

iTXL-5105A iTXL-4500A

Thin Mini-ITX Motherboard
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
iTXL-5105A or iTXL-4500A MB	1
SATA power cable	1
I/O Shield	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	○	○	○	○	○	○
<p>○: 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。</p> <p>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。</p> <p>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。</p>						

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
<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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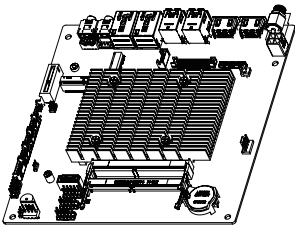
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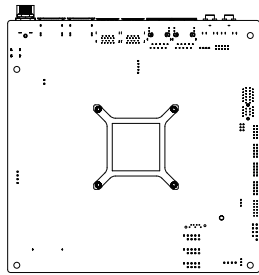
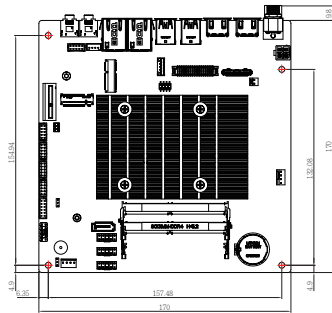
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Chapter 1

Chapter 1 - Product Specifications



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1.1 Specifications

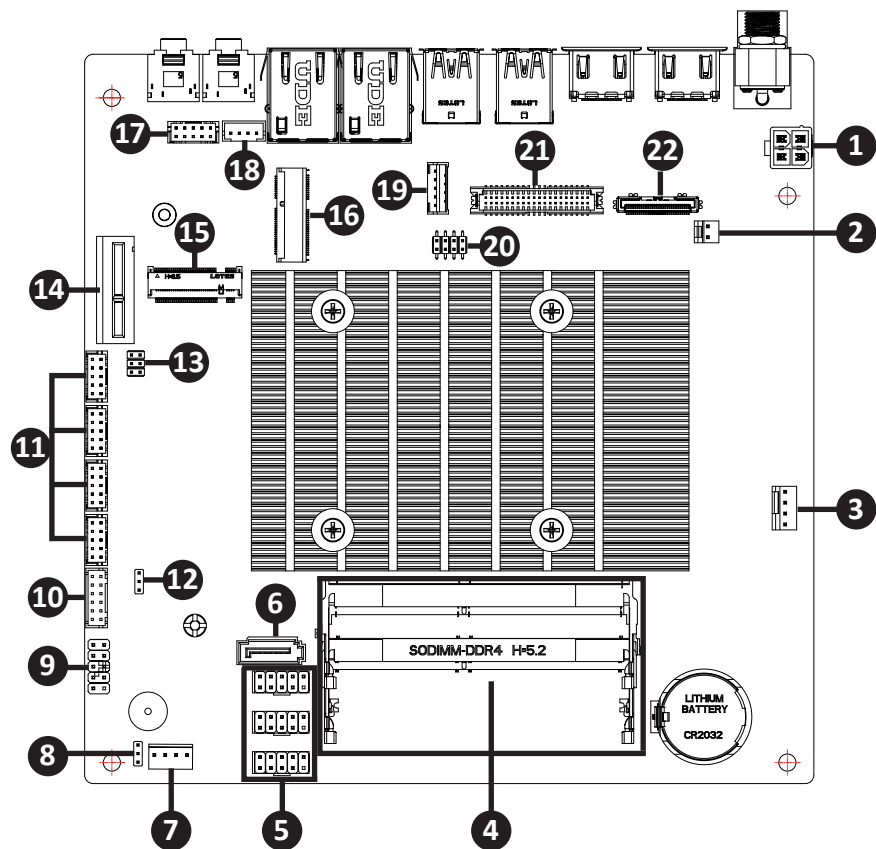
Motherboard	iTXL-5105A (MJPLNBT)	iTXL-4500A (MJPLNAT)
Form Factor	Thin Mini-ITX form factor 170W x 170D (mm)	
CPU	Intel® Celeron® N5105 Processor 10nm, 4 cores, 4 threads, up to 2.90 GHz TDP 10W	Intel® Celeron® N4500 Processor 10nm, 2 cores, 2 threads, up to 2.80 GHz TDP 6W
Socket	1 x FCBGA1338	
Chipset	—	
Memory	2 x DDR4 SO-DIMM sockets, Max. Capacity 16 GB Support Dual channel DDR4 2933 MHz memory modules	
Ethernet	2 x GbE LAN ports (Realtek® RTL8118-CG)	
Video	Integrated Graphics Processor - Intel® UHD Graphics : 2 x HDMI 2.0 port, supporting a maximum resolution of 3840x2160 @60Hz 1 x LVDS port, supporting a maximum resolution of 1920x1080 @60Hz 1 x eDP port, supporting a maximum resolution of 4096x2160 @60Hz (3 independent display outputs)	
Audio	Realtek® Audio Codec	
Storage	1 x SATA 6Gb/s port	
Raid	—	
Expansion Slots	1 x PCIe x1 (Gen3 x1) 1 x 2280 M.2 M-Key (SATA 6Gb/s) 1 x 2230 M.2 E-Key	

Motherboard	iTXL-5105A (MJPLNBT)	iTXL-4500A (MJPLNAT)
Internal I/O	1 x 4-pin ATX main power connector 1 x ATX control header (For Standard ATX PSU use) 1 x SATA power connector 1 x System fan header 1 x Front panel header 1 x Front panel audio header 1 x 2W Speaker out header 6 x USB 2.0 header 1 x COM header (RS-232/422/485 and RI/5V/12V) 3 x COM Headers (RS-232) 1 x GPIO (8 bits) & SMBus header 1 x Backlight Control header 1 x AT/ATX select mode jumper	
Rear I/O	2 x Audio jacks (Line out, Mic in) 2 x HDMI 2 x RJ45 LAN Ports 4 x USB 3.2 Gen 1 1 x DC Jack (+12V~24VDC)	
TPM	—	
OS Compatibility	Windows 10 (x64)	
Operating Properties	Operating temperature: 0°C to 60°C Operating humidity: 0-90% (non-condensing) Non-operating temperature: -40°C to 85°C Non-operating humidity: 0%-95% (non-condensing)	

Chapter 2

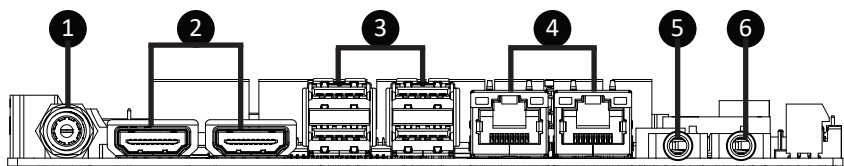
Chapter 2 – Hardware Information

2.1 Jumpers and Connectors



No	Code	Description
1	DC_IN2	ATX 2x2 pin power connector
2	ATX_CTL	ATX control header
3	SYS_FAN	System fan connector
4	SODIMMA SODIMMB	DDR4 SO-DIMM Slot
5	FUSB1 FUSB2 FUSB3	USB 2.0 headers
6	SATA0	SATA 6Gb/s connector
7	SATAPWR	SATA power connector
8	ME_DISABLE	ME Disable jumper
9	SYS_PANEL	Front panel header
10	GPIO_CNT	General purpose input / output header
11	COM1,COM2 COM3,COM4	Serial port header COM1 : RS232/422/485 & RI/5V/12V COM2, COM3, COM4 : RS232
12	AT_CN	AT/ATX power mode select jumper
13	JCOM1	COM 1 (COM RI# pin RI#/5V/12V Select)
14	PCIEX1	PCIe x1 (Gen3 x1) Slot
15	M2M	M.2 Slot, M-Key NGFF 2280 (SATA 6Gb/s)
16	M2E	M.2 Slot, E-Key NGFF 2230
17	FP_AUDIO	Front Audio connector
18	SPKR	Speaker out connector
19	BKL_CN	Back light brightness control header
20	LSW	LVDS resolution jumper
21	LVDS	LVDS connector
22	EDP	Embedded Display Port connector

