

ME2-10TWT

User Manual

V3.0



Master Series Embedded System

Intel® Twin Lake Processors

Efficient, Compact, and Reliable

PREFACE

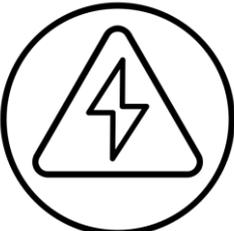
Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s) conveys no license or title under any patent, copyright, or masks work rights to these products, and make no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or guarantee that such application will be suitable for the specified use without further testing or modification.

Declaration of Conformity

	<p>FCC</p> <p>This equipment has been tested and found to comply with the limits for a class "A" digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense.</p>
	<p>CE</p> <p>This equipment is in conformity with the requirement of the following EU legislations and harmonized standards. Product also complies with the Council directions.</p>

Safety Information

	<p>WARNING! / AVERTISSEMENT!</p> <p>Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.</p>
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CAUTION/ATTENTION

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Safety Precautions

For your safety, please carefully read all the safety instructions before using the device. All cautions and warnings on the equipment should be noted. Keep this user manual for future reference.

***Let service personnel to check the equipment in case any of the following problems appear:**

- The power cord or plug is damaged.
- Liquid has penetrated into the equipment.
- The equipment has been exposed to moisture.
- The equipment does not work well or you cannot get it to work according to the user manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage on the surface.



CAUTION: HOT SURFACE!

It is normal for the metal enclosure of this equipment may become hot during operation.

DO NOT TOUCH the system while running.

Wait 30 minutes after power-off to allow cooling before touching.

Restricted Access

This equipment is intended for use only in a restricted access area accessible exclusively to skilled persons and instructed persons with proper authorization. Do not operate this equipment in public or unrestricted areas.

- The product is labeled with the Environmentally Friendly Use Period (EPUP) and the Hazardous Substance

Restriction Table in the instruction manual or directly on the product itself.

The Hazardous Substance Restriction Table is as follows:

Component	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr ⁶⁺)	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)	Bis(2-ethylhexyl) phthalate (DEHP)	Butyl benzyl phthalate (BBP)	Dibutyl phthalate (DBP)	Diisobutyl phthalate (DIBP)
Battery	○	○	○	○	○	○	○	○	○	○
SSD	○	○	○	○	○	○	○	○	○	○
Main BD	—	○	○	○	○	○	○	○	○	○
Housing	○	○	○	○	○	○	○	○	○	○
Cable Assy	—	○	○	○	○	○	○	○	○	○

Note: “○” indicates that the content of the hazardous substance in all homogeneous materials of the component is below the limit requirement as specified in GB/T 26572-2011. “×” indicates that the hazardous substance exceeds the limit requirement in at least one homogeneous material of the component. “—” indicates that the specific hazardous substance is not applicable for this component.

Ordering Information

Model Number	CPU Model	POE	RAM / SSD	AC Adaptor
ME2-10TWT-N150-4GB	N150	N/A	4GB LPDDR5 / 64GB eMMC	60W AC to DC Adaptor
ME2-10TWT-N150-8GB	N150	N/A	8GB LPDDR5 / 128GB eMMC	60W AC to DC Adaptor
ME2-10TWT-N150-8GB-PD	N150	PD mode	8GB LPDDR5 / 128GB eMMC	None (PD Power input 25.5W)
ME2-10TWT-N355-16GB	Core 3-N355	N/A	16GB LPDDR5 / 128GB eMMC	60W AC to DC Adaptor
ME2-10TWT-N355-16GB-PSE	Core 3-N355	PSE mode	16GB LPDDR5 / 128GB eMMC	60W AC to DC Adaptor

Packing List

Item	Description	Q'ty
1	ME2-10TWT Embedded System	1
2	Din Rail Mount Bracket	1
3	D-sub 9 COM port Cable	1
4	Screw Pack (For Din Rail Mount Bracket)	1
5	60W 2PIN Terminal Block AC Adapter + US/EU Power cords	1

Optional Accessories

Model Number	Description
342N93100001 (Support 75/75 & 100/100mm) 	VESA Mount Bracket with Screws Pack.

