



速博康科技工業觸控電腦 NPP 系列



NPP-156P01

無風扇工業模組化觸控電腦

Intel® Celeron® J6412

產品操作手冊

P/N:1306.0029 V1.0

Release Date: August, 2024

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警告！

依據 FCC 規則，本設備經過測試，符合 A 級數位設備的限制。設計這些限制的目的是當設備運行在商業環境中時，可針對有害干擾提供合理的保護。本設備生成、使用並會輻射射頻能量，如果不按照說明手冊進行安裝和使用，可能會對無線電通信產生有害干擾。在居民區運行此設備很可能產生有害干擾，在這種情況下將由使用者自行承擔糾正干擾的費用。

有觸電的危險 - 請勿在移除背蓋的情況下操作此設備。內部有危險的高壓

注意！

若將電池更換為不正確的型號，有爆炸風險。

電池應盡可能進行回收利用。使用過的電池必須按照當地環境法規進行處置。

安全資訊

以下訊息將幫助您防止設備損壞：

- ◆ 避免您的設備在任何情況下受靜電影響：
- ◆ 避免觸及帶電的元件以防止觸電。當設備通電時，請勿觸摸任何元件。設備未使用時，請隨時斷開電源。
- ◆ 更換任何硬件設備時，請斷開電源。例如，當您連接跳線器或安裝任何設備時，電源突然斷開可能會損壞電子元件或整個設備。

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第一章 產品規格

1.1 產品特色

- 15.6 吋工業級小型面板電腦
- 平面觸控螢幕
- 無風扇設計
- Intel® Celeron® J6412 (2.0 GHz) 處理器
- 直流 9~36V 寬電壓輸入
- 前面板符合 IP66 等級
- 電容式觸控螢幕支援 7H 防刮表面

1.2 硬體規格

NPP-156P01	
螢幕	
尺寸	15.6 吋 TFT-LCD
觸控類型	電容式
亮度 (cd/m ²)	350 (一般規格)
系統	
CPU	Onboard Intel Celeron J6412 (2.0 GHz)
晶片	SoC
記憶體	8GB DDR4 3200 MHz (16GB/32GB Optional)
I/O 介面	
USB	4 x USB 3.2 Gen 1, 1 x USB 2.0 (Optional)
序列埠	1 x DB9 (RS-232/422/485 & RI/5V/12V) (COM1 for optional) 1 x DB9 (RS-232/422/485) (COM2 for optional) 2 x DB9 (RS-232) (COM3/COM4 for optional)
音源	1 x Audio Line Out
乙太網路	2 x GbE LAN RJ-45
HDMI	2 x HDMI 2.0

電源	1 x 2 pins terminal block 外部電源開關 (選配) 1 x 3 pins terminal block 電源連接器 1 x 電源開關
儲存空間	
SSD	1 x 2280 M.2 M-Key (PCIe x2, SATA 6Gb/s)
擴充	
擴充槽	1 x Full-size mini PCIe
觸控螢幕 – 電容式觸控	
TS Control IC	Chip on board
觸控介面	USB
透光度	Over 84%
電源	
輸入範圍	DC 9~36V
外殼材質	
顏色	銀色 (Pantone 877C)
機殼材質	前鋁面板/後鋼殼
防護等級	前面板符合 IP66 標準
操作環境	
操作溫度	0~50°C
儲存溫度	-20~60°C
儲存濕度	10 to 90% @ 40°C, non- condensing
安規認證	CE / FCC Class A
作業系統	
作業系統	Windows 10 IoT, Debian 11

1.3 外觀尺寸圖

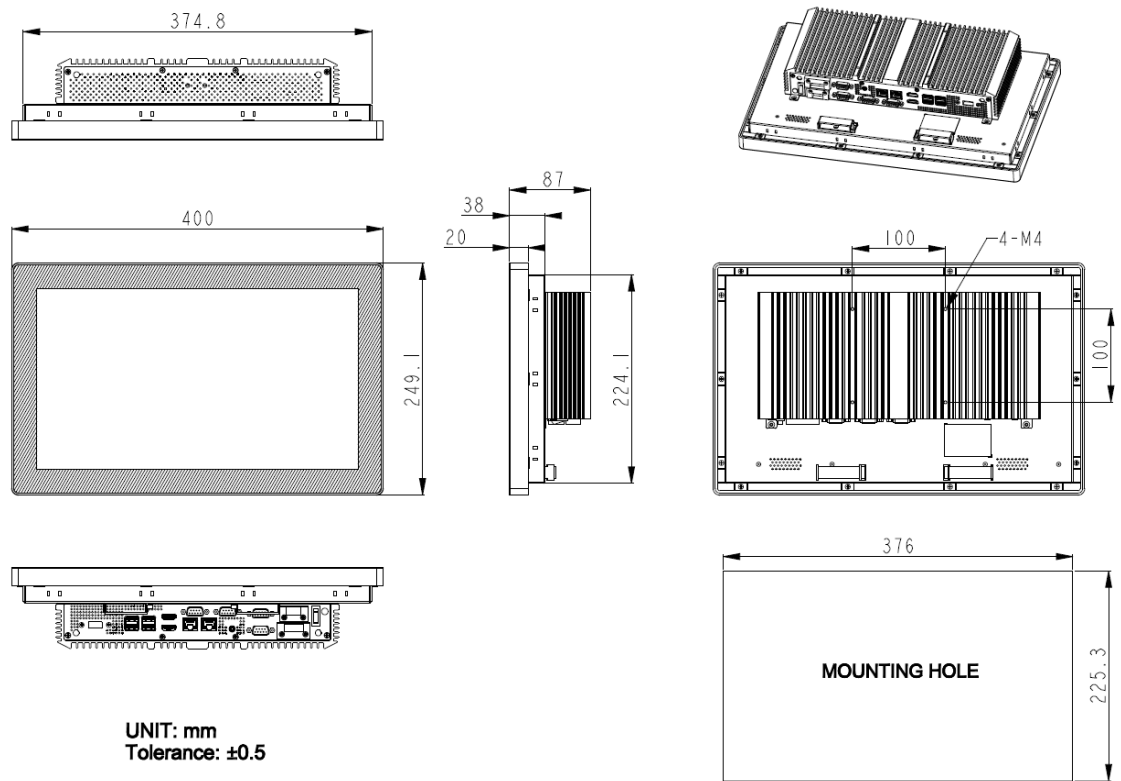


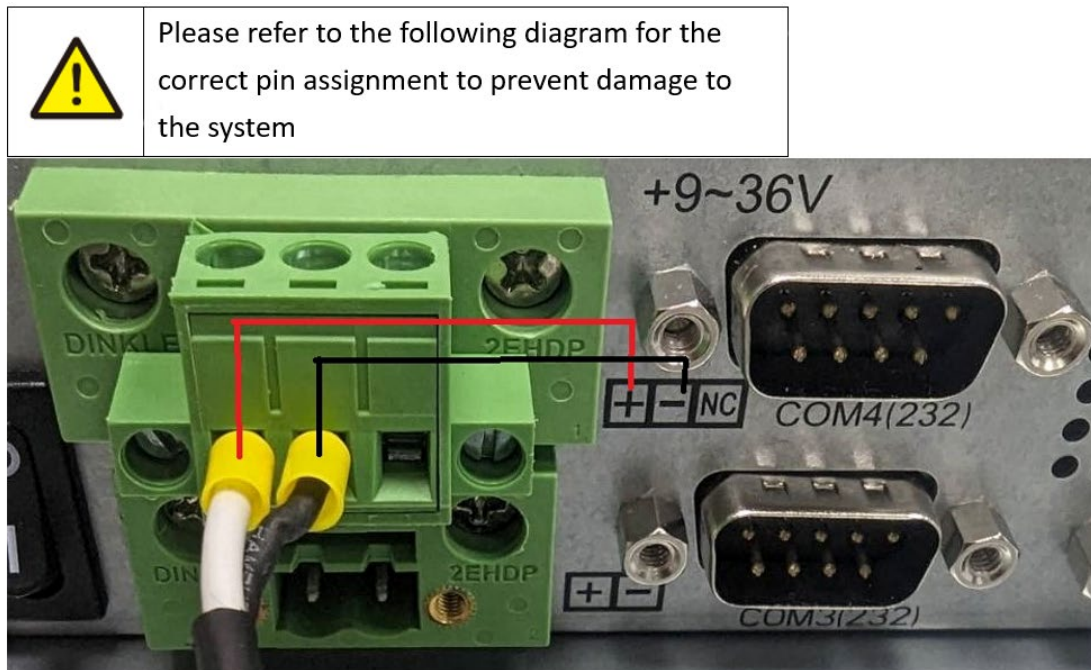
圖 1.1: NPP-156P01 外觀尺寸圖

1.4 NPP-156P01 簡介

15.6 吋的工業用小型平板電腦，採用平板前面板觸控螢幕和無風扇設計。搭載 Intel J6412 (2.0 GHz) 處理器，以及 8GB DDR4 3200MHz 記憶體 (可選擇升級至 16GB 或 32GB 記憶體)。NPP-156P01 採用 DC 9~36V 寬電壓輸入，前面板符合 IP66 標準。此產品為電容式觸控螢幕，7H 防刮表面，適合 PC-based 的工業自動化及工廠自動化環境使用。