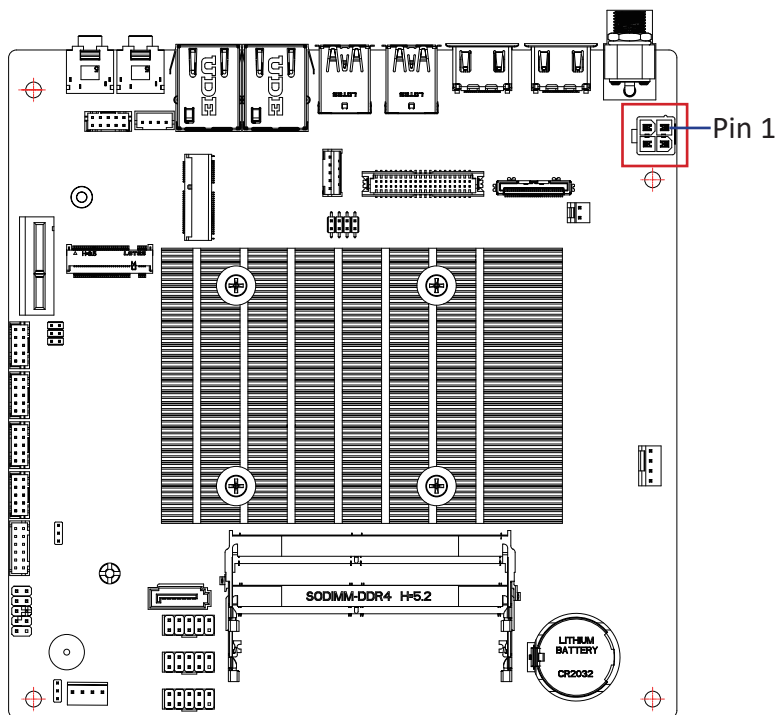
2.1.1 Rear I/O Connector



No	Code	Description
1	DC_IN1	DC IN (12-24V)
2	HDMI1 HDMI2	HDMI
3	USB31_1 USB31_2	USB 3.2 Gen 1
4	LAN1 LAN2	RJ45 LAN Ports
5	LINE_OUT	Audio jacks (Line out)
6	MIC_IN	Audio jacks (Mic in)

2.2.1 DC_IN2 (ATX 2x2 pin power connector)

1



Power Connector



Connector PN

740-81-04TW56

Vendor

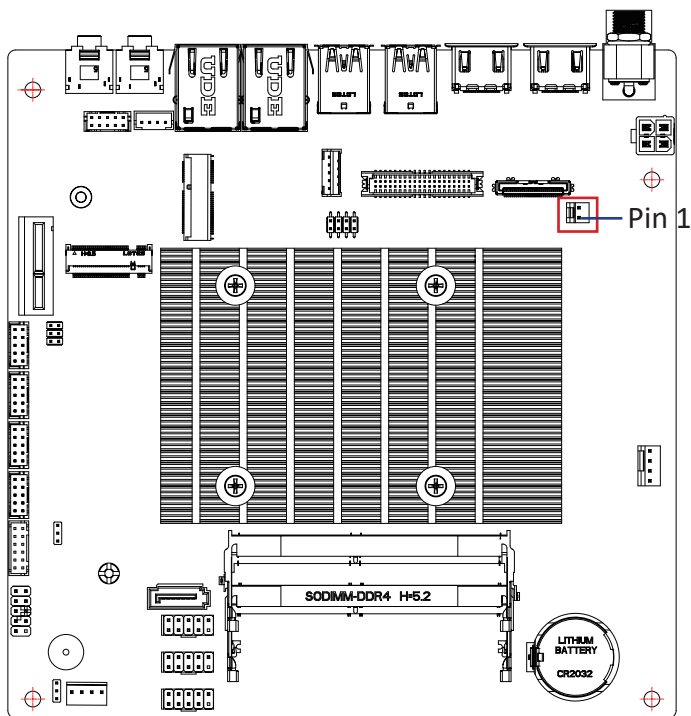
PINREX


Pin No. Definition

Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

2.2.2 ATX_CTL (ATX control header)

2



ATX control header
2

1

Connector PN	Vendor
744-81-02TW10	PINREX

Pin No.	Definition
1	ATX_PS_ON#
2	ATX_5VSB

3



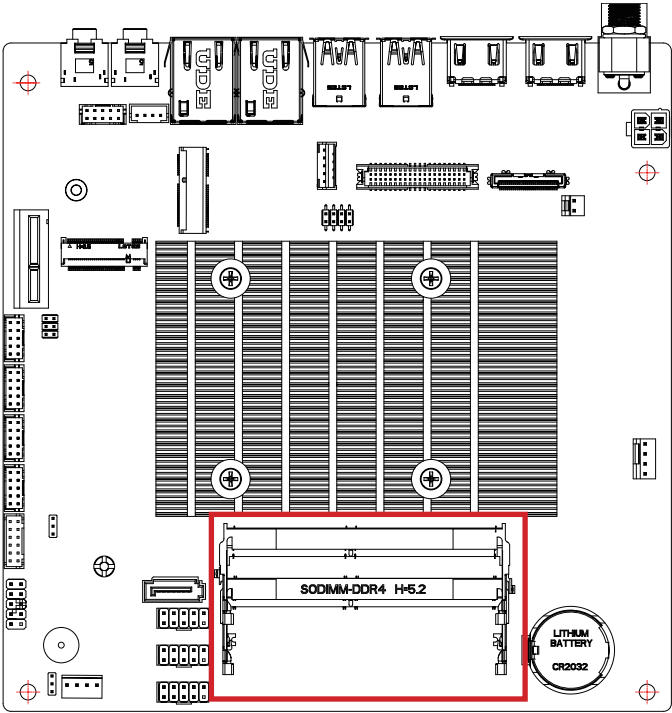
1
4

Pin No.	Definition
1	GND
2	12V
3	Detect
4	Speed Control

Connector PN	Vendor
744-81-045W11	PINREX
WF04R22WJQ195	HORNGTONG

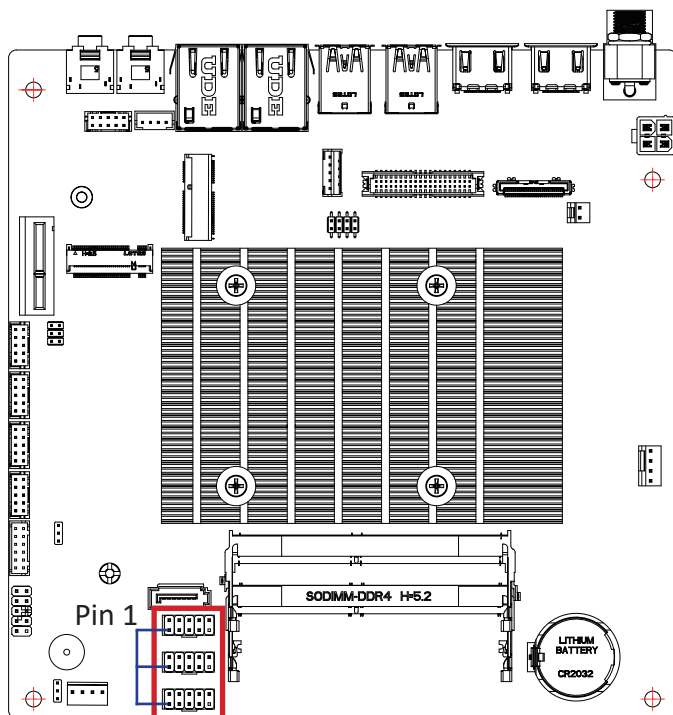
2.2.4 SODIMMA, SODIMMB (DDR4 SO-DIMM Slot)

4

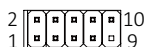


2.2.5 FUSB1, FUSB2, FUSB3 (USB 2.0 headers)

5



USB 2.0 header



Connector PN

210-92-05GB04

PH10R53BAZ009

Vendor

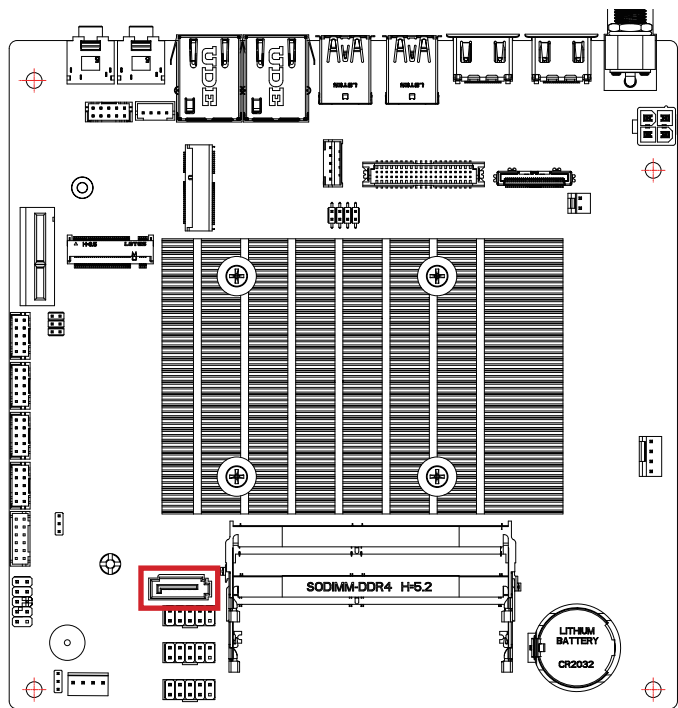
PINREX

HORNGTONG

Pin No.	Definition
1	5V
2	5V
3	Dd-
4	Du-
5	Dd+
6	Du+
7	GND
8	GND
9	No Pin
10	No Connect