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INTRODUCTION

This chapter provides the ME2-10TWT Embedded System product overview, including features, hardware and mechanical specifications.

1

CHAPTER 1: INTRODUCTION

This chapter provides the ME2-10TWT Embedded System product overview, including features, hardware, mechanical specifications, and I/O placement.

1.1 Overview

ME2-10TWT embedded system is a Pocket-Sized DIN Rail PC with the embedded MB and Intel® Twin Lake (10nm manufacturing process) processor which improves performance and computing power by comparing to Alder Lake N and Amston Lake. Offering Atom N150 and Core 3-N355 processor options, also has the PoE feature as PD or PSE mode options which provides the solution more flexible on cost effective and high performance for various applications.

1.2 Product Features

ME2-10TWT Embedded System offers the following features:

- Intel® Twin Lake N150 (4C) / Core 3-N355 (8C8T) Processor
- 1 x LPDDR5 onboard type and with 4GB/8GB/16GB options
- 1 x eMMC onboard type and with 64GB/128GB options
- Support Dual displays for HDMI and USB type C (DP)
- 2 x Realtek RTL8111H Gigabit Ethernet
- 1 x M.2 B Key, 1 x M.2 E Key, 1 x Nano SIM slot.
- 3 x USB 3.2 Gen2 and 1 x USB Type C
- 1 x TPM 2.0
- 8V~26V wide voltage power input

1.3 Hardware Specification

SYSTEM	
CPU	Intel® Twin Lake N150 (4C) / Core 3-N355 (8C8T) Processor
System Memory	Industrial grade LPDDR5 4800 MHz onboard type(4GB, 8GB, 16GB), 8533MB/s
Graphics	Intel® UHD Graphics
Display Interface	HDMI 1.4 , USB type C (DP 1.2)
Storage	1 x Industrial grade eMMC (64GB/128GB), 400MB/s 1 x M.2 2242/3042 B Key (USB2.0/PCIeX1/SATAIII)
Ethernet	2 x Realtek RTL8111H 1GbE LAN
I/O Chipset	Nuvoton NCT5525D
TPM	Nuvoton NPCT760AABYX TPM2.0
Expansion Slot	Storage/LTE Slot: 1 x M.2 2242/3042 B Key (USB2.0/PCIeX1/SATAIII) Wireless: 1 x M.2 2230 E key (PCIeX1, USB2.0)
Internal I/O	1 x DIO(8-bit general purpose input output I/O) 1 x CMOS Jumper 1 x 4-pin power connector
Front I/O	3 x USB 3.2 Gen2 + 1 x USB 3.2 type C (Support display(5V/3A) and audio) 2 x RJ45 (1x POE option for PD mode or PSE mode) 1 x HDMI 1.4 (Vertical)
Left Side I/O	1 x Power button 1 x Terminal block 2pin with locked 1 x 5Px2 NP9 header as RS232/422/485
Rear I/O	1 x SIM slot hole for Nano SIM card 2 x DIN rail hole
POWER REQUIREMENT	
Power Input	8~26V Wide Range DC Input (Default ATX mode, AT/ATX adjusting by BIOS)
MECHANICAL	
Thermal Design	Fanless
Dimension	118.5 x 80.4 x 39.5mm
ENVIRONMENTAL	
Operating Temperature	-25~55°C *with 0.7m/s Air Flow (w/ Wide Temp. SSD/RAM) *with PSE SKUs: -25 ~ 35°C with 0.7m/s Air Flow (w/ Wide Temp. SSD/RAM)
Storage Temperature	-40 ~ 85°C
Operating Humidity	10%~95% R/H (Non-condensing)
Vibration Resistance	Operating: 5Hz~500Hz / 2Grms / 3Axis (w/ SSD, according to IEC60068-2-64)
Shock Resistance	Operating: 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to

	IEC60068-2-27)
Certification	CE & FCC Class B
OS	
OS Support	Windows® 11 IoT Enterprise 2024 LTSC 64-bit Windows® 10 IoT Enterprise 2021 LTSC 64-bit Ubuntu 24.04, Linux (support by request)



**Note¹: CAUTION - Lithium battery is included in this embedded system. Please do not puncture, mutilate, or dispose of battery in fire. There will be danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by manufacturer. Dispose of used battery according to manufacturer instructions and in accordance with your local regulations.*