1.5 電源連接方式

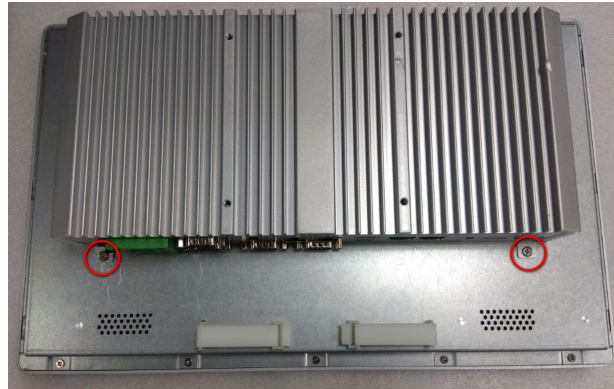
請參考以下圖片確保正確的插腳連接，避免設備損壞



1.6 SSD 及記憶體安裝

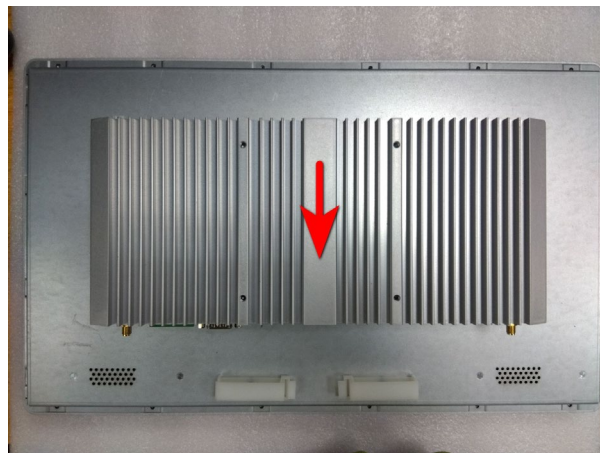
步驟 1：

在開啟裝置前請先將兩個螺絲取下



步驟 2：

將設備主機往下滑動



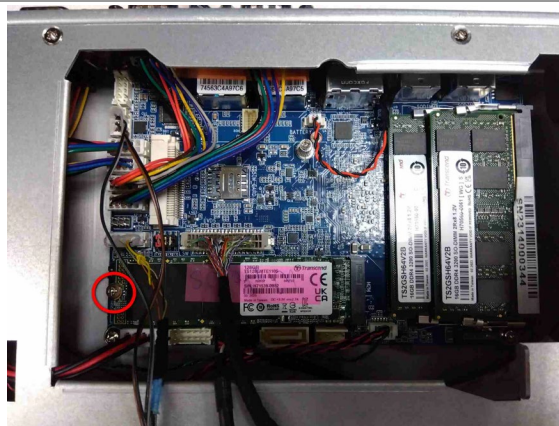
步驟 3：

小心地將設備翻轉並平放。



步驟 4

您可以直接解開一顆螺絲來更換記憶體或 SSD，如圖所示。



1.7 安裝橡膠密封圈

步驟 1

從 NPP-156 的底部中心點（圖中箭頭所示位置）開始安裝橡膠密封圈。



步驟 2

根據框架將橡膠密封圈插入凹槽中。



步驟 3

安裝完成後，如果有多餘的橡膠密封圈，您可以使用剪刀將多餘的部分剪掉。



1.8 VESA 安裝

VESA 安裝如下圖所示。請使用螺絲將設備從後面孔洞鎖緊安裝。

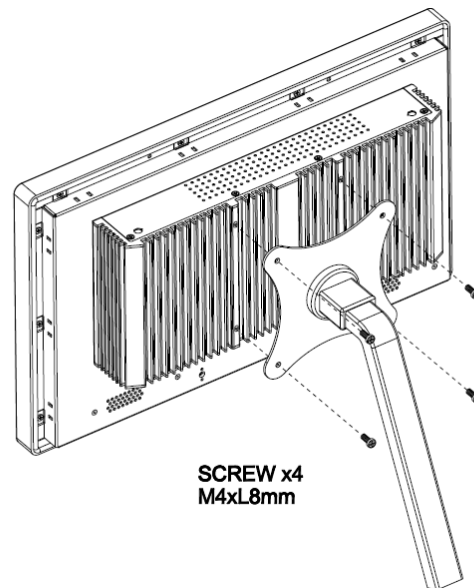


圖 1.21: VESA 安裝

1.9 面板安裝

NPP-156P01 四邊各有 14 個孔洞。從四邊插入夾子，並使用提供的螺母將它們拴緊。

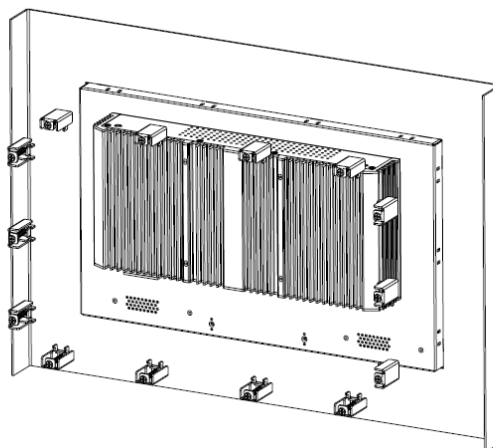


圖 1.22: 面板安裝

第二章 硬體

2.1 主機板介紹

3.5 吋的工業主機板上主要搭配英特爾 Celeron 處理器，提供多元的輸出入介面滿足不同客戶的需求。同時它具備雙 GbE 網路接口、4 個 COM 接口、1 個 Mini PCIe 配置、5 個 USB 接口、2 個 HDMI 以及 1 個 LVDS 介面。為滿足高端客戶的特殊需求，該產品被廣泛應用於工業控制的各個領域。

2.2 規格

外型尺寸	146mm x 101.7mm
中央處理器	Onboard Intel® Celeron® J6412 2.0GHz 四核心, 4 threads, (up to 2.6GHz)
晶片	SoC
BIOS	AMI/UEFI
記憶體	2 x SO-DIMM, DDR4 3200MHz, up to 32GB
繪圖	Intel® UHD Graphics 400/800MHz
顯示	2 x HDMI Ports 1 x LVDS (18/24-bit dual LVDS)
解析度	Up to 4096 x 2160 for HDMI Up to 1920 x 1200 for LVDS
三組螢幕顯示	2 x HDMI + LVDS
儲存空間	1 x SATA 6Gb/s Port (CN13)
乙太網路	2 x GbE LAN Ports (Intel® I211AT) (CN23)
USB	4 x USB 3.2 Gen 1 External I/O port (CN25) 2 x USB 2.0 Pin headers (CN14)
序列埠	1 x COM header (RS-232/422/485 & RI/5V/12V) (CN6:COM1) 1 x COM header (RS-232/422/485) (CN6:COM2) 2 x COM headers (RS-232) (CN6:COM3, COM4)
數位 I/O	1 x GPIO (8 bits) & SMBus header (CN15)
內建電池	Support CR2032 battery by 2-pin header (CN21)
音源	Realtek® Audio Codec Support Line-out (CN22) Front panel audio header (CN8)

擴充	1 x 2280 M.2 M-Key (PCIe x2, SATA 6Gb/s) (CN11) 1 x Full-size mini PCIe with SIM slot (CN19)
電源輸入	Wide Range DC9V~36V input 1 x 4-pin power input connector (CN2)
開關和 LED 指示燈	Front panel header 1 x Power on/off switch (CN10) 1 x Reset (CN10) 1 x Power LED status (CN10) 1 x HDD LED status (CN10)
外接 I/O	1 x Headphone Jack 2 x HDMI 2 x RJ45 LAN Ports 4 x USB 3.2 Gen 1
操作溫度	Operating: 0°C to 60°C Storage: -40°C to 85°C
操作濕度	0% - 90%, non-condensing, operating
EMI/EMS	Meet CE/FCC class A

