : MAC address may varied based on different motherboard

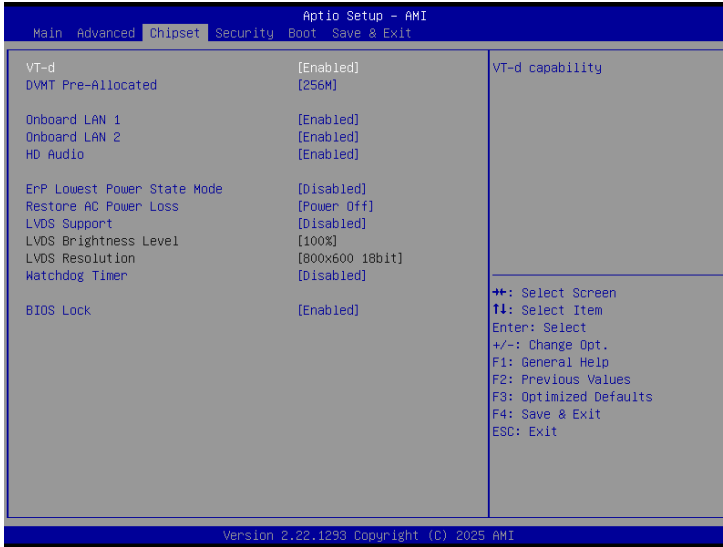
3.3.14 Intel(R) Ethernet Controller I226-IT - D8-5E-D3-0C-4C-10 (MAC address may varied based on different motherboard)

Shows Intel Ethernet controller information



NOTE : MAC address may varied based on different motherboard

3.4 Chipset



Item	Description
VT-d	Enabled : Enables VT-d function (Default setting) Disabled : Disables VT-d function
DVMT Pre-Allocated	Use DVMT Pre-Allocated to set the amount of system memory which is installed to the integrated graphics processor Option items : 32M , 64M , 128M , 256M(Default setting)
Onboard LAN 1 Onboard LAN 2	Enable/Disable onboard LAN controller Enabled : Enables onboard LAN controller (Default setting) Disabled : Disables onboard LAN controller
HD Audio	Enable/Disable onboard audio controller Enabled : Enables onboard audio controller (Default setting) Disabled : Disables onboard audio controller
ErP Lowest Power State Mode	Enable/Disable power saving function Enabled : Enables ERP Lowest Power State Mode Disabled : Disabled ERP Lowest Power State Mode (Default setting)

<p>Restore AC Power Loss</p>	<p>To set which option the system should returns if a sudden power loss occurred Power off : Do not power on when the power is back (Default setting) Power on : System power on when the power is back Last state : Restore the system to the state before power loss occurs</p>
<p>LVDS Support</p>	<p>Disabled : Disables LVDS Support (Default setting) Enabled : Enables LVDS Support</p>
<p>LVDS Brightness Level</p>	<p>When LVDS Support is enabled : To modified the backlight brightness of the LVDS panel Option items : 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100% (Default Setting)</p>
<p>LVDS Resolution</p>	<p>When LVDS Support is enabled : To modified the LVDS resolution Option items : 800x600 18bit (Default Setting) , 1024x768 18bit, 1024x768 24bit, 1024x600 18bit, 1280x800 18bit, 1280x960 18bit, 1280x1024 24bit, 1366x768 18bit, 1366x768 24bit, 1440x900 24bit, 1400x1050 24bit, 1600x900 24bit, 1680x1050 24bit, 1600x1200 24bit, 1920x1080 24bit, 1920x1200 24bit</p>
<p>Watchdog Timer</p>	<p>Enable/Disable Watchdog Timer function Enabled : Enables Watchdog Timer function Disabled : Disabled Watchdog Timer function (Default setting)</p>
<p>BIOS Lock</p>	<p>Enable/Disable BIOS Lock function Enabled : Enables BIOS Lock function (Default setting) Disabled : Disabled BIOS Lock funtion</p>