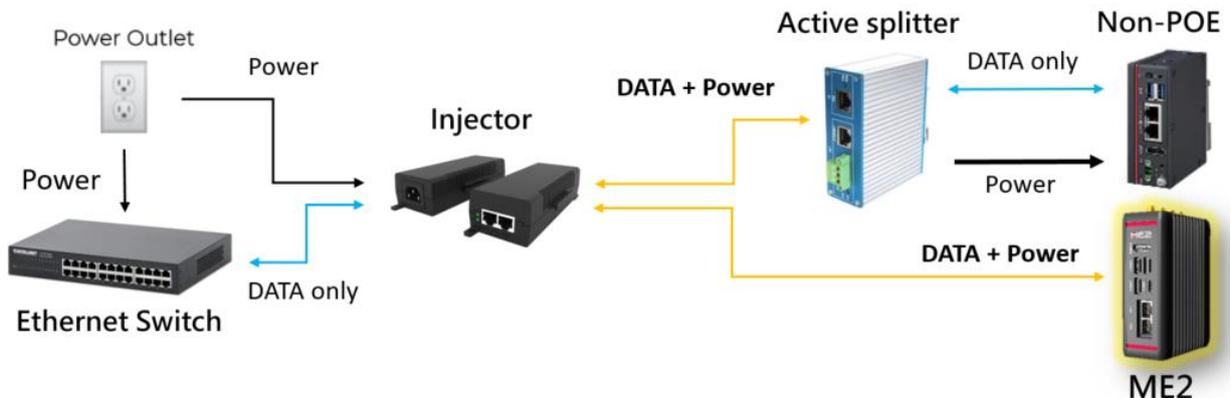


**Note²: Supports OMTP TRS & TRRS, and CTIA TRS. Need to pull audio jack out a little bit for CTIA TRRS.*



1.4 PoE Feature and Note

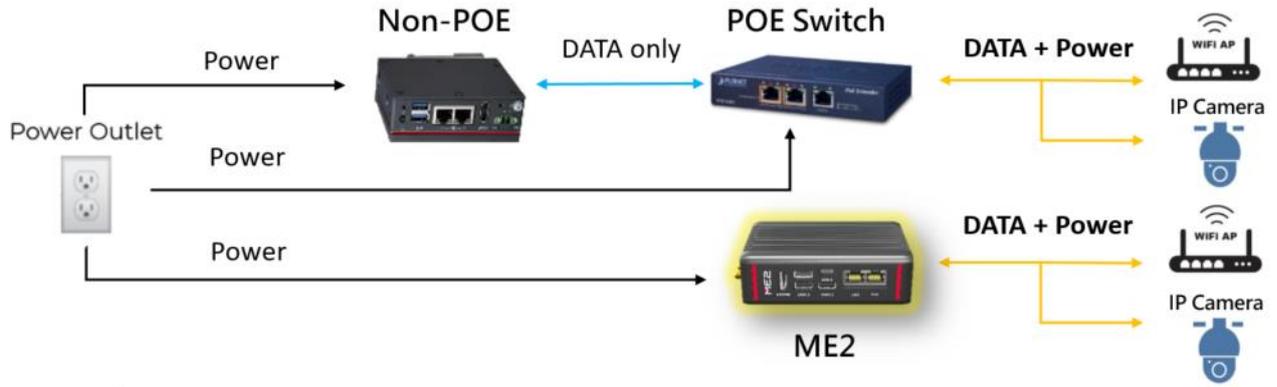
■ PD mode:



*Note

Power consumption max 25.4W with non-isolation POE PD board
Can't support non-isolation PSE or non-isolation input power system

■ PSE mode:

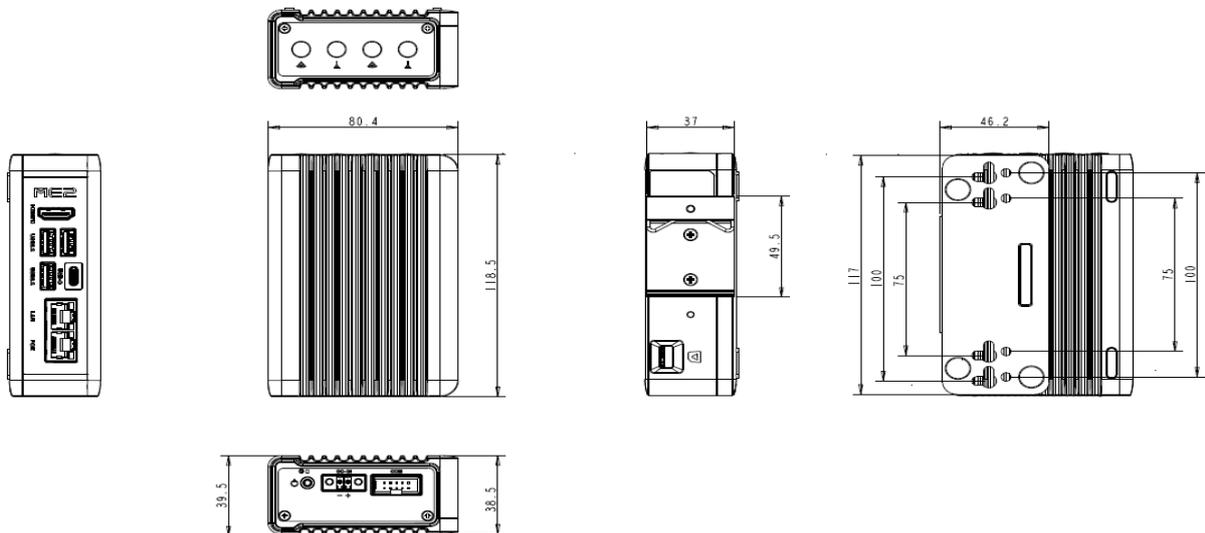


***Note**

Power consumption max 30W output at non-isolation POE PSE board

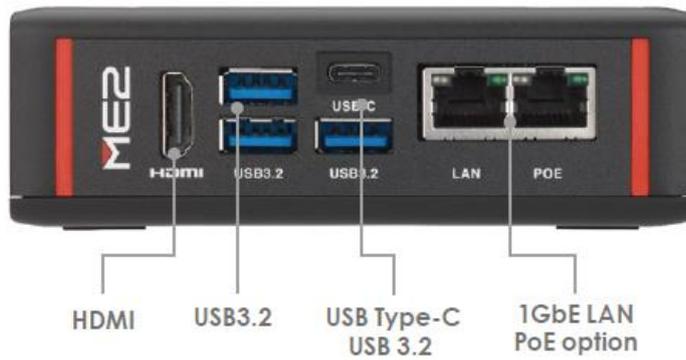
1.5 Mechanical Specification

- Mechanical Dimension: 118.5mm x 80.4mm x 39.5mm

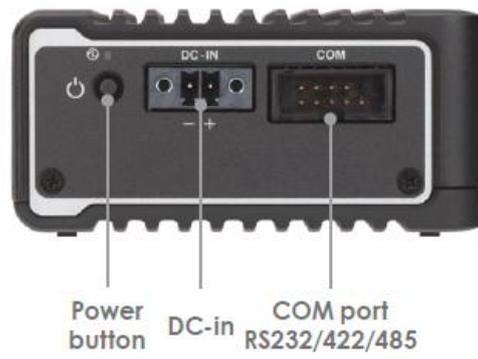


1.6 System I/O Placement

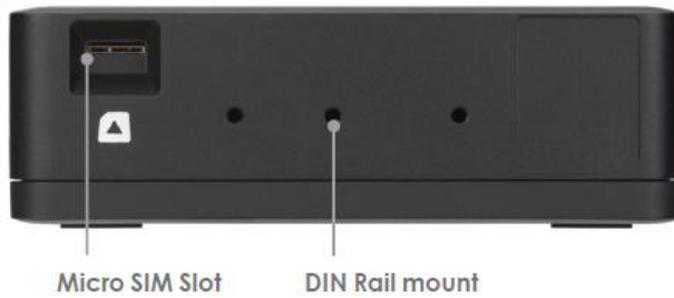
Front I/O



Side I/O



Rear I/O



I/O CONNECTOR PIN DEFINITION

This chapter provides information about the connector type and pin definition for internal I/Os of ME2-10TWT Embedded System hardware.