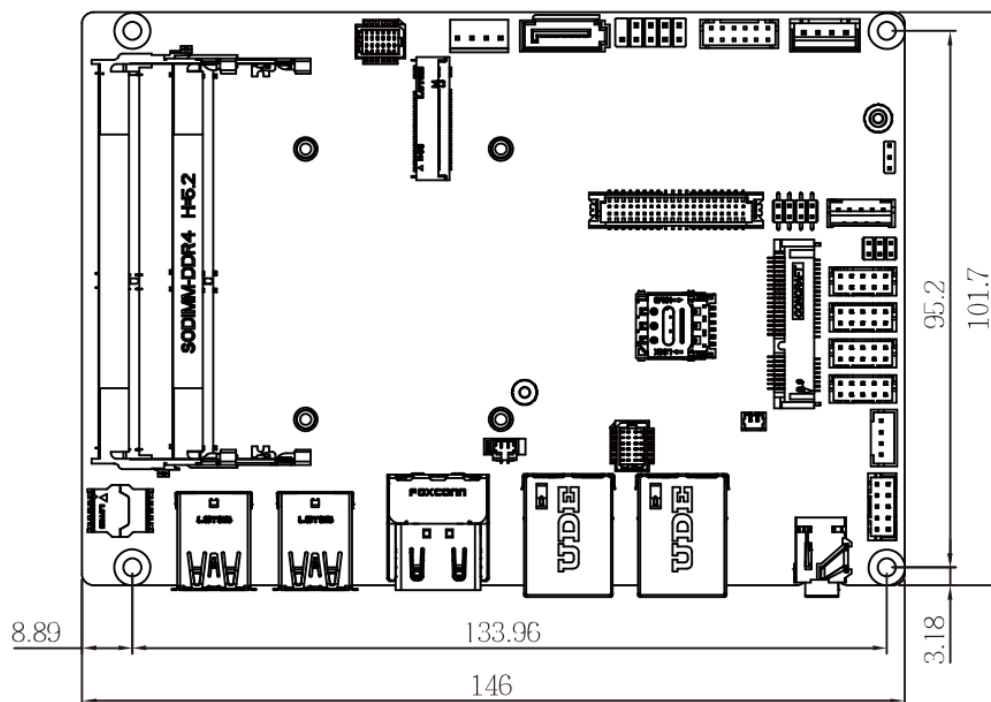


圖 2.1: 主機板尺寸

2.3 跳線與連接器位置

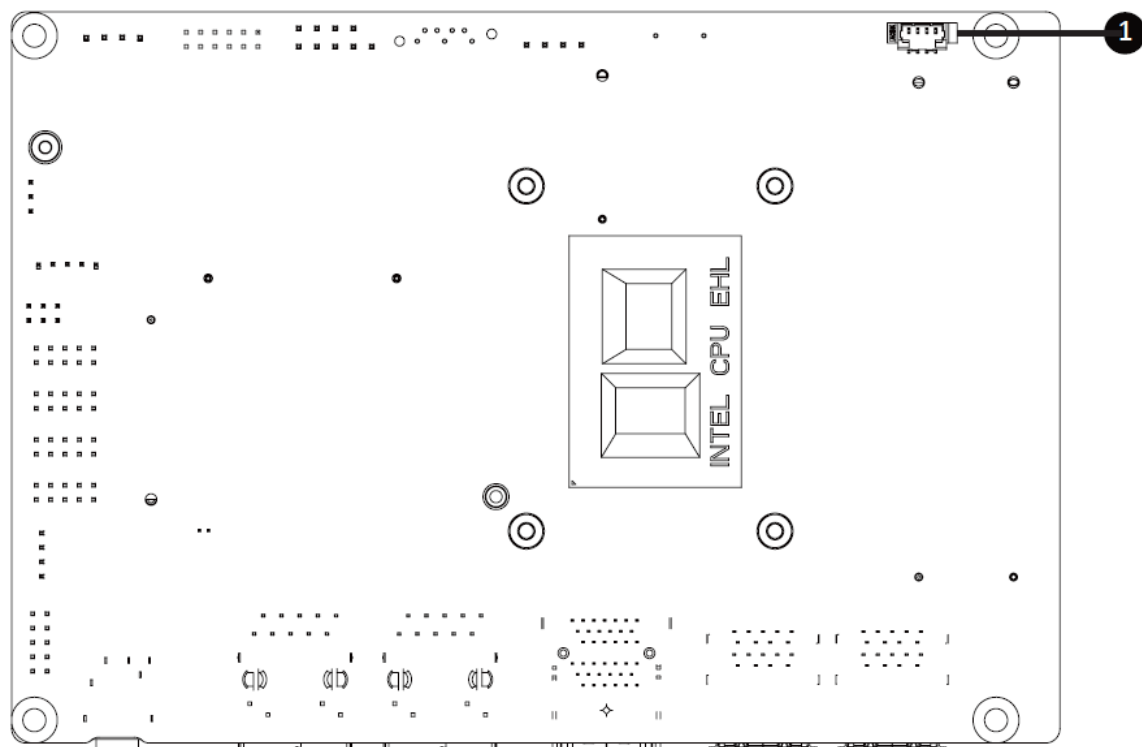


圖 2.2: 連接器位置 - 底板

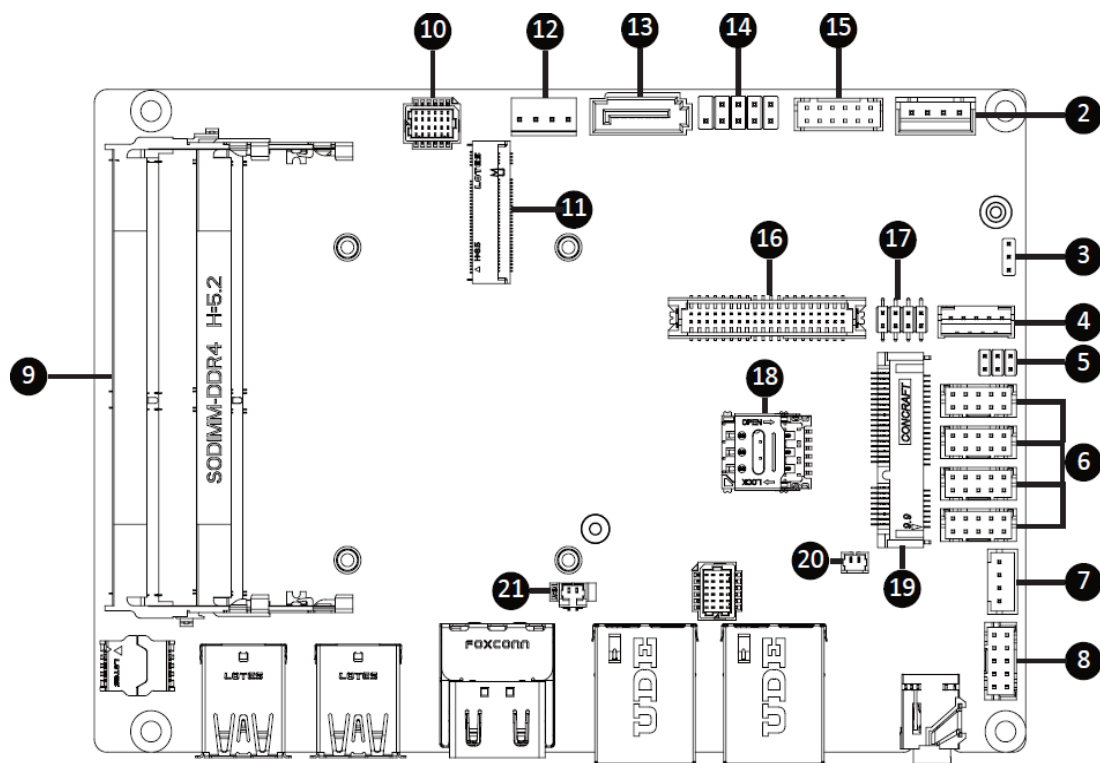


圖 2.3: 連接器位置 - 頂板

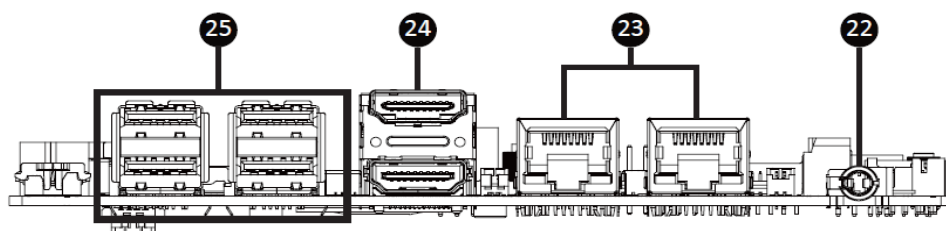


圖 2.4: 後方 I/O 位置

No	Code	Description
1	FAN	FAN connector
2	DC_IN	DC IN 1x4pin power connector
3	AT_CN	AT/ATX mode select jumper
4	BKL_CN	Backlight Control connector
5	JCOM1	RI# pin RI#/5V/12V select jumper for COM1 port
6	COM1	Serial port header
	COM2	COM1 : RS-232/422/485 & RI/5V/12V
	COM3	COM2 : RS-232/422/485
	COM4	COM3, COM4 : RS-232
7	SPKR	Speaker out connector
8	FP_AUDIO	Front panel audio header
9	SODIMMA SODIMMB	DDR4 SO-DIMM sockets x 2
10	SYS_PANEL	Front panel header
11	M2M	M.2 slot, M-key, NGFF2280
12	SATAPW	SATA power connector
13	SATAIII	SATA 6Gb/s connector
14	FUSB20	USB 2.0 header
15	GPIO_CNT	General Purpose input/output header
16	LVDS	LVDS connector
17	LSW	LVDS resolution jumper
18	SIM_CARD	3G/4G SIM slot
19	MPCIE	Mini-PCIe slot
20	BUZZER	Buzzer header
21	BATTERY	Battery cable connector
22	AUDIO	Line out connector (Headphone without microphone)
23	LAN1, LAN2	LAN connector
24	HDMI	HDMI connector
25	USB31_1, USB31_2	USB 3.2 Gen 1 connector x 4

2.4 設置跳線及連接器

1. 風扇 (風扇連接口):

風扇連接器的冷卻風扇可以直接連接以供使用。您可以在 BIOS CMOS 設定選單中設置冷卻風扇的轉速條件。(1.25mm Pitch 1x4 Pin Header)

Pin#	Signal Name
1	Ground
2	+12VCC
3	FAN_Sense
4	Speed_Control

2. DC_IN (電源連接口):

DC12V 設備電源輸入連接器 (2.5mm Pitch DC-IN 1x4pin Wafer Pin Header)

Pin#	Signal Name
1	Ground
2	Power Input DC+12V
3	Power Input DC+12V
4	Ground

3. AT_CN (AT/ATX 模式選擇跳線)

AT/ATX mode select jumper	
	1-2 Close : AT mode.
	2-3 Close : ATX mode. (Default setting)

Pin#	Definition
1	AT MODE
2	Detect
3	ATX MODE

4. BKL_CN (背光控制連接口):

(2.0mm Pitch 1x5 wafer Pin Header) 用於 LVDS 的背光控制連接器

Pin#	Signal Name
1	DC5V
2	BKLT_PWM
3	BKLT_EN
4	Ground
5	DC12V

5. JCOM1 (RI#/5V/12V COM1 選擇跳線):

COM1 的 1 至 6 Pin 於選擇訊號輸出，而第 9 Pin 則用於電壓輸出埠

(1.0mm Pitch 2x3 Pin Header)

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

6. COM1, COM2, COM3, COM4 (序列埠接口):

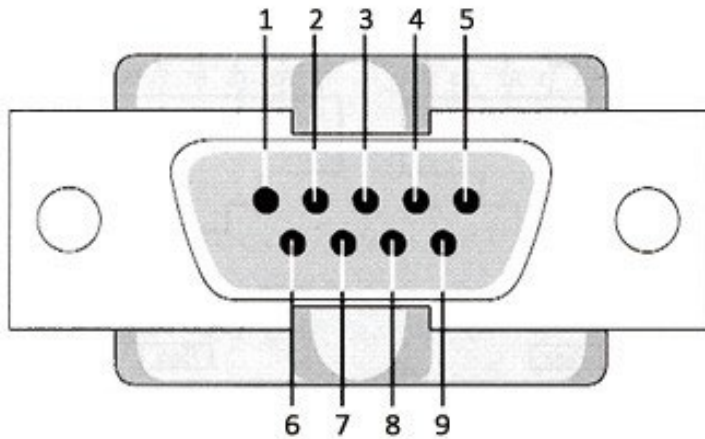
COM1：支持 RS-232/422/485 和 RI/5V/12V。

(有關 RI/5V/12V 跳線設置，請參閱上方表格 JCOM1 Jumper Select)

COM2：僅支持 RS-232/422/485

COM3 和 COM4：僅支持 RS-232

COM Port Pin Define :



Pin#	RS-232	Pin No.	RS-232
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI/5V/12V (COM1 Only)
5	GND		

Pin#	RS-422	Pin No.	RS-485
1	TXD-	1	D-
2	TXD+	2	D+
3	RXD+		
4	RXD-		

7. SPKR (喇叭輸出連接口):

Pin#	Definition
1	Speaker Out L+
2	Speaker Out L-
3	Speaker Out R-
4	Speaker Out R+

8. FP_AUDIO (前面板音訊接口):

(2.0mm Pitch 2X5 Pin Header), 前置音訊。採用板上的 Realtek 編解碼器提供高品質音訊 I/O 面板。Line Out 可連接到耳機或擴音器。Line In 用於通過 Line in 電纜連接外部音訊源。MIC 為麥克風輸入音訊端口。

Pin#	Definition	Pin#	Definition
1	MIC-LEFT	6	GND
2	GND	7	JACKSENCE Detect
3	MIC-RIGHT	8	NC
4	Detect	9	LINE-LEFT
5	LINE-RIGHT	10	GND

9. SODIMMA, SODIMMB (DDR4 SO-DIMM 插槽):

2 x DDR4 SO-DIMM 插槽，最大容量為 32 GB，支援雙通道 DDR4 3200 MHz 記憶體模組

10. SYS_PANEL (前面板接口):

Pin#	Definition	Pin#	Definition
1	HD-p	7	Reset Button
2	MPD-p	8	GND
3	HD-n	9	No Connect
4	MPD-n	10	No Connect
5	GND	11	No Connect
6	POWER-ON	12	No Connect