2.2.6 SATA0 (SATA 6Gb/s connector)

6



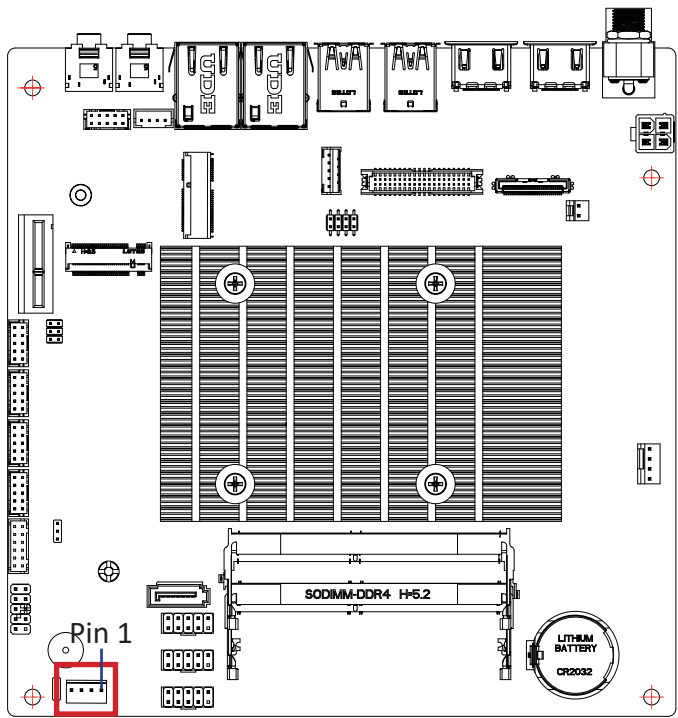
SATA connector	
7	1

Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

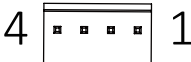
Connector PN	Vendor
WAT3M-07A1G3BU4W	WINWIN
ABA-SAT-054-S15	LOTES

2.2.7 SATAPWR (SATA power connector)

7



Hard Disk Power Connector



Connector PN

743-91-045W00

Vendor

PINREX

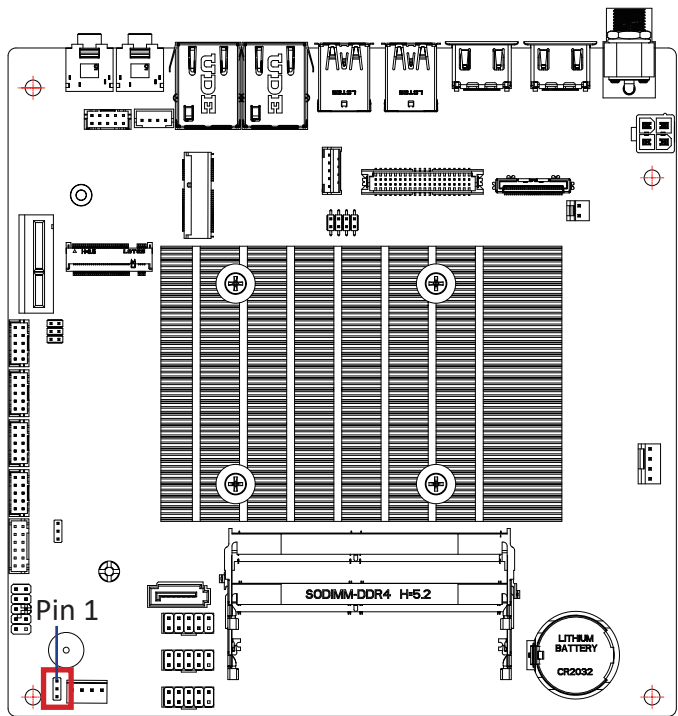
Pin No.

Definition

Pin No.	Definition
1	12V
2	GND
3	GND
4	5V

2.2.8 ME_DISABLE (ME Disable jumper)

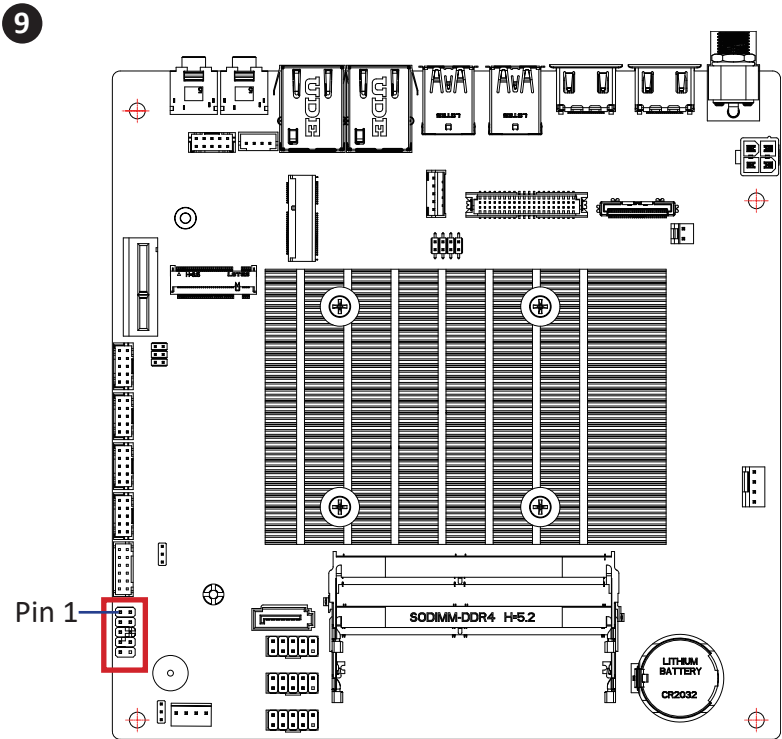
8



ME Disable Connector	
<div>1</div> <div>3</div>	
Pin No.	Definition
1	3.3V
2	GPI
3	NC

ME Disable jumper	
<div>1</div> <div>3</div>	Enable (Default)
<div>1</div> <div>3</div>	Disable

2.2.9 SYS_PANEL (Front panel header)



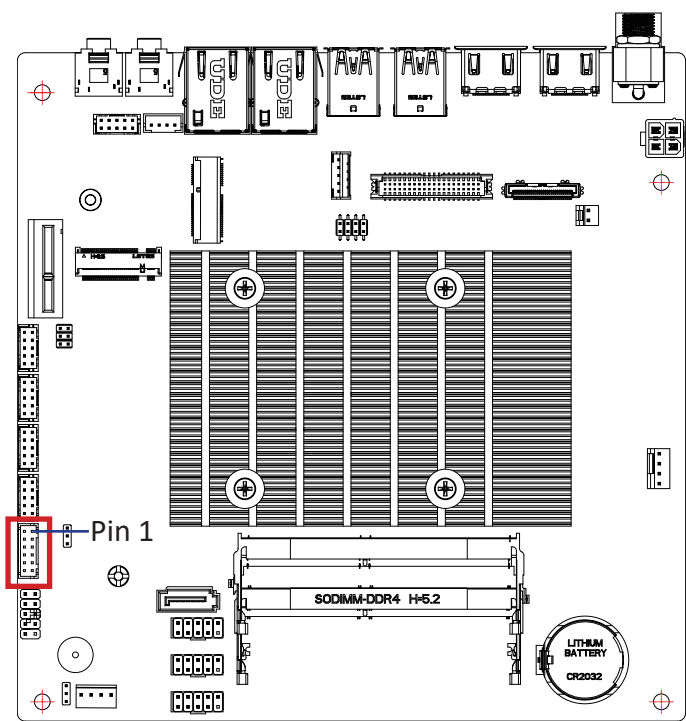
System Panel Header	
1	2
3	4
5	6
7	8
9	10

Connector PN	Vendor
210-92-05G111	PINREX

Pin No.	Definition
1	HDD LED+
2	Power LED+
3	HDD LED-
4	Power LED-
5	GND
6	Power Button+
7	Reset Button
8	Power Button-
9	No Connect
10	No Pin

2.2.10 GPIO_CNT (General Purpose input/output header)

10



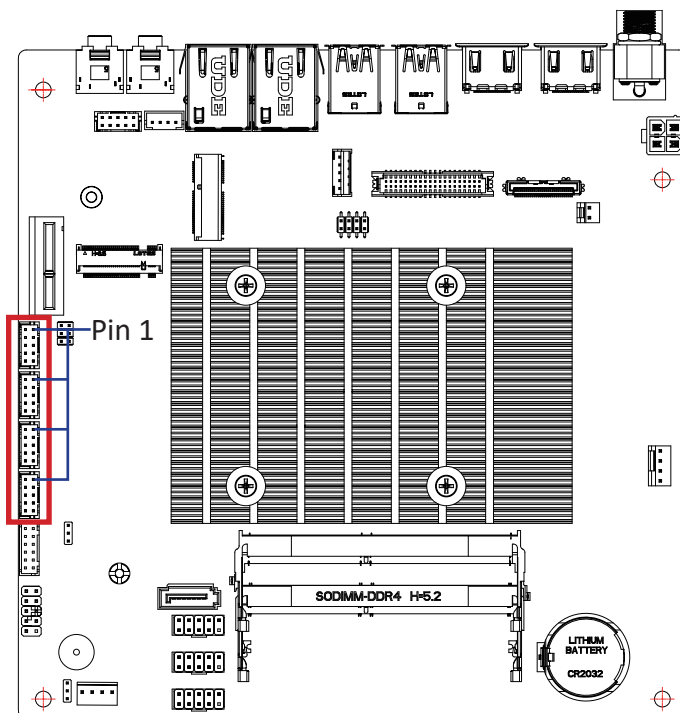
GPIO Connector	
Pin No.	Definition
1	GPO1
2	GPI1
3	GPO2
4	GPI2
5	GPO3
6	GPI3
7	GPO4
8	GPI4
9	SMB_CLK