2

CHAPTER 2: I/O CONNECTOR PIN DEFINITION

This chapter provides information about the connector type and pin definition design for internal I/Os of ME2-10TWT Embedded Motherboard hardware.

2.1 Internal Connector Overall Placement

TOP View

Figure 1 shows the approximate location of the major components on the topside of MITAC Desktop Board PD10TWT.

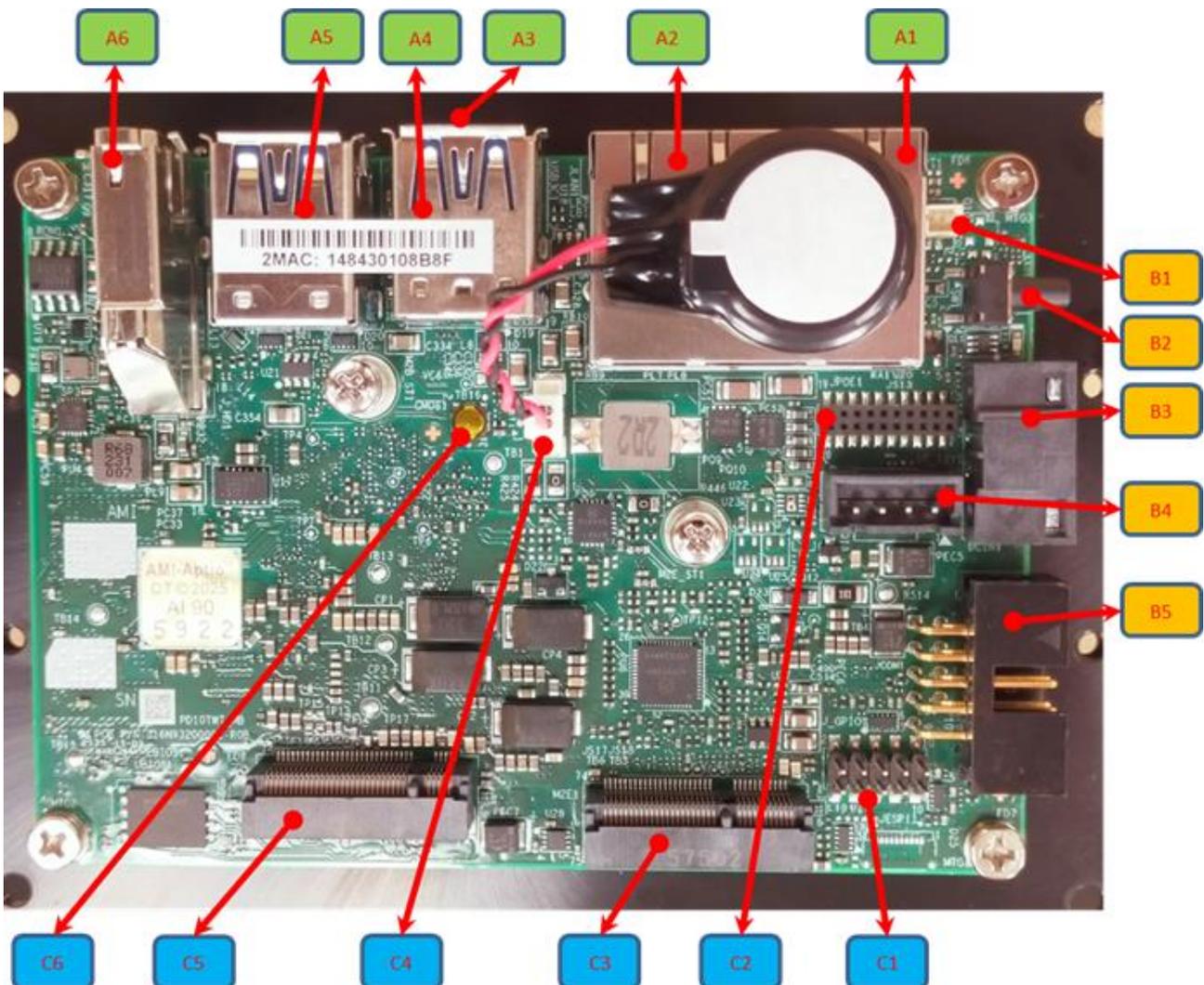


Figure 1. MITAC DESKTOP BOARD PD10TWT COMPONENTS (SHOWN IN FIGURE 1)