11. M2M (M.2 Slot, M-Key, NGFF 2280)

請將模組卡安裝到 M.2 插槽中

Pin	Definition	Pin	Definition	29	PCIE1 RXn	30	NC
1	GND	2	3.3V	31	PCIE1 RXp	32	NC
3	GND	4	3.3V	33	GND	34	NC
5	NC	6	NC	35	PCIE2 TXn	36	NC
7	NC	8	NC	37	PCIE2 TXp	38	NC

9	GND	10	SSD LED	39	GND	40	NC
11	NC	12	3.3V	41	PCIE0 RXn/SATA Bp	42	NC
13	NC	14	3.3V	43	PCIE0 RXp/SATA Bn	44	NC
15	GND	16	3.3V	45	GND	46	NC
17	NC	18	3.3V	47	PCIE0 TXn/SATA An	48	NC
19	NC	20	NC	49	PCIE0 TXp/SATA Ap	50	PCI Reset
21	GND	22	NC	51	GND	52	PCIE Clock
23	NC	24	NC	53	PCIE Clock n	54	NC
25	NC	26	NC	55	PCIE Clock p	56	NC
27	GND	28	NC	57	GND	58	NC

12. SATA Power (SATA 電源連接口):

板上保留了一個 5V 和 12V 的輸出連接器，用於為 SATA 裝置提供電源。

(2.5mm Pitch 1x4 box Pin Header)

Pin#	Signal Name
1	12V
2	Ground
3	Ground
4	5V

13. SATAIII (SATA 6Gb/s 連接口):

提供一個 SATA 連接器，傳輸速度高達 6.0Gb/s。 (SATA 7Pin+15Pin)

Definition	
1	GND
2	TXp
3	TXn
4	GND
5	RXn
6	RXp
7	GND

14. FUSB20 (USB 2.0 接口)

Pin#	Definition	Pin#	Definition
1	5V	6	D1p
2	5V	7	GND
3	D2n	8	GND
4	D1n	9	No Pin
5	D2p	10	No Connect

15. GPIO_CNT (一般目的輸入/輸出接口):

(2.0mm Pitch 2X6 Pin Header) 擴展連接，提供 8 個 GPIO

Pin#	Definition	Pin#	Definition
1	GPIO-output_1	7	GPIO-output_4
2	GPIO-input_1	8	GPIO-input_4
3	GPIO-output_2	9	SMBus Clock
4	GPIO-input_2	10	SMBus DATA
5	GPIO-output_3	11	5V
6	GPIO-input_3	12	GND

16. LVDS (LVDS 連接口):

(1.25mm Pitch 2x20 Connector, DF13-40P) · 用於 18/24 位 LVDS 輸出連接器，完全支援 DP 到 LVDS，該接口具有雙通道 24 位輸出。低電壓差分信號，一種用於顯示的高速低功率數據傳輸標。

Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition
1	3.3V	11	A1-	21	A5+	31	GND
2	5V	12	A0-	22	A4+	32	GND
3	3.3V	13	GND	23	A5-	33	CLK2+
4	5V	14	GND	24	A4-	34	CLK1+
5	SPECO	15	A3+	25	GND	35	CLK2-

6	SPED0	16	A2+	26	GND	36	CLK1-
7	GND	17	A3-	27	A7+	37	GND
8	GND	18	A2-	28	A6+	38	GND
9	A1+	19	GND	29	A7-	39	12V
10	A0+	20	GND	30	A6-	40	12V

17. LSW (LVDS 解析度跳線)

LVDS Resolution Jumper	
Jumper Setting	Resolution
15.6": G156HCE-LN1(INX)	800 x 600 18bit (default)
18.5": G185HAN01.004(AUO)	1024 x 768 /18bit
21.5": G215HAN01.501(AUO)	1024 x 768 /24bit

18. SIM_CARD (3G/4G 卡插槽)

19. MPCIE (Mini PCIe 插槽)

請將 Wi-Fi/ 藍牙卡安裝到 M.2 插槽中。

Pin	Definition	Pin	Definition	27	GND	28	NC
1	PCIE WAKE	2	3.3V	29	GND	30	SMB Clock
3	NC	4	GND	31	PCIE TXn	32	SMB DATA
5	NC	6	NC	33	PCIE TXp	34	GND
7	PCIE Clock Request	8	SIM VCC	35	GND	36	USB Dn
9	GND	10	SIM DATA	37	GND	38	USB Dp
11	PCIE Clock n	12	SIM Clock	39	3.3V	40	GND
13	PCIE Clock p	14	SIM Reset	41	3.3V	42	NC

15	GND	16	UIM VPP3	43	GND	44	NC
17	NC	18	GND	45	NC	46	NC
19	NC	20	WLAN_DISABLE	47	NC	48	NC
21	GND	22	Reset	49	NC	50	GND
23	PCIE RXn	24	3.3V	51	NC	52	3.3V
25	PCIE RXp	26	GND	53	GND	54	GND

20. BUZZER (蜂鳴器接口):

外部蜂鳴器

Pin#	Definition
1	Buzzer
2	5V

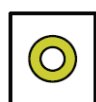
21. 電池:

(1.25mm Pitch 1x2 Wafer Pin Header) 3.0V 鋰電池嵌入其中，為 CMOS 提供電源。

Pin#	Signal Name
1	VBAT
2	Ground

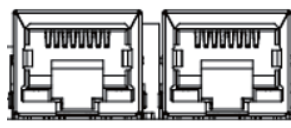
22. 音源 (線路輸出連接口)

使用板上的Realtek編解碼器提供高品質音訊I/O端口。線路輸出可連接到耳機或擴音器。(直徑3.5mm插孔)



Line out

23. LAN1 & LAN2 (RJ-45 連接口):

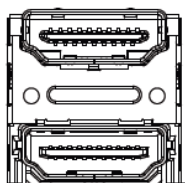


Status	Description
Orange On	1Gbps data rate
Green On	100Mbps data rate
Off	10Mbps data rate

Pin#	Definition	Pin No.	Definition
1	TX1+	4	TX3+
2	TX1-	5	TX3-
3	TX2+	7	TX4+
6	TX2-	8	TX4-

24. HDMI x2 (HDMI 連接口 x2):

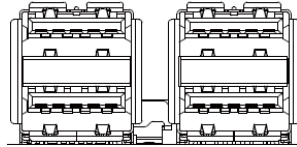
(2xHDMI 19P 連接口) , 高清晰度多媒體介面連接口。



Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition
1	TX2p	11	GND	21	GND	31	CLKn
2	GND	12	CLKn	22	TX2n	32	NC
3	TX2n	13	NC	23	TX1p	33	NA
4	TX1p	14	NA	24	GND	34	DDC Clock
5	GND	15	DDC Clock	25	TX1n	35	DDC Data
6	TX1n	16	DDC Data	26	TX0p	36	GND
7	TX0p	17	GND	27	GND	37	5V
8	GND	18	5V	28	TX0n	38	Hot Plug Detect
9	TX0n	19	Hot Plug Detect	29	CLKp		
10	CLKp	20	TX2p	30	GND		

25. USB31_1, USB31_2 (USB 3.2 Gen 1 連接口):

USB (Universal Serial Bus) 用於連接 USB 設備，如鍵盤、滑鼠或其他兼容 USB 的設備。USB 3.2 Gen 1 支持高達 5 Gbps 的數據傳輸速率。



Pin#	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

第三章 BIOS 設定

3.1 介紹

BIOS (基本輸入/輸出系統) 提供硬體詳細資訊和開機選項，包括控制、設置和測試所有硬體設置的韌體。因此，BIOS 是作業系統/應用軟體與硬體之間的通訊橋樑。

3.1.1 進入 BIOS 選單

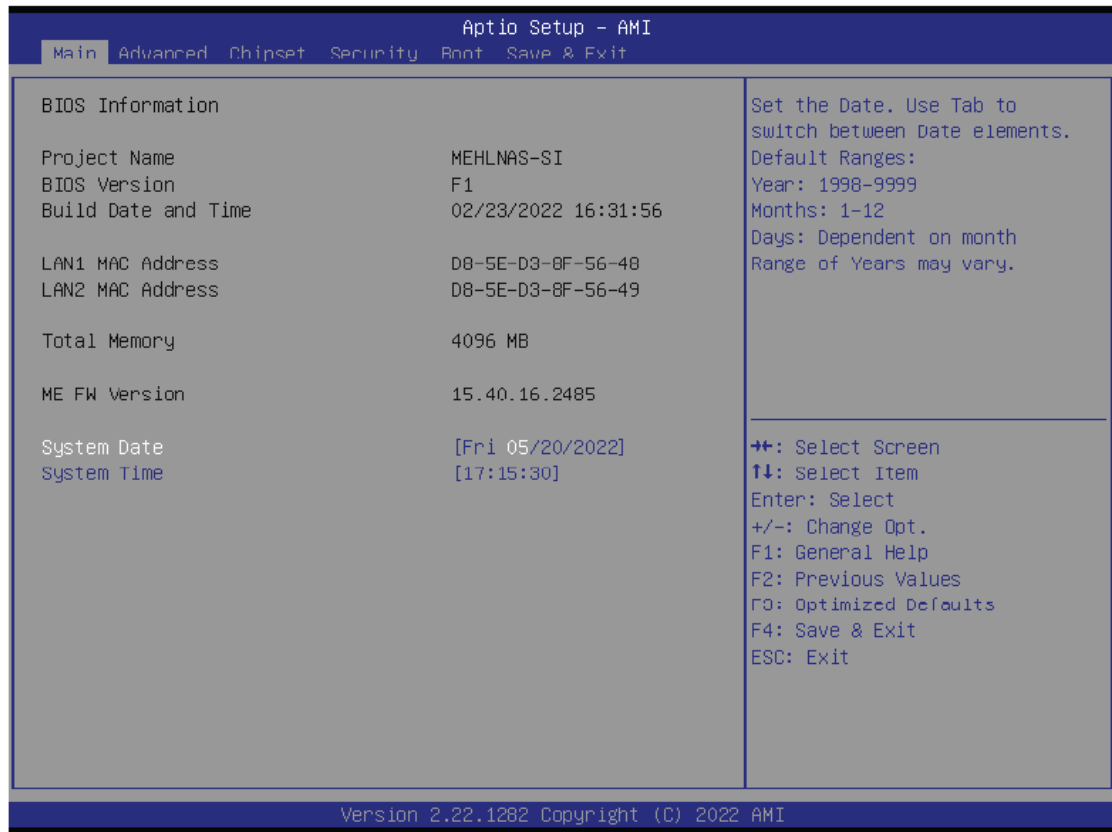
當系統啟動時，儘快按下 <Delete> 鍵進入 BIOS 設定程式。

3.1.2 操作快速鍵

快速鍵	描述
←→ 左 / 右鍵	左 / 右鍵可切換BIOS設定頁面。
↑↓ 下 / 上鍵	上 / 下鍵可切換單一BIOS設定頁面內的子項目。
+ - 加 / 減鍵	加 / 減鍵可更改特定設定設置的字段值。
Tab	< Tab > 鍵可切換字段。
F1	< F1 > 鍵可顯示 " 幫助 " 清單。
F2	< F2 > 鍵可載入最近一次被修改前的設置參數。
F3	< F3 > 鍵可載出廠優化的預設值。
F4	< F4 > 鍵可保存所做的任何變更並退出BIOS設定。
Esc	< Esc > 鍵可放棄所做的任何變更並退出BIOS設定。
Enter	< Enter > 鍵可顯示或變更特定選項的參數值。