Pin No.	Definition
10	SMB_DATA
11	5V
12	GND

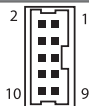
Connector PN	Vendor
725-81-12TW00	PINREX
A2004WV-2X06P46	JOINT-TECH

2.2.11 COM1, COM2, COM3, COM4 (Serial port)

11



Serial Port Cable Connector



Pin No.	RS232	RS422/485 Full Duplex	RS485 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	—	—

Connector PN

725-81-10TW00

A2004WV-2X05P46

Vendor

PINREX

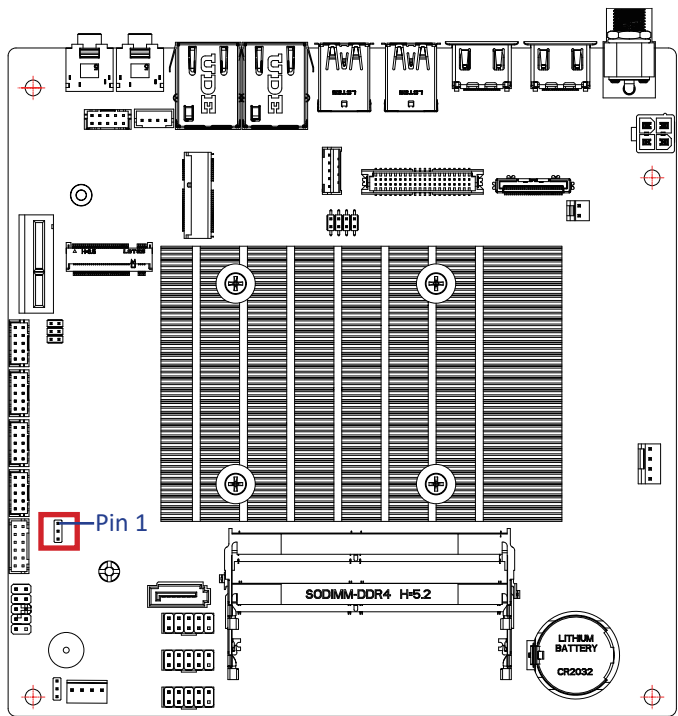
JOINT-TECH


Note :

COM1 : Support RS232/422/485 & RI/5V/12V
 For RI/5V/12V jumper setting, please see **P. 34**
 COM2, COM3, COM4 : Support RS232 only

2.2.12 AT_CN (AT/ATX power mode select jumper)

12



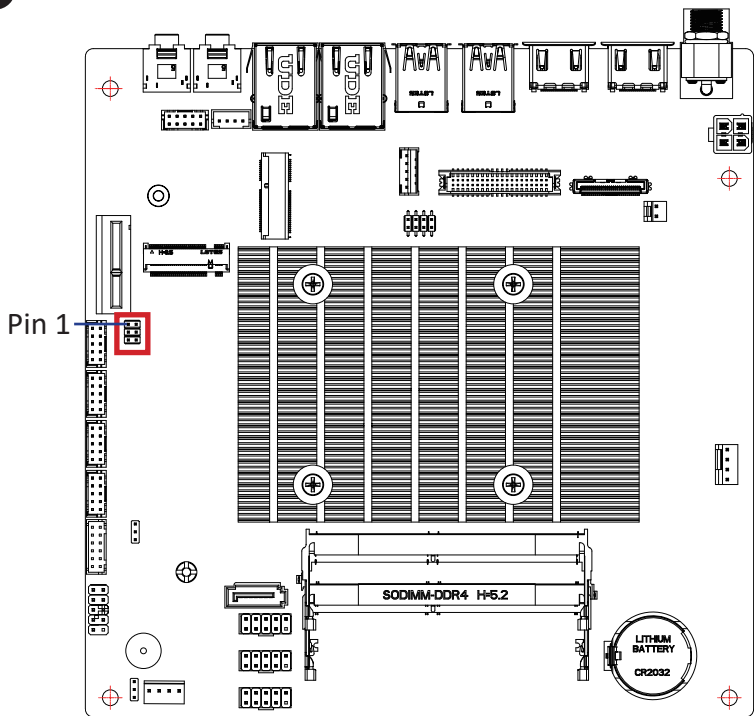
AT/ATX power mode select jumper	
	 1

Connector PN	Vendor
220-96-03GB01	PINREX
PH03N2-7BAN000	HORNGTONG

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)	

2.2.13 JCOM1 (COM 1 RI# pin RI#/5V/12V Select)

13

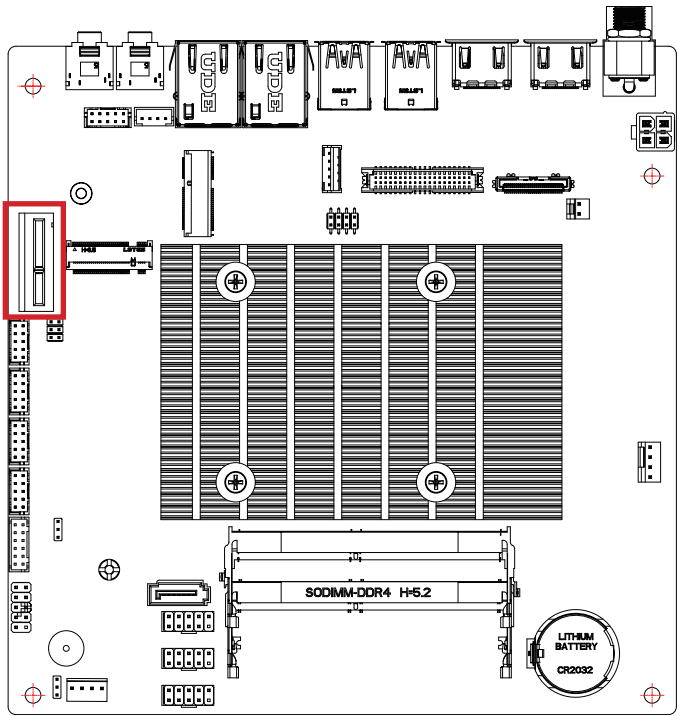


JCOM1 Jumper	
	1-2 Close: 5V (Power COM)
	3-4 Close: RI (Stand COM)
	5-6 Close: 12V (Power COM)

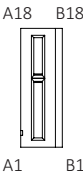
Connector PN	Vendor
220-97-03GB01	PINREX
PH06N53BAZ000	HORNGTONG

2.2.14 PCIEX1 (PCIe x1 (Gen3 x1) slot)

14

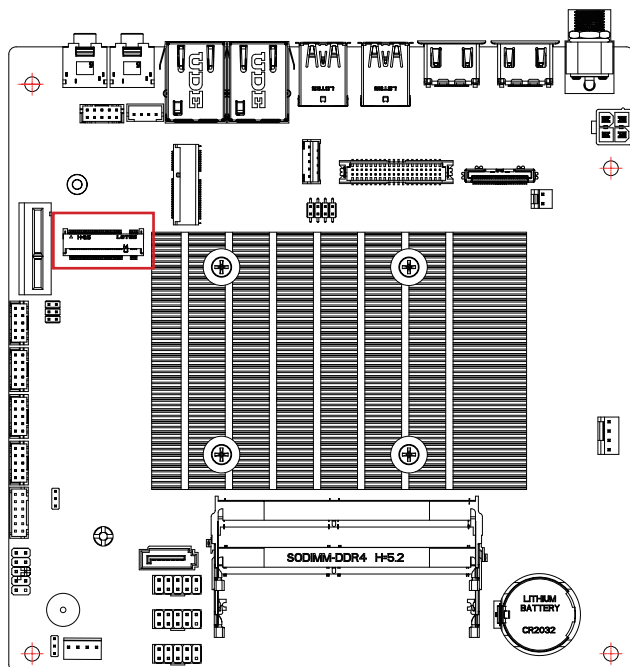


PCIEX1 connector



2.2.15 M2M (M.2 Slot, M-Key NGFF 2280 (SATA 6Gb/s))

15



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	NC
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