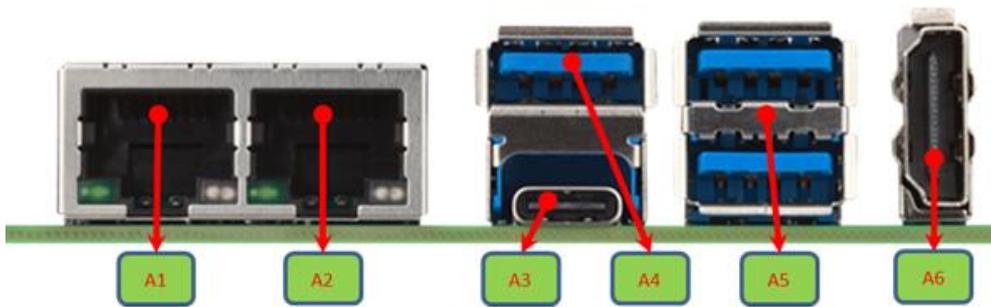


Figure 1-1. Rear I/O components

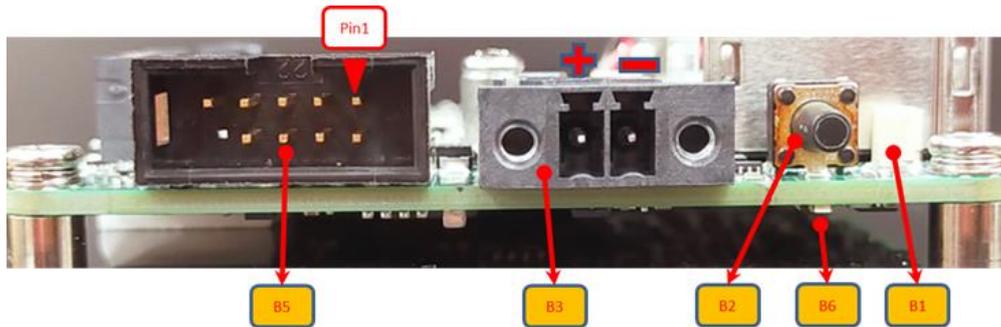


Figure 1-2. Side I/O components

PD10TWT Connector/ Header					
A1	1G LAN - RJ45	PoE support (optional)	C1	DIO_1	DIDO header
A2	1G LAN - RJ45	LAN port	C2	POE_B2B1	PoE board to board header
A3	USB3C_C	Type C with USB3/DP	C3	M2E_1	M.2 Key E
A4	USB3C_A	USB3 port(upper)	C4	XBT1	RTC Battery header
A5	USB3C_A	Dual USB3 ports	C5	M2B_1	M.2 Key B
A6	HMDI	HDMI 1.4	C6	CMOS_1	Clear CMOS
B1	PW_BTH	Power button header			
B2	PW_BT	Power button			
B3	DCIN1	2pin DC in terminal block			
B4	DCIN2	4pin DC in header			
B5	COM1	5Px2 NP9 header as RS232/422/485			
B6	LED	Power LED			

2.2 Internal Connector Pin Definition

- GPIO header

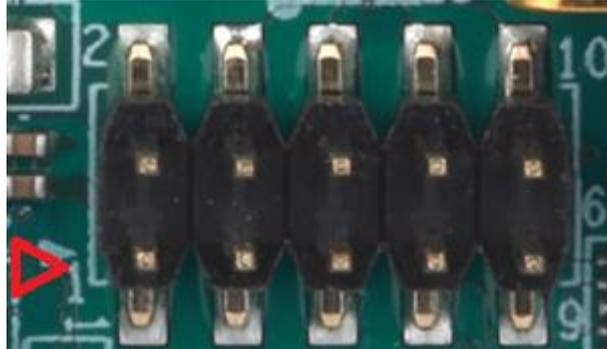
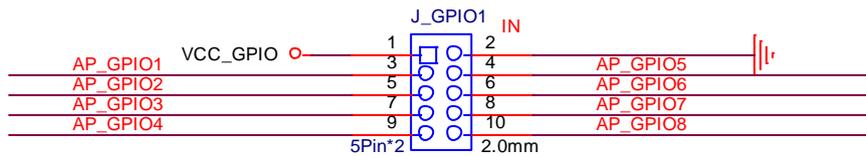