3.2 Main 功能頁

主選單顯示基本系統資訊。使用箭頭鍵在項目之間移動。



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)

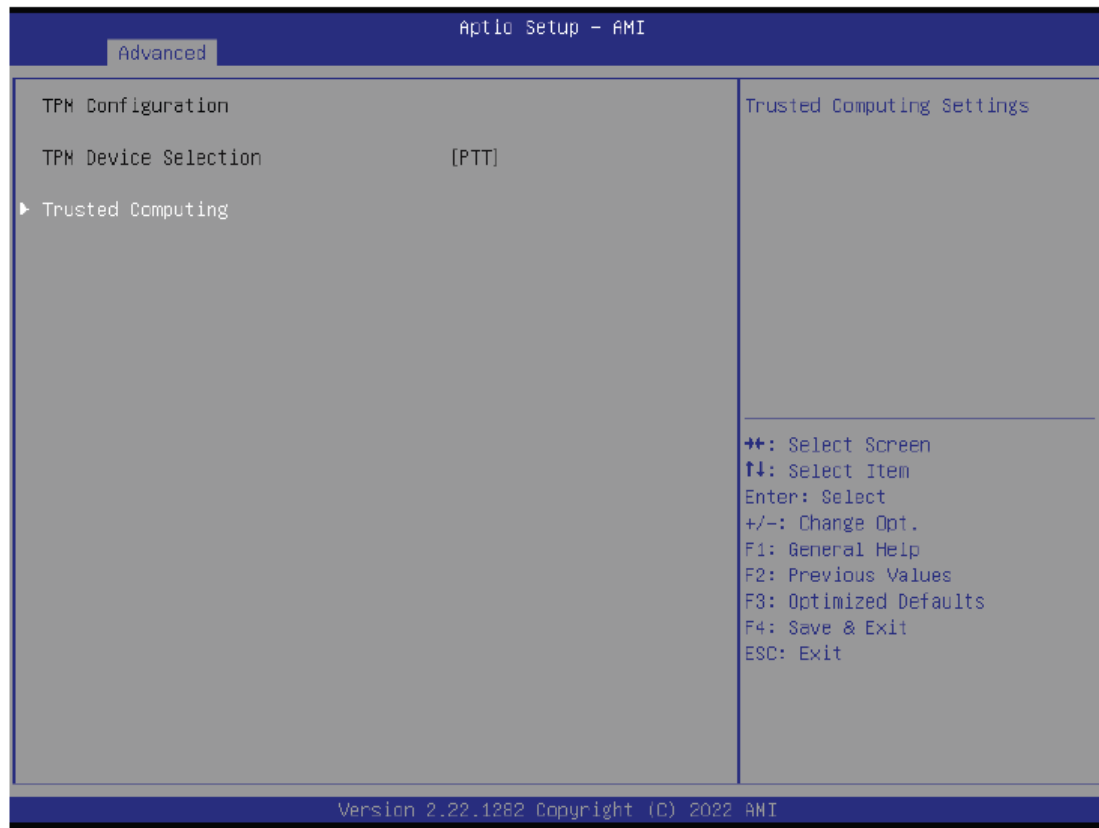
3.3 Advanced 功能頁

進階選單用於透過子選單配置硬件設置的功能。使用箭頭鍵在項目之間移動，按下 <Enter> 進入相關子選單。



3.3.1 TPM 配置

使用 TPM 配置子選單來選擇 TPM 介面。



Item	Description
TPM Device Selection	PTT : Internal TPM (Default setting)

信任計算：顯示 TPM 資訊和 TPM 模組配置設置。



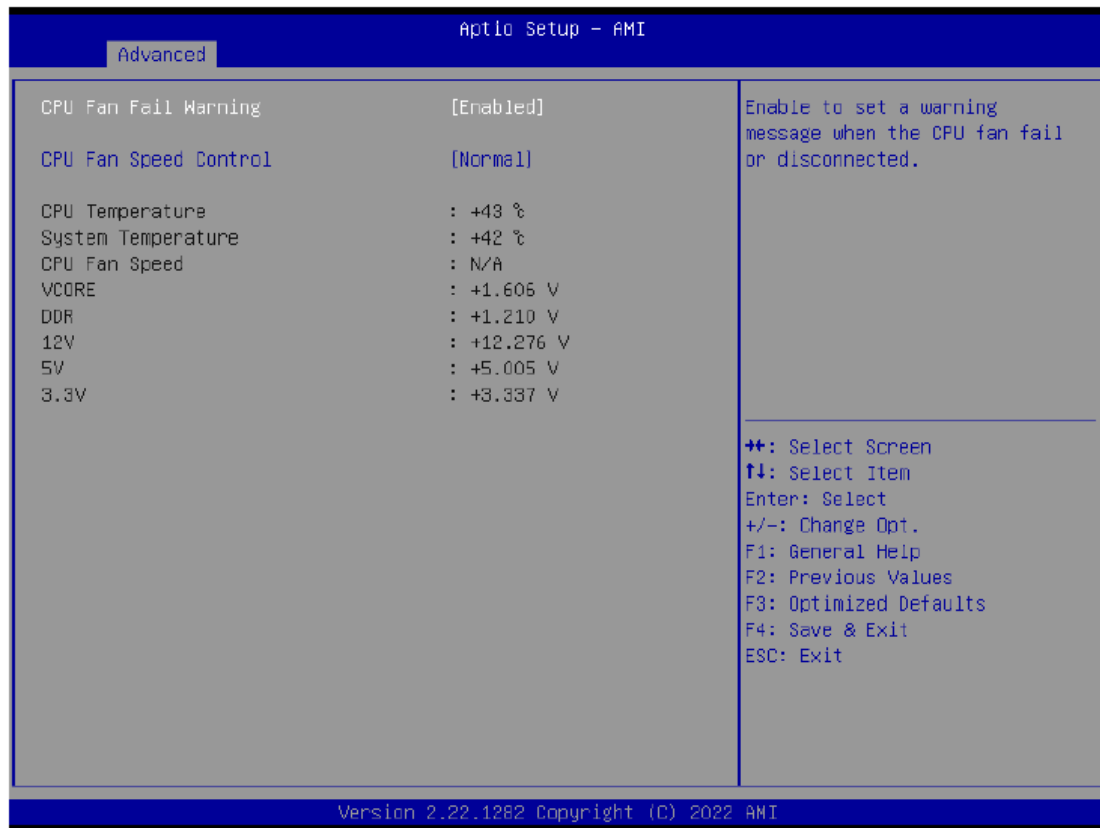
Item	Description
Security Device support	Enabled : Enables TPM feature (Default setting) Disabled : Disables TPM feature
Item	Description
Pending operation	None : No execution will be conducted (Default setting) TPM clear : Set to clear data on TPM

3.3.2 IT8786 超級 I/O 配置



Item	Description
Super IO Chip	Shows Super I/O chip model
Serial Port 1 Configuration	Press [Enter] to configure advanced items : Serial Port : Enabled : Enables allows you to configure the serial port settings Disabled : if Disabled, displays no configuration for the serial port
Serial Port 2 Configuration	Device settings : Display the specified Serial Port base I/O address and IRQ COM Port Mode : Choose RS-232, RS-422, or RS-485 feature
Serial Port 3 Configuration	Press [Enter] to configure advanced items : Serial Port : Enabled : Enables allows you to configure the serial port settings Disabled : if Disabled, displays no configuration for the serial port
Serial Port 4 Configuration	Device settings : Display the specified Serial Port base I/O address and IRQ

3.3.3 硬體監控



Item	Description
CPU Fan Fail Warning	Enabled : Enables CPU FAN Fail warning alert function (Default setting) Disabled : Disables CPU FAN Fail warning alert function
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

Note: This model will not use the CPU Fan setting.

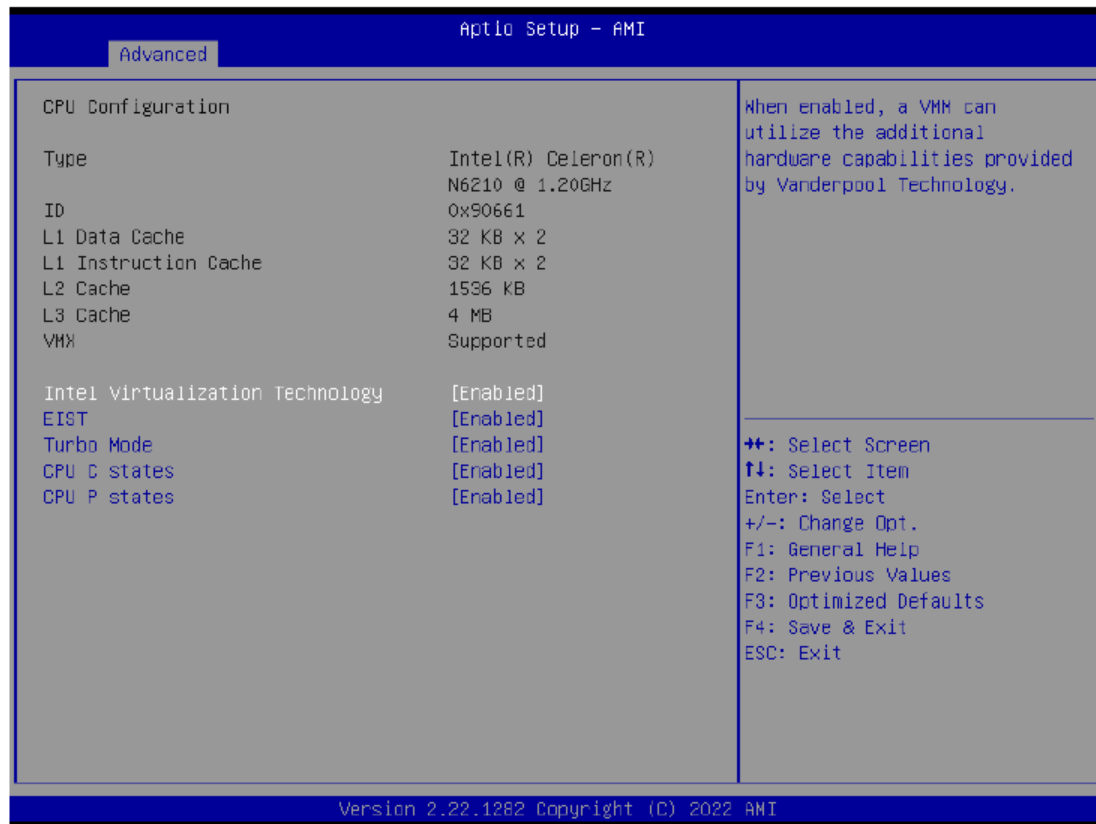
3.3.4 S5 RTC 喚醒設置



Item	Description
Wake system from S5	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)