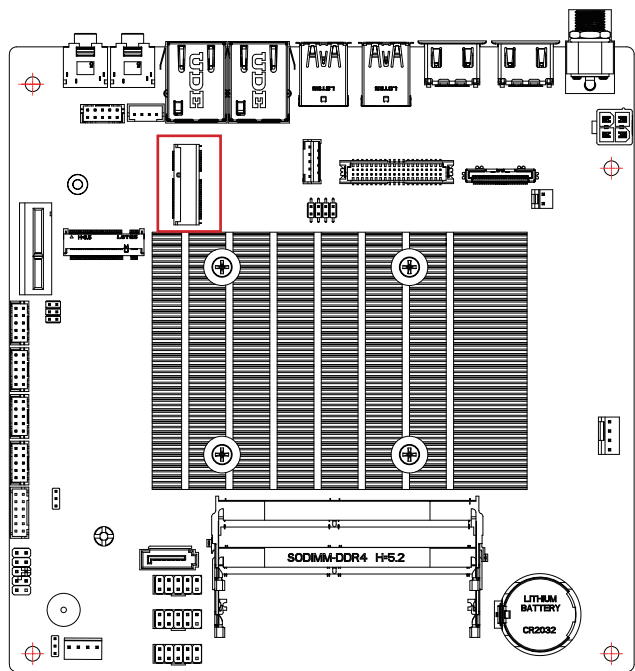
Pin No.	Definition	Pin No.	Definition
37	NC	38	DEVSLP
39	GND	40	NC
41	SATA_RXP	42	NC
43	SATA_RXN	44	NC
45	GND	46	NC
47	SATA_TXN	48	NC
49	SATA_TXP	50	PLT_RST
51	GND	52	NC
53	NC	54	NC
55	NC	56	NC
57	GND	58	NC

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

Connector PN	Vendor
80159-8521	BELLWETHER
2E0BC21-S85BM-7H	FOXCONN
APCI0096-P002A	LOTES

2.2.16 M2E (M.2 Slot, E-Key NGFF 2230)

16



M.2 E Key Connector



Pin No.	Definition	Pin No.	Definition
1	GND	2	3V
3	USB_D+	4	3V
5	USB_D-	6	NC
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	GND	14	NC
15	NC	16	NC
17	NC	18	GND
19	GND	20	NC
21	NC	22	NC
23	NC		

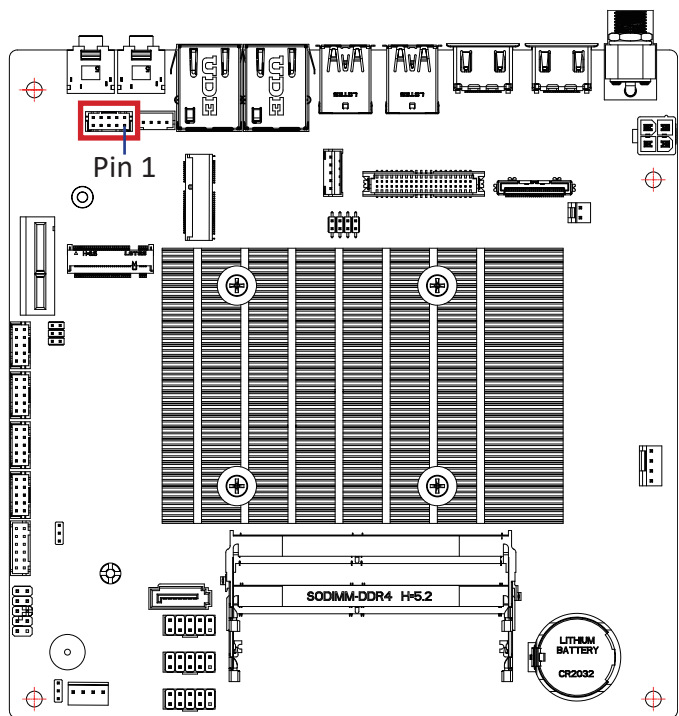
Pin No.	Definition	Pin No.	Definition
33	GND	32	NC
35	WLAN_TXP	34	NC
37	WLAN_TXN	36	NC

39	GND	38	NC
41	WLAN_RXP	40	NC
43	WLAN_RXN	42	NC
45	GND	44	NC
47	CLK_DP	46	NC
49	CLK_DN	48	NC
51	GND	50	SUSCLK
53	CLK_REQ	52	PLT_RST#
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	PERST
69	GND	68	NC
71	NC	70	NC
73	NC	72	3V
75	GND	74	3V

Connector PN	Vendor
2E0BC21-S85BE-7H	FOXCONN
80152-8521	BELLWETHER

2.2.17 FP_AUDIO (Front audio connector)

17



Front Audio Connector



Connector PN

725-81-10TW00
A2004WV-2X05P46

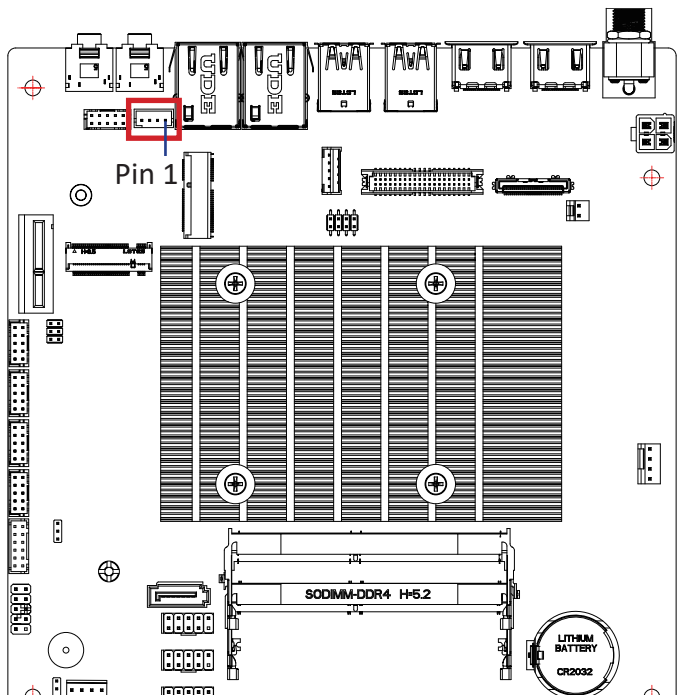
Vendor


PINREX
JOINT-TECH

Pin No.	Definition	Pin No.	Definition
1	MIC_L	6	GND
2	GND	7	FAUDIO_JD
3	MIC_R	8	No Connect
4	Detect	9	HPOUT_L
5	HPOUT_R	10	GND

2.2.18 SPKR (Speaker out connector)

18

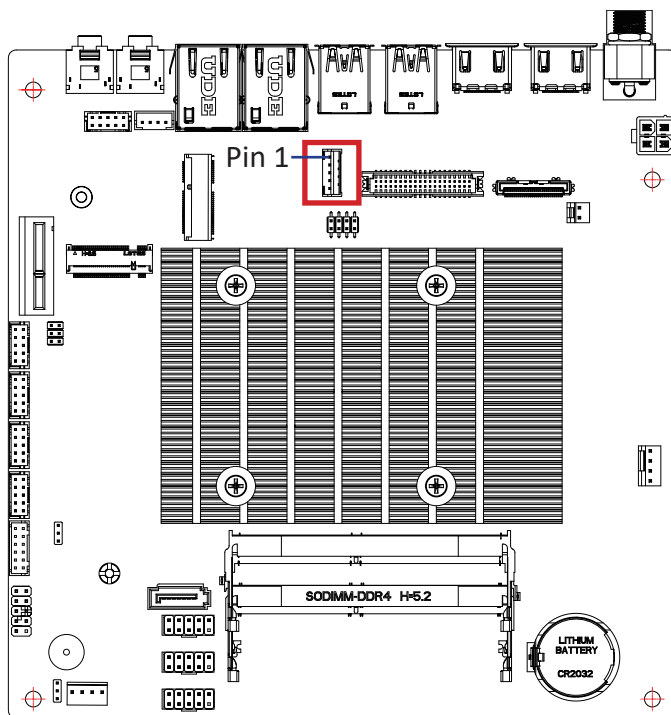


Audio Amplifie Connector	
4  1	
Pin No.	Definition
1	Speaker Out L+
2	Speaker Out L-
3	Speaker Out R-
4	Speaker Out R+

Connector PN	Vendor
721-81-045W00	PINREX
A2001WV-04P146	JOINT-TECH

2.2.19 BKL_CN (Backlight control connector)

19



Backlight control connector



Connector PN

721-81-05TW00
A2001WV-05P146

Vendor

PINREX
JOINT-TECH

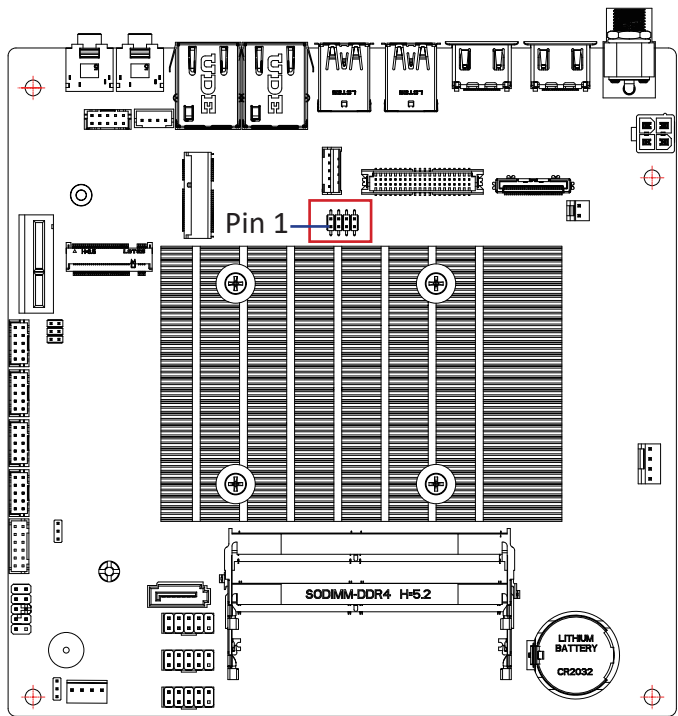
Pin No.

