Figure 2: HDR,5Pin*2,MA,2.0mm,BLACK,ST,Gold Flash,PA6T

	SUPERIOR TECH CO.,LTD.
VPN:	PHDD-SS010G1BBONE-B166



Pin	Signal Name	Pin	Signal Name
1	VCC_GPIO	2	GND
3	AP_GPIO1	4	AP_GPIO5
5	AP_GPIO2	6	AP_GPIO6
7	AP_GPIO3	8	AP_GPIO7
9	AP_GPIO4	10	AP_GPIO8

Table 2: GPIO Connector signals

- Inter power header

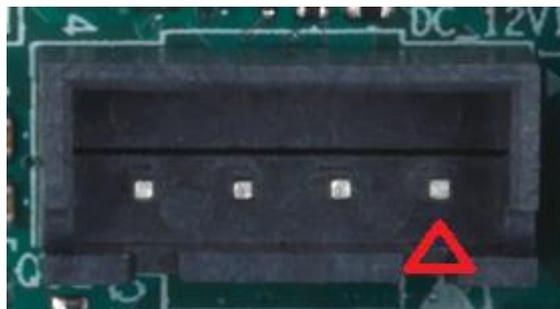
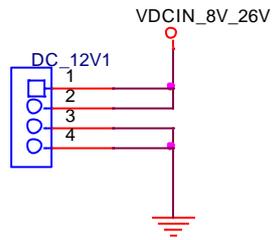


Figure 3: 4Pin,4 Walls,MA,2.5mm,BLACK,ST,TIN,LCP

	Joint Tech Electronic Industrial Co.,Ltd.
VPN:	A2501WV-04PNLBM1NY1L



Pin	Signal Name	w/o POE	with POE PSE	with POE PD
1	VDCIN_8V_26V	8V~24V	8V~24V	12V OUT
2	VDCIN_8V_26V	8V~24V	8V~24V	12V OUT
3	GND	GND	GND	GND
4	GND	GND	GND	GND

Table 3: power Connector signals

■ M.2 Key E slot

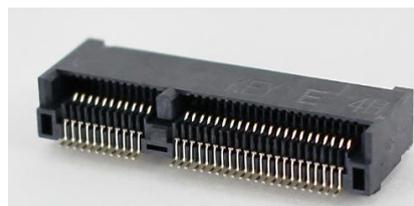
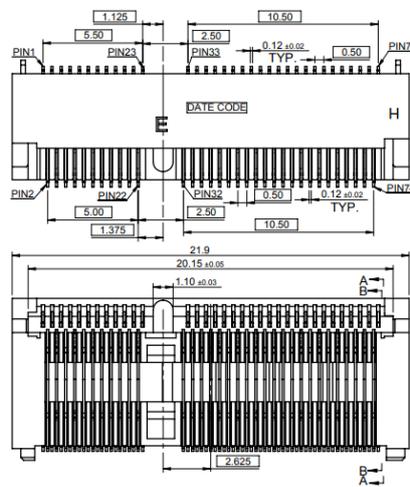