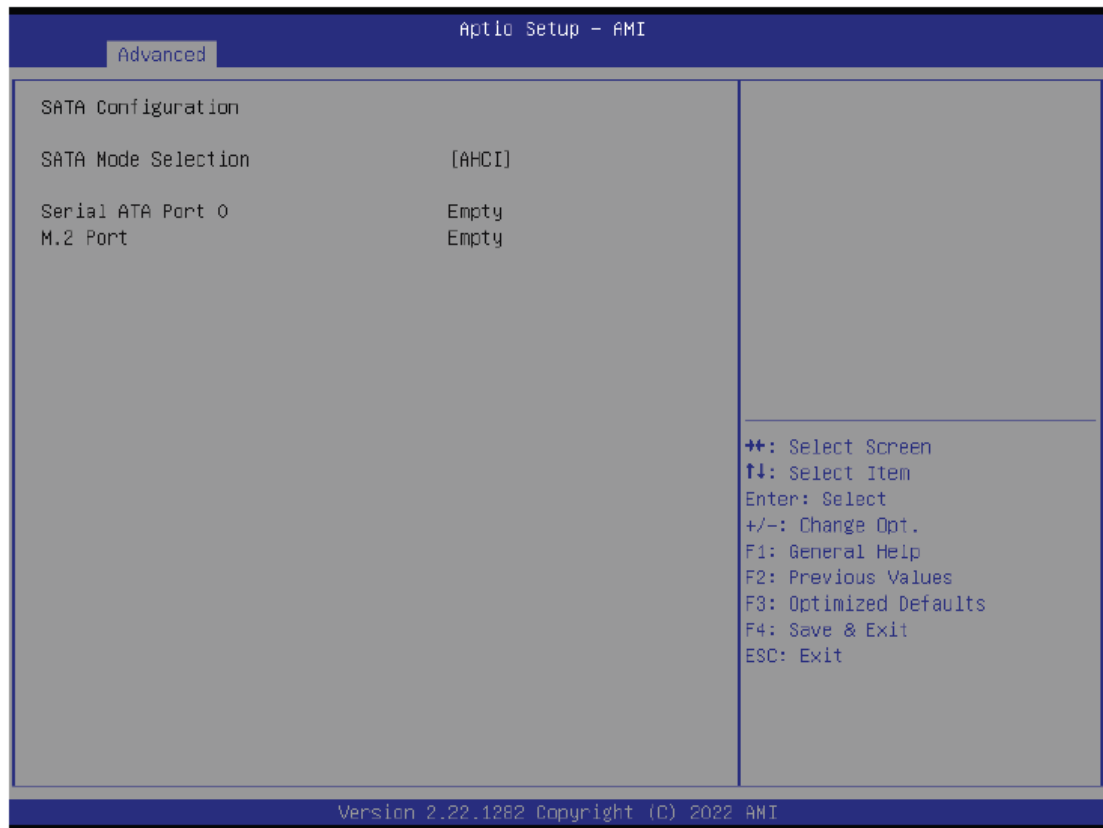
3.3.5 CPU 配置

此子選單顯示詳細的 CPU 資訊。



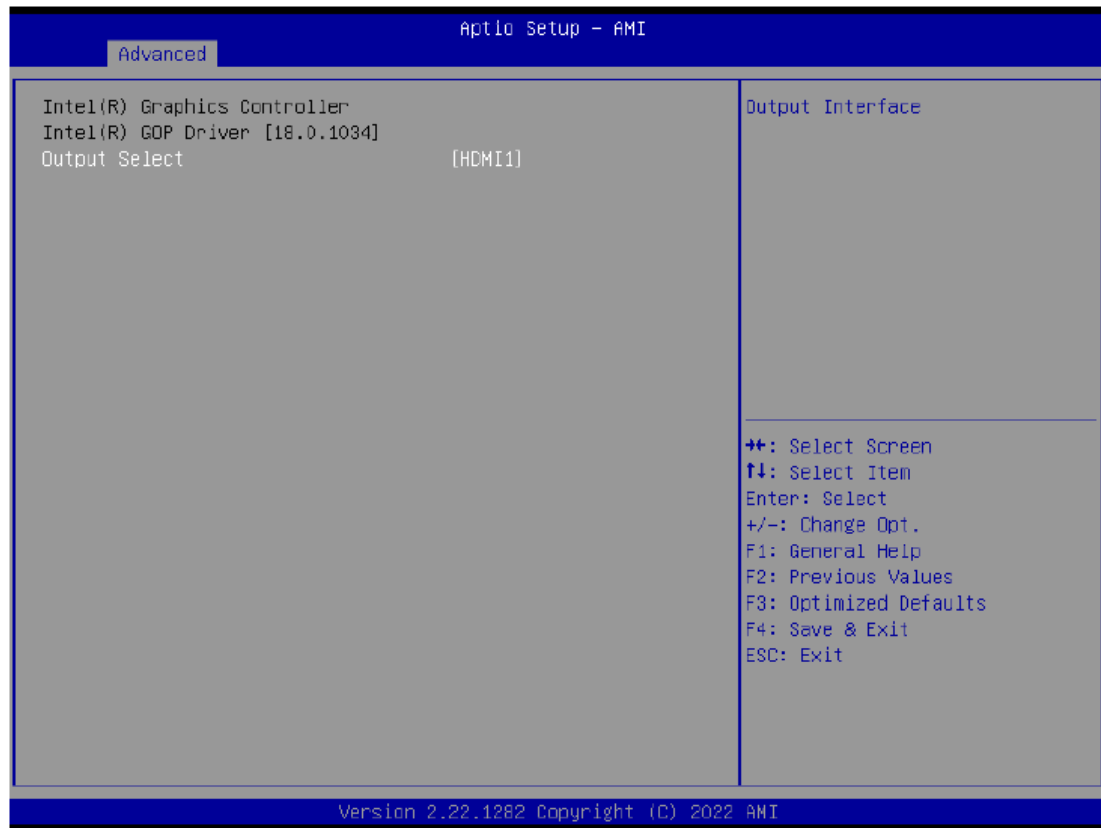
Item	Description
Intel Virtualization Technology	Virtualization enhanced by Intel® Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems. Enabled : Enables Intel Virtualization Technology (Default setting) Disabled : Disables Intel Virtualization Technology
EIST	According to System loading, Enhanced Intel SpeedStep Technology (EIST) will automatically adjust the CPU voltage and core frequency to decrease heat and power consumption for power saving. Enabled : Enables EIST Technology (Default setting) Disabled : Disables EIST Technology
Turbo Mode	Enabled : Enables Turbo Mode (Default setting) Disabled : Disables Turbo Mode
CPU 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
CPU P states	CPU will adjust frequency depends on it's loading. Enabled : Enables CPU P states function (Default setting) Disabled : Disables CPU P states function

3.3.6 SATA 配置



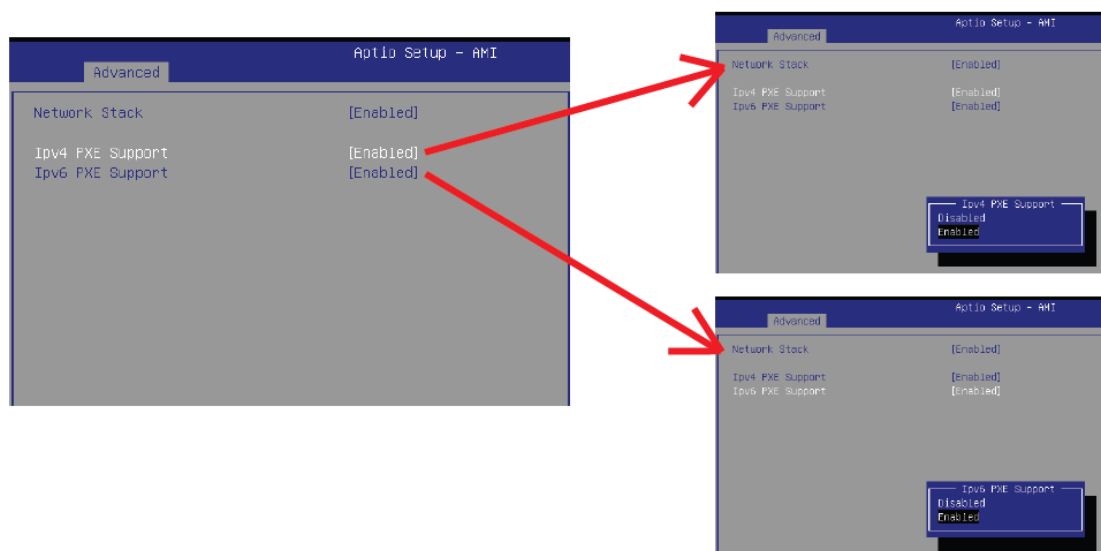
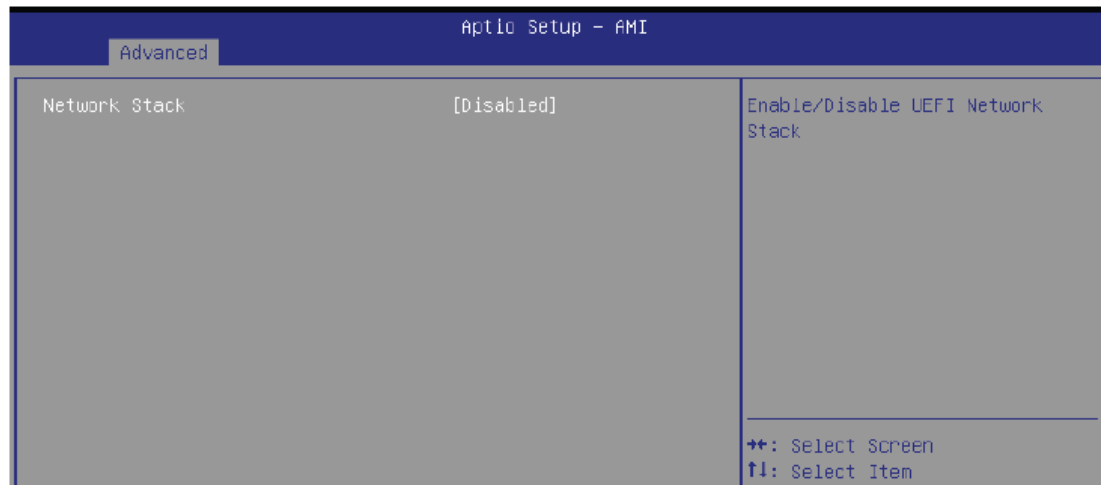
Item	Description
SATA Mode Selection	AHCI : Configures the SATA controllers to AHCI mode. (Default setting)
Serial ATA Port 0	shows 2.5" SATA HDD/SSD information
M.2	shows M.2 SATA interface SSD information