Definition

1	12V
2	PWM
3	Back Light Enable
4	GND
5	12V

2.2.20 LSW (LVDS resolution jumper)

20

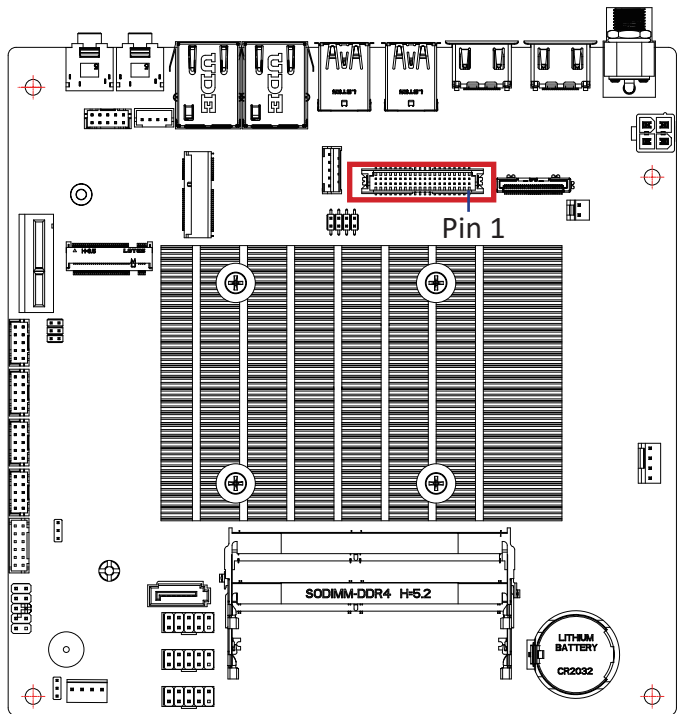


LVDS Resolution Jumper			
Jumper Setting	Resolution	Jumper Setting	Resolution
1 	800 x 600 18bit	1 	1366 x 768 24bit
1 	1024 x 768 18bit	1 	1440 x 900 24bit
1 	1024 x 768 24bit	1 	1400 x 1050 24bit
1 	1024 x 600 18bit	1 	1600 x 900 24bit
1 	1280 x 800 18bit	1 	1680 x 1050 24bit
1 	1280 x 960 18bit	1 	1600 x 1200 24bit
1 	1280 x 1024 24bit	1 	1920 x 1080 24bit
1 	1366 x 768 18bit	1 	1920 x 1200 24bit

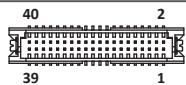
Connector PN	Vendor
222-97-04GBE1	PINREX

2.2.21 LVDS (LVDS connector)

21



LVDS Connector



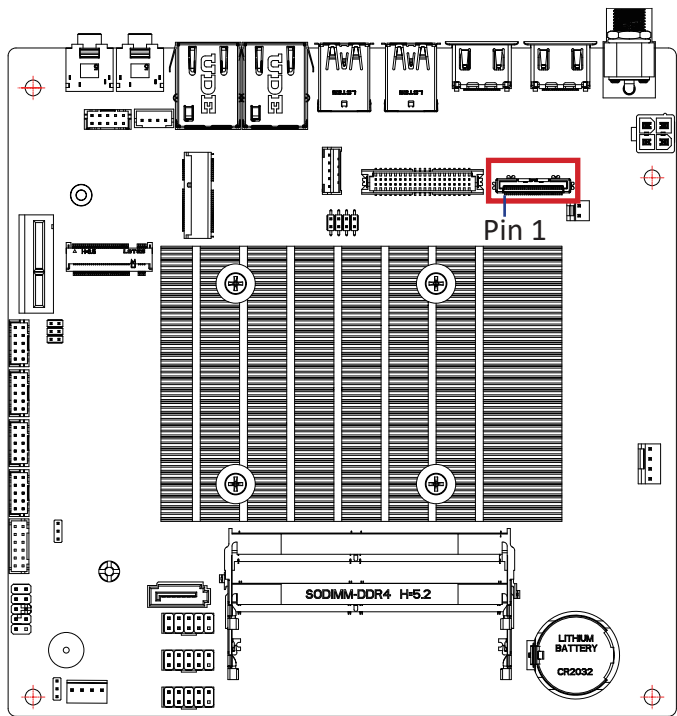
Pin No.	Definition	Pin No.	Definition
1	3.3V	21	A5+
2	5V	22	A4+
3	3.3V	23	A5-
4	5V	24	A4-
5	SPECO	25	GND
6	SPEDO	26	GND
7	GND	27	A7+
8	GND	28	A6+
9	A1+	29	A7-
10	A0+	30	A6-
11	A1-	31	GND
12	A0-	32	GND
13	GND	33	CLK2+
14	GND	34	CLK1+
15	A3+	35	CLK2-

Pin No.	Definition	Pin No.	Definition
16	A2+	36	CLK1-
17	A3-	37	GND
18	A2-	38	GND
19	GND	39	12V
20	GND	40	12V

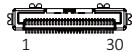
Connector PN	Vendor
712-76-40GWE0	PINREX
A1252WV-SF-2X20PD01	JOINT-TECH

2.2.22 EDP (Embedded Display Port Connector)

22



Embedded Display Port connector



Pin No.	Definition	Pin No.	Definition
1	GND	16	eDP SW
2	TX0N	17	Hot Plug Detect
3	TX0P	18	Backlight Enable
4	GND	19	GND
5	TX1N	20	Backlight control
6	TX1P	21	GND
7	GND	22	3.3V
8	TX2N	23	3.3V
9	TX2P	24	3.3V

Pin No.	Definition	Pin No.	Definition
10	GND	25	3.3V
11	TX3N	26	GND
12	TX3P	27	5V
13	GND	28	5V
14	AUXN	29	5V
15	AUXP	30	5V

Connector PN	Vendor
115B30-000040-G4-R	STARCONN

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

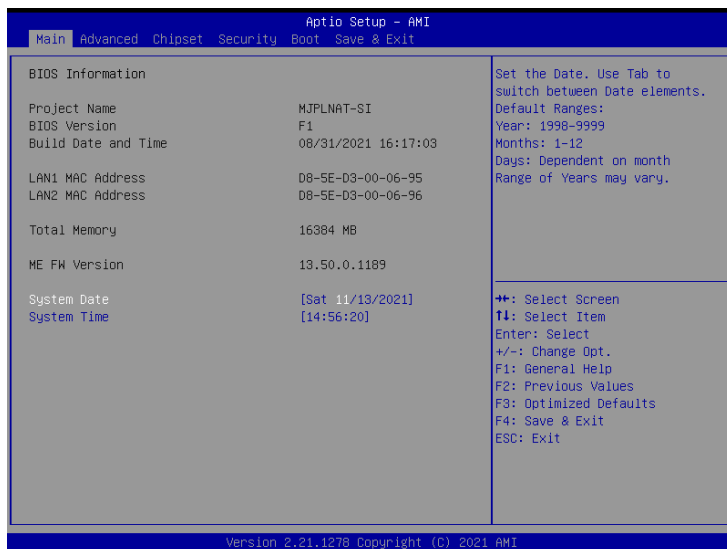
Once the system is power on, press the key as soon as possible to access into BIOS Setup program.

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

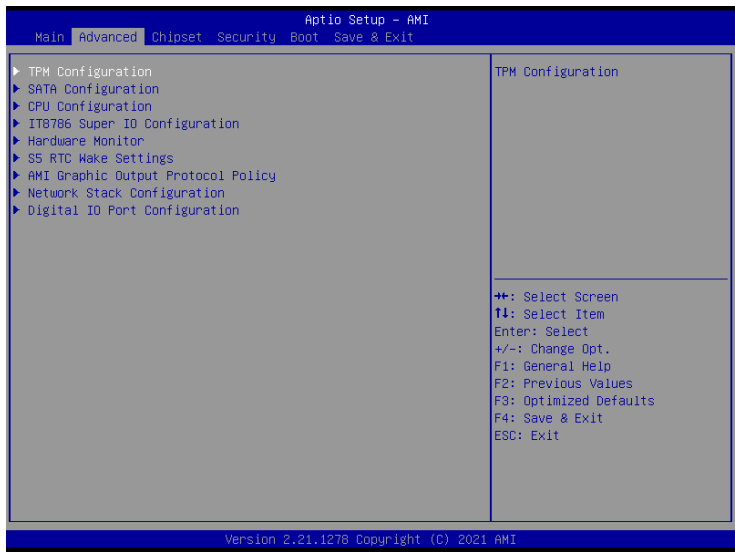
The main menu shows the basic system information.
Use arrow keys to move among the items.