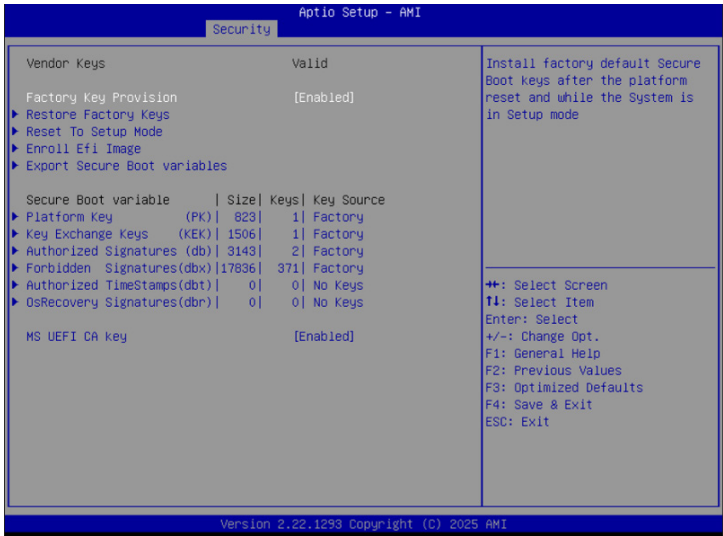
3.5 Security



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



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

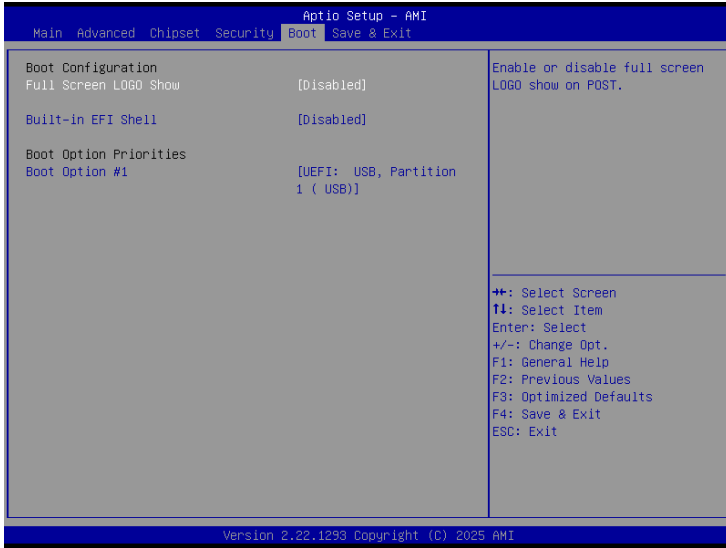


Item	Description
Factory Key Provision	Install factory default Secure Boot keys after the platform reset and while the system is in Setup mode Enabled : Enables Factory Key Provision (Default setting) Disabled : Disables Factory Key Provision
Restore Factory Keys	To restore factory settings Yes : Agree to restore factory settings No : Cancel to restore factory settings
Reset To Setup Mode	Yes : Agree to setup mode No : Cancel to setup mode
Enroll Efi Image	Allow the image to run in Secure Boot mode
Export Secure Boot variables	Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device

Item	Description
Platform Key (PK)	These items allows you to enroll factory defaults or load Certificates from a file.
Key Exchange Keys (KEK)	
Authorized Signatures (db)	
Forbidden Signatures (dbx)	
Authorized TimeStamps (dbt)	
OsRecovery Signatures (dbr)	
MS UEFI CA Key	Device Guard ready system must not list 'Microsoft UEFI CA' Certificate in Authorized Signature database(db)

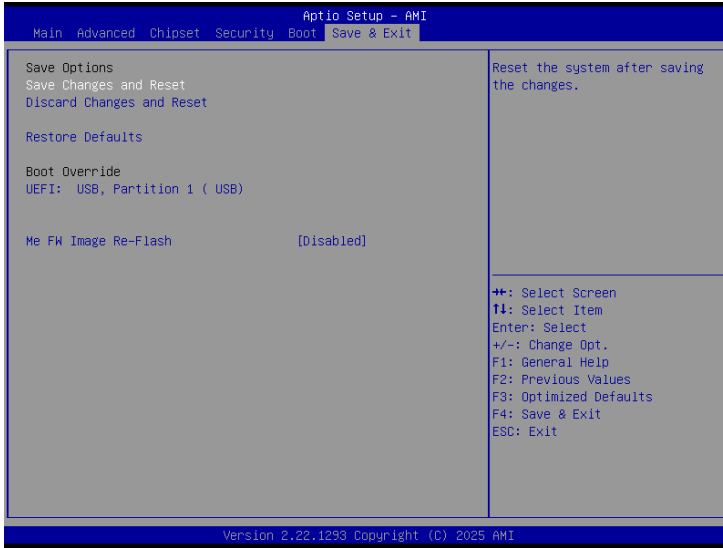
3.6 Boot

This Boot menu allows you to set/change system boot options



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

3.7 Save & Exit



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