3.3.7 AMI 圖形輸出協議政策



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

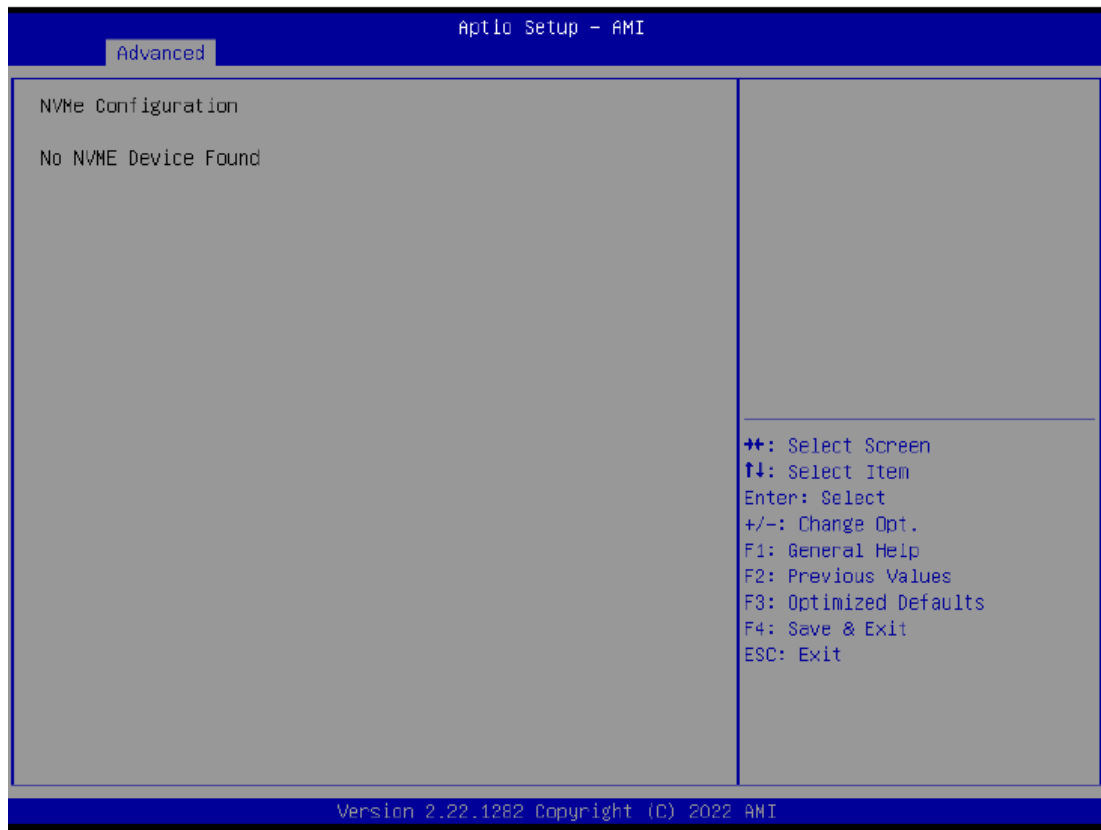
3.3.8 網路堆疊配置



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
Ipv6 PXE Support	When Network stack is enabled : Disabled : Disables Ipv6 PXE Support Enabled : Enables Ipv6 PXE Support

3.3.9 NVME 配置

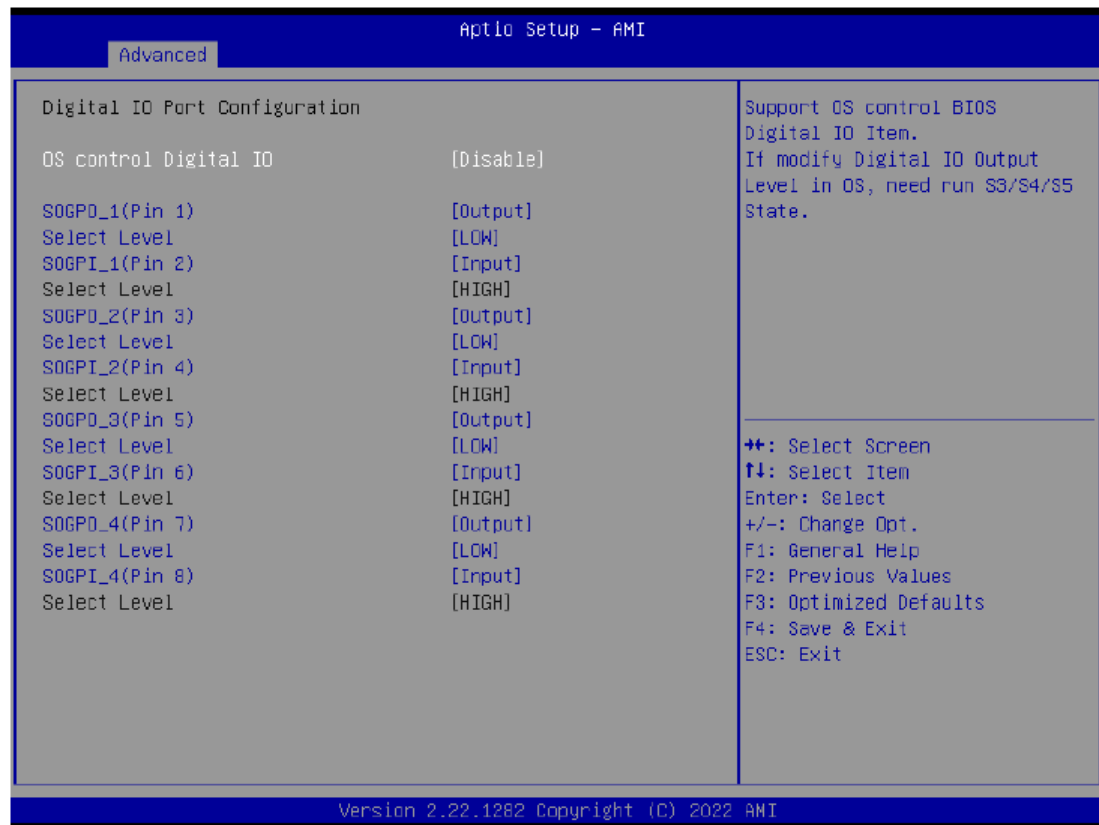
當您安裝 M.2 NVME PCIe 固態硬碟時，NVME 配置會顯示相關資訊。