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 LAN MAC Address information
LAN2 MAC Address	Shows LAN 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 : Weekday - 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.



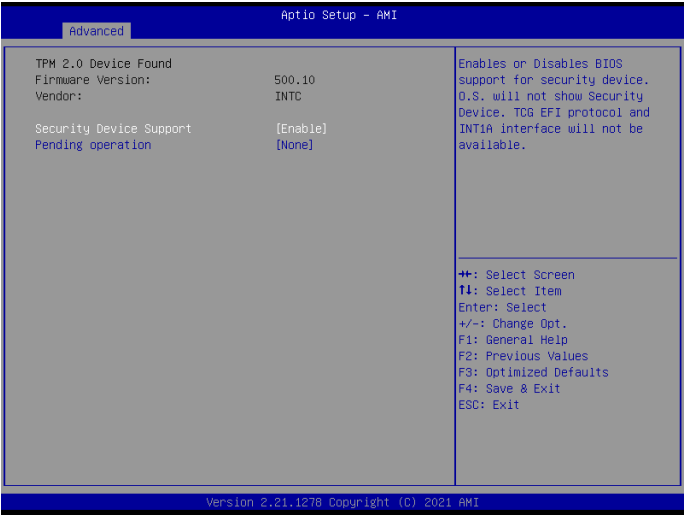
3.3.1 TPM Configuration

Use TPM Configuration submenu to choose TPM interface.



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

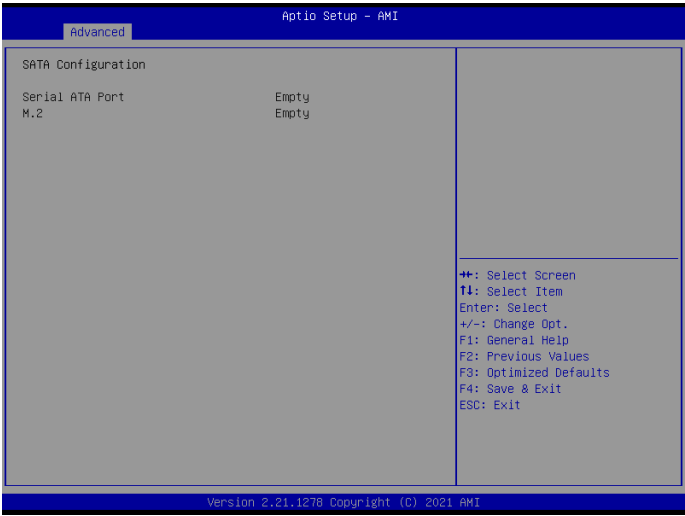
Trusted Computing : Shows TPM information, and TPM module configuration setting.



Item	Description
Security Device support	Enabled : Enables TPM feature (Default setting) Disabled : Disables TPM feature

Item	Description
Pending operation	None : No execution will be conducted (Default setting) TPM clear : Set to clear data on TPM

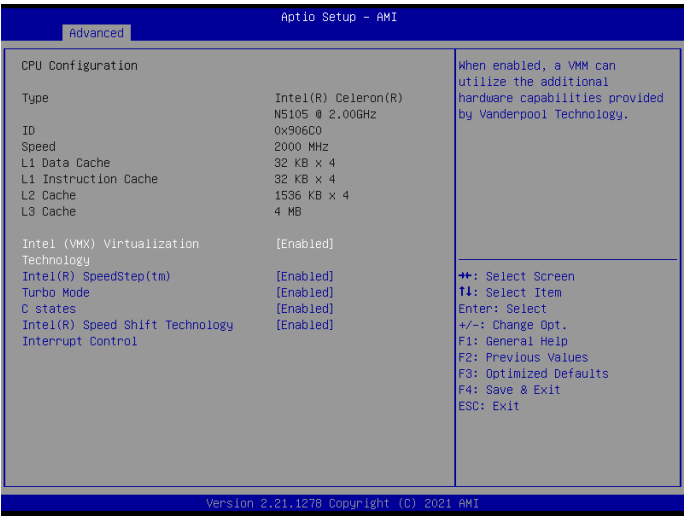
3.3.2 SATA Configuration



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

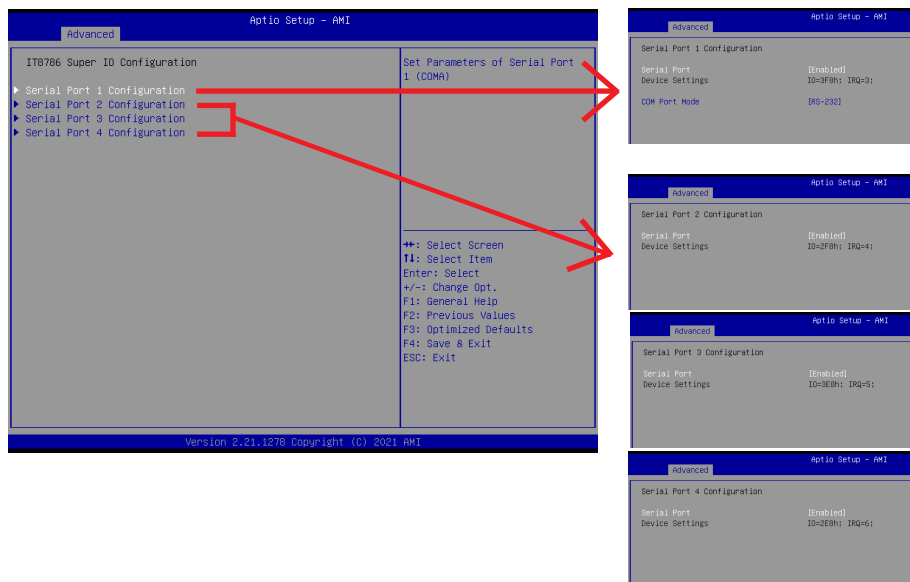
3.3.3 CPU Configuration

This submenu shows detailed CPU informations.



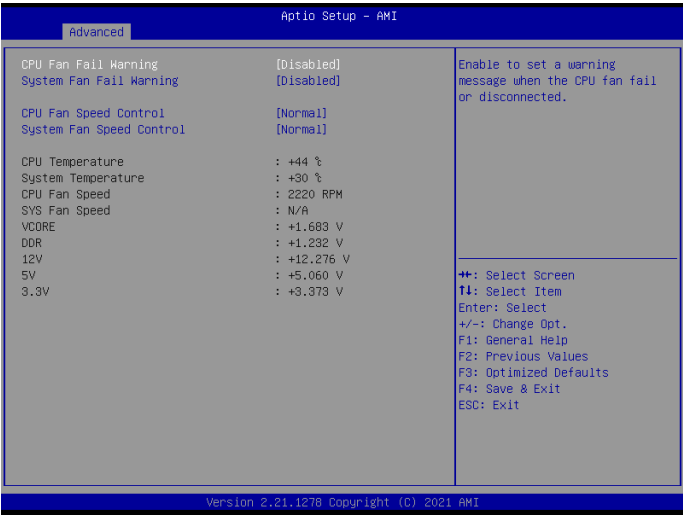
Item	Description
Intel (VMX) Virtualization Technology	Virtualization enhanced by Intel® Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems. Enabled : Enables Intel Virtualization Technology (Default setting) Disabled : Disables Intel Virtualization Technology
Intel(R) 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
Intel(R) Speed Shift Technology Interrupt control	To speed up CPU frequency transition time from basic frequency to maximum frequency. Enabled : Enables Intel(R) Speed Shift Technology Interrupt control (Default setting) Disabled : Disables Intel(R) Speed Shift Technology Interrupt control

3.3.4 Super I/O Configuration



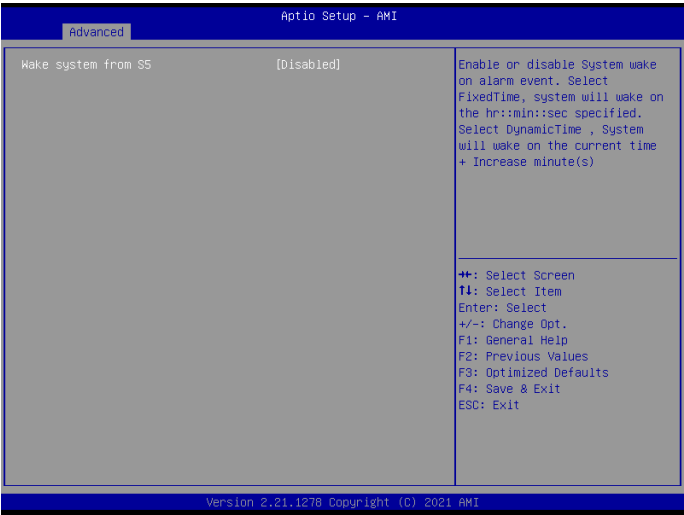
Item	Description
Super IO Chip	Shows Super I/O chip model
Serial Port 1 Configuration	<p>Press [Enter] to configure advanced items :</p> <p>Serial Port : Enabled : Enables allows you to configure the serial port settings Disabled : if Disabled, displays no configuration for the serial port</p> <p>Device 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 2 Configuration	Press [Enter] to configure advanced items :
Serial Port 3 Configuration	<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 4 Configuration	<p>Device settings : Display the specified Serial Port base I/O address and IRQ</p>

3.3.5 Hardware Monitor



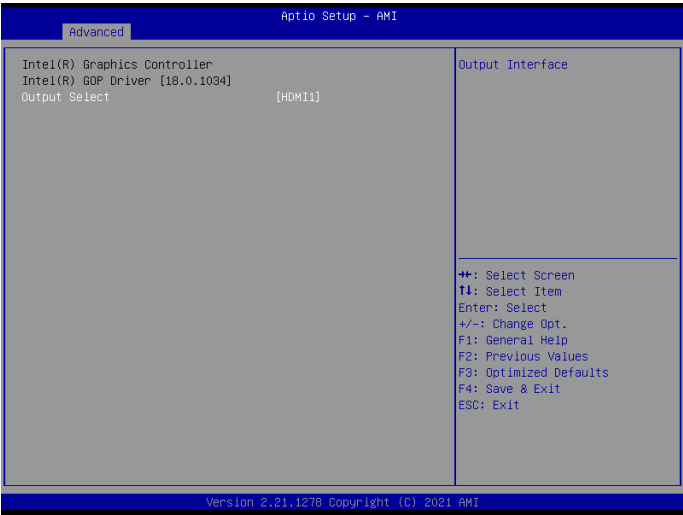
Item	Description
CPU Fan Fail Warning	Enabled : Enables CPU FAN Fail warning alert function Disabled : Disables CPU FAN Fail warning alert function (Default setting)
System Fan Fail Warning	Enabled : Enables System FAN Fail warning alert function Disabled : Disables System FAN Fail warning alert function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

3.3.6 S5 RTC Wake Settings



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

3.3.7 AMI Graphic Output Protocol Policy



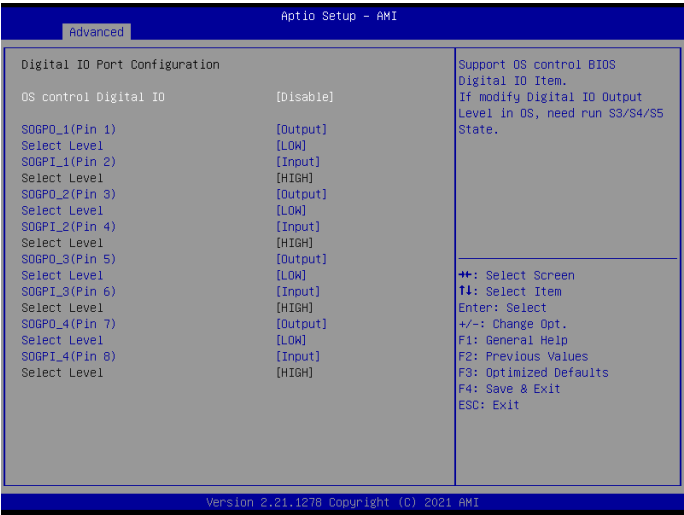
Item	Description
Output Select	Choose default monitor output when there are more than one monitor plugged on the motherboard.

3.3.8 Network Stack Configuration



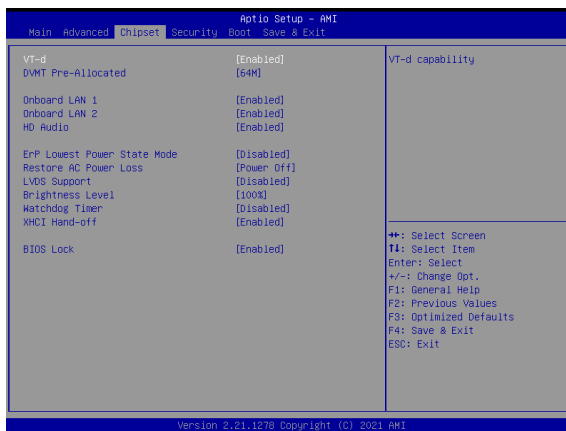
Item	Description
Network Stack	When system is power on, install LAN driver under UEFI mode Disabled : Disables UEFI Network Stack (Default setting) Enabled : Enables UEFI Network Stack

3.3.9 Digital IO Port Configuration



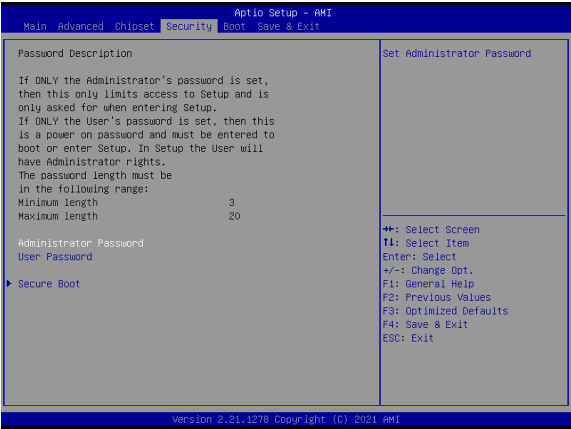
Item	Description
OS control Digital IO	Disabled : If Digital IO Output value/level is modified in OS, they will not be memorized and kept. (Default setting) Enabled : If Digital IO Output value/level is modified in OS, they will be memorized and kept.
SOGPO_1 (Pin 1) SOGPI_1 (Pin 2) SOGPO_2 (Pin 3) SOGPI_2 (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.

3.4 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(Default setting), 128M, 256M
Onboard LAN1 Onboard LAN2	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)
Restore AC Power Loss	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
LVDS Support	Disabled : Disables LVDS Support (Default setting) Enabled : Enables LVDS Support
Brightness Level	To modified the backlight brightness of the LVDS panel Option items : 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100% (Default Setting)
Watchdog Timer	Enable/Disable Watchdog Timer function Enabled : Enables Watchdog Timer function Disabled : Disabled Watchdog Timer function (Default setting)
XHCI Hand-off	Enable/Disable XHCI Hand-off function Enabled : Enables XHCI Hand-off function (Default setting) Disabled : Disables XHCI Hand-off function
BIOS Lock	Enable/Disable BIOS Lock function Enabled : Enables BIOS Lock function (Default setting) Disabled : Disabled BIOS Lock function

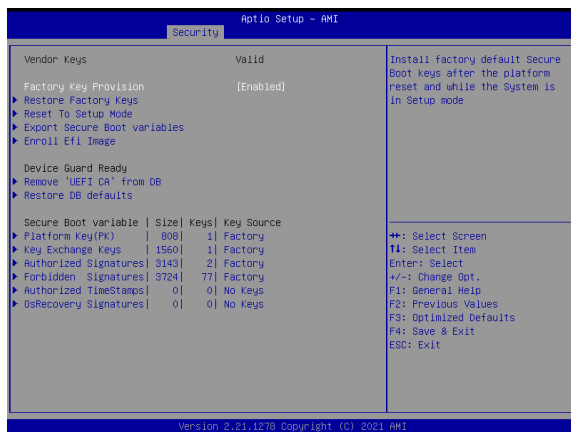
3.5 Security



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
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
Remove 'UEFI CA' from DB	To remove 'UEFI CA' from database Yes : Agree to remove 'UEFI CA' from database No : Cancel to remove 'UEFI CA' from database
Restore DB defaults	Restore DB variables to factory defaults Yes : Agree to restore DB defaults No : Cancel to restore DB defaults

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

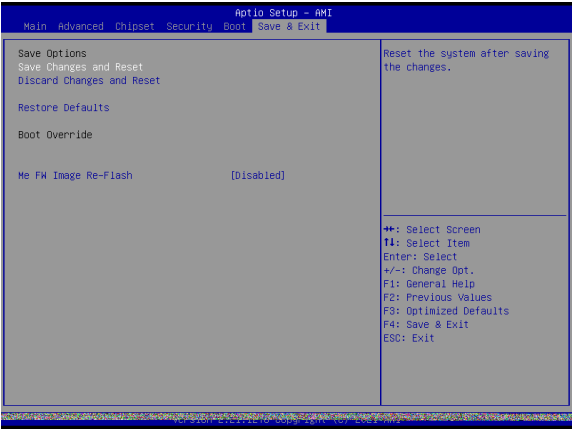
3.6 Boot

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)
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-Flahs	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)