3.3.10 外接 SATA 控制器配置

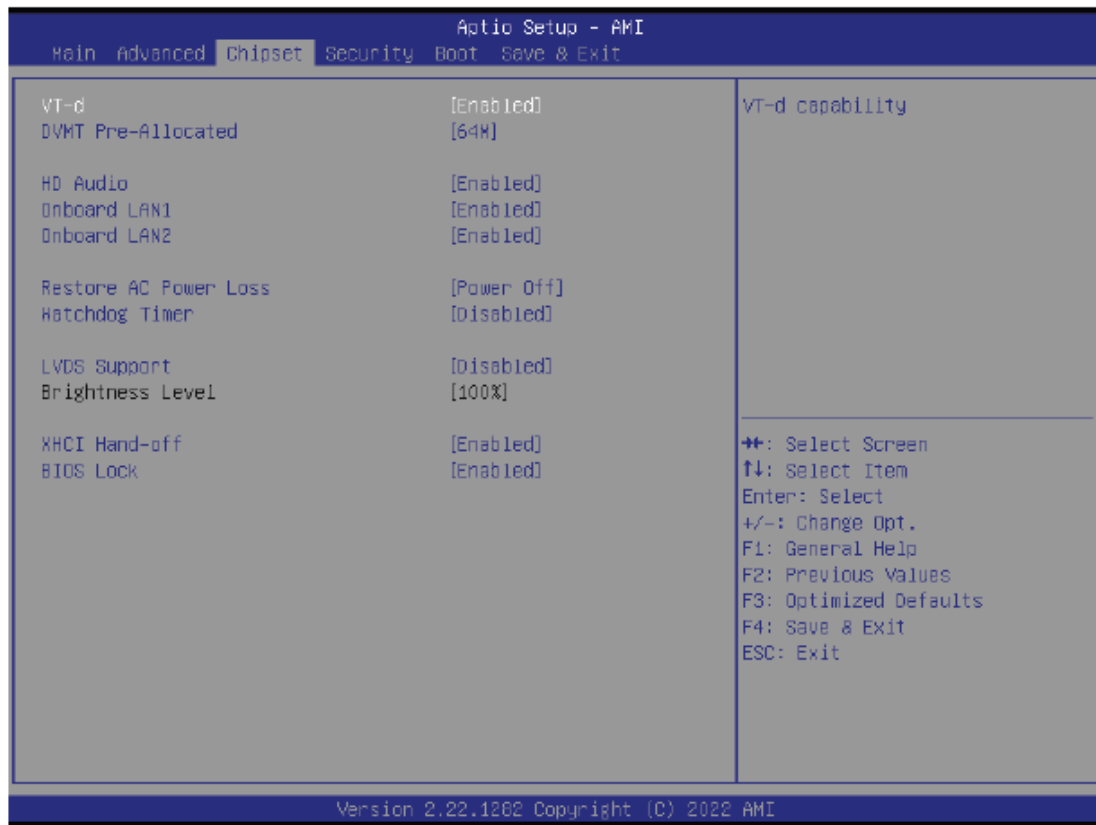


3.3.11 數位 I/O 連接配置



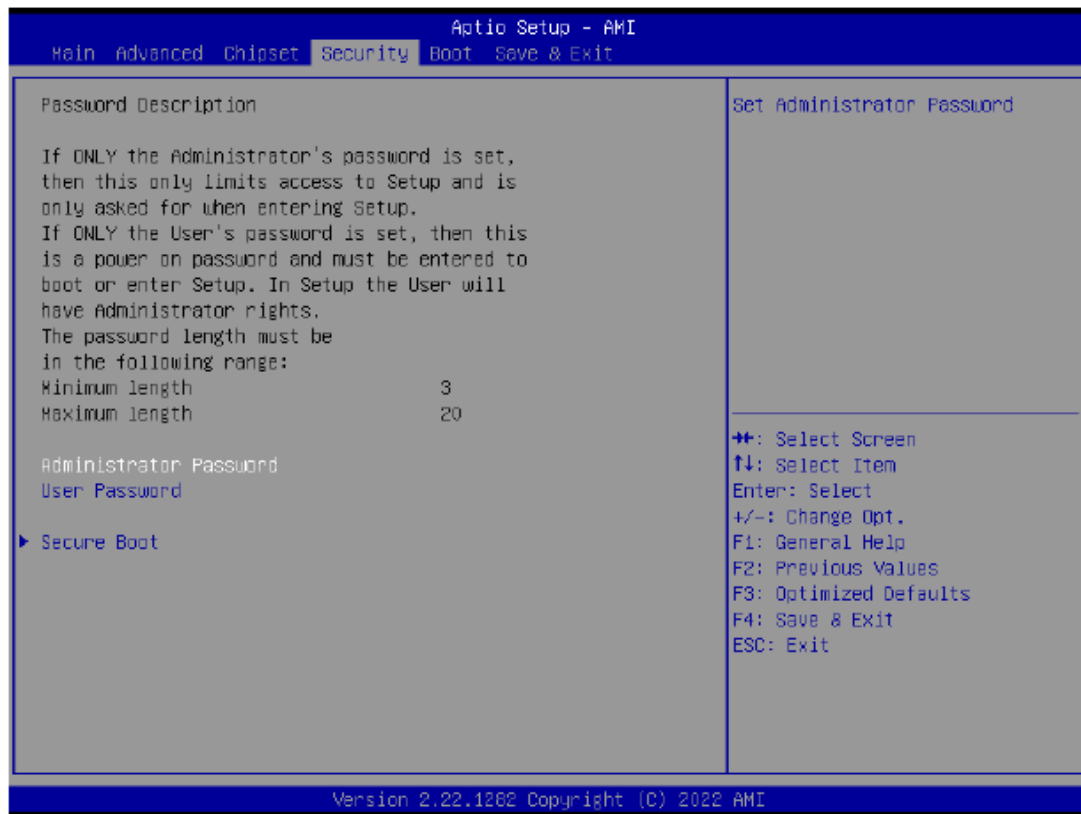
Item	Description
OS control Digital IO	Disabled : If Digital IO Output value/level is modified in OS, they will not be memorized and kept. (Default setting) Enabled : If Digital IO Output value/level is modified in OS, they will be memorized and kept.
SOGPO_1 (Pin 1) SOGPI_1 (Pin 2) SOGPO_2 (Pin 3) SOGPI_2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



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
HD Audio	Enable/Disable onboard audio controller Enabled : Enables onboard audio controller (Default setting) Disabled : Disables onboard audio controller
Onboard LAN1 Onboard LAN2	Enable/Disable onboard LAN controller Enabled : Enables onboard LAN controller (Default setting) Disabled : Disables onboard LAN controller
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
Watchdog Timer	Enable/Disable Watchdog Timer function Enabled : Enables Watchdog Timer function Disabled : Disabled Watchdog Timer function (Default setting)
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)
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 funtion

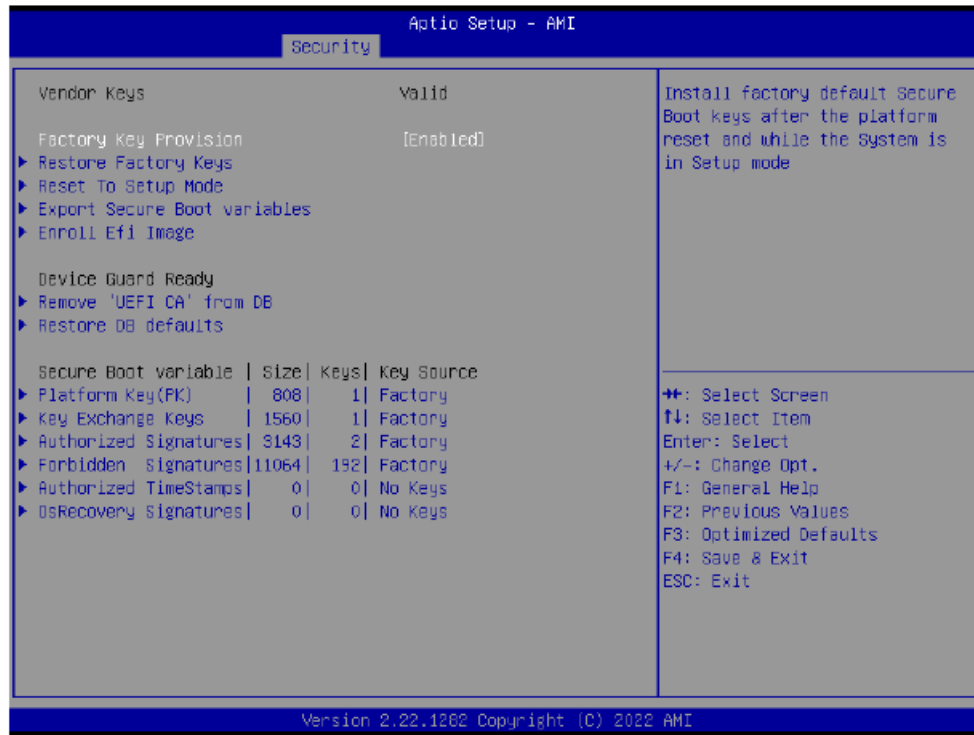
3.5 Security 功能頁



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	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	Platform Key (PK)	These items allows you to enroll factory defaults or load Certificates from a file.
Restore Factory Keys	To restore factory settings Yes : Agree to restore factory settings No : Cancel to restore factory settings	Key Exchange Keys	
Reset To Setup Mode	Yes : Agree to setup mode No : Cancel to setup mode	Authorized Signatures	
Export Secure Boot variables	Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device	Forbidden Signatures	
Enroll Efi Image	Allow the image to run in Secure Boot mode	Authorized TimeStamps	
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	OsRecovery Signatures	
Restore DB defaults	Restore DB variables to factory defaults Yes : Agree to restore DB defaults No : Cancel to restore DB defaults		

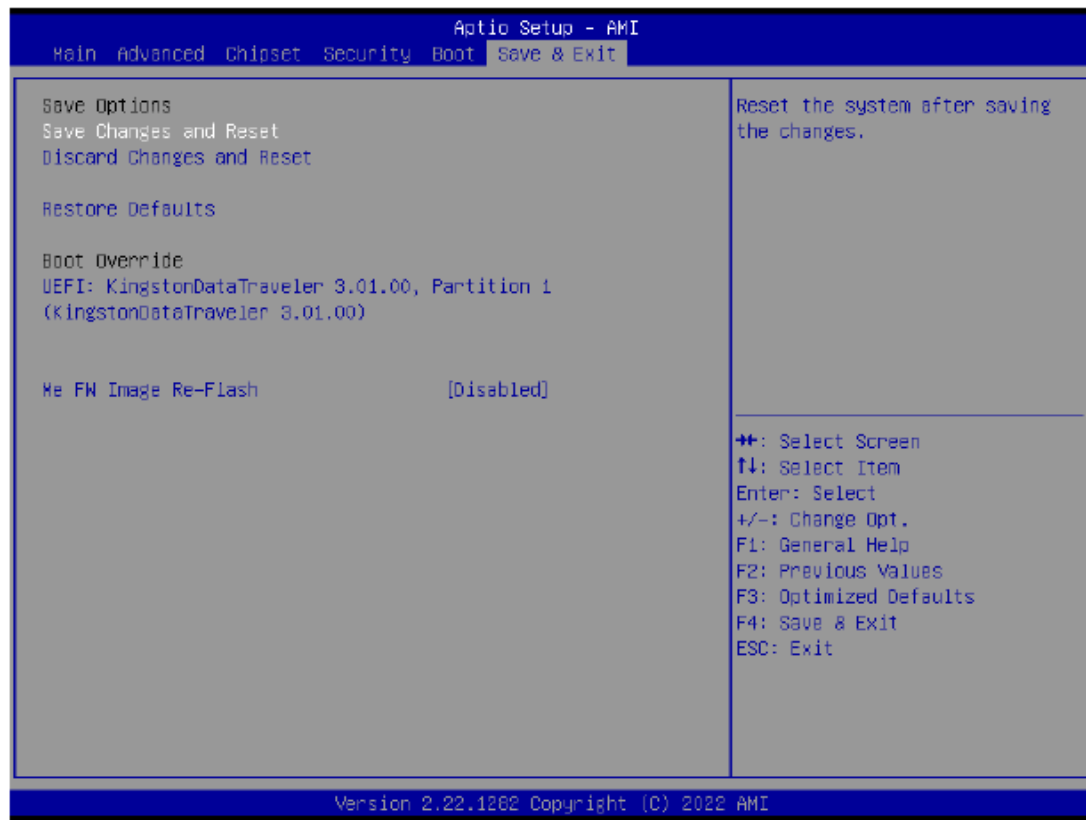
3.6 Boot 功能頁

此功能頁可設開機過程的相關設定，也可設定硬體開機順序。



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 Boot Option #2	Shows the information of the storage that be installed in the system Choose/set the boot priority

3.7 Save & Exit 功能頁



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)