Figure 37: M.2 2230 E key (PCIe · USB 2.0) for wireless

Pin	Signal Name	Pin	Signal Name
1	GND	2	V_3P3_WIFI
3	USB2_P8_DP	4	V_3P3_WIFI
5	USB2_P8_DN	6	NC
7	GND	8	M2E_I2S1_SCLK
9	CNV_WR_D1_DN	10	CNV_RF_RESET_M2E_N
11	CNV_WR_D1_DP	12	M2E_I2S1_RXD
13	GND	14	MODEM_CLKREQ_M2E
15	CNV_WR_D0_DN	16	NC
17	CNV_WR_D0_DP	18	GND
19	GND	20	UART_BT_WAKE_N
21	CNV_WR_CLK_DN	22	UART2_M2E_RXD
23	CNV_WR_CLK_DP	24	NC
25	NC	26	NC
27	NC	28	NC
29	NC	30	NC
31	NC	32	UART2_M2E_TXD
33	GND	34	UART2_M2E_CTS_N
35	PCIE10_M2E_TXP	36	UART2_M2E_RTS_N
37	PCIE10_M2E_TXN	38	M2E_CL_RST_N
39	GND	40	M2E_CL_DATA
41	PCIE10_M2E_RXP	42	M2E_CL_CLK
43	PCIE10_M2E_RXN	44	CNVPA_BLANKING
45	GND	46	CNV_MFUART2_TXD
47	CLK_100M_M2E_D P	48	CNV_MFUART2_RXD
49	CLK_100M_M2E_D N	50	SUS_CLK_M2E
51	GND	52	PLTRST_LAN_N
53	CLKREQ3_M2E_N	54	BT_RF_KILL_N
55	WAKE_N	56	WIFI_RF_KILL_N

57	GND	58	NC
59	CNV_WT_D1_DN	60	NC
61	CNV_WT_D1_DP	62	NC
63	GND	64	NC
65	CNV_WT_D0_DN	66	NC
67	CNV_WT_D0_DP	68	NC
69	GND	70	NC
71	CNV_WT_CLK_DN	72	V_3P3_WIFI
73	CNV_WT_CLK_DP	74	V_3P3_WIFI
75	GND		

Table 37: M.2 2230 E key (PCIe、USB 2.0) for wireless signals

■ M.2 Key B slot

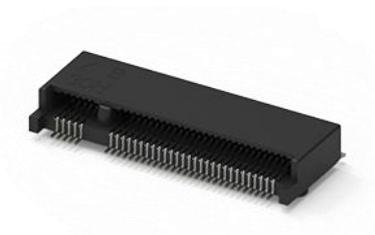
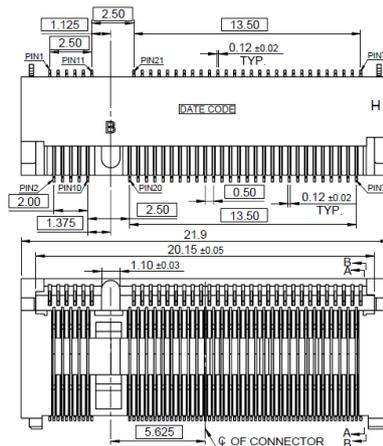


Figure 38: M.2 2242 B key (SATA, PCIE, USB2.0)

Pin	Signal Name	Pin	Signal Name
1	M2B_CFG3	2	V_3P3_M2B
3	GND	4	V_3P3_M2B
5	GND	6	M2B_FCP_OFF_N
7	USB2_HUB_DWN4_DP	8	M2B_W_DISABLE_N

9	USB2_HUB_DWN4_DN	10	M2B_SSD_LED_N
11	GND	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	NC
19	NC	20	V_1P8_SB
21	M2B_CFG0	22	M2B_GPIO6
23	M2B_WWAN_WAKE_N	24	M2B_GPIO7
25	M2B_DPR	26	M2B_GPIO10
27	GND	28	TP
29	USB3_HUB_DWN4_RX _DN	30	UIM_RST_N
31	USB3_HUB_DWN4_RX _DP	32	UIM_CLK
33	GND	34	UIM_CLK_DATA
35	USB3_HUB_DWN4_TX _DN	36	UIM_PWR
37	USB3_HUB_DWN4_TX _DP	38	M2B_DEVS_LP
39	GND	40	TP
41	PCIE11_M2B_RXP	42	TP
43	PCIE11_M2B_RXN	44	TP
45	GND	46	TP
47	PCIE11_M2B_TXN	48	TP
49	PCIE11_M2B_TXP	50	PLTRST_BUFFER_N
51	GND	52	CLKREQ4_M2B_N
53	CLK_100M_M2B_DN	54	WAKE_N
55	CLK_100M_M2B_DP	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC

65	NC	66	UIM_DETECT
67	M2B_RST_N	68	SUS_CLK_M2B
69	M2B_DET_1_N	70	V_3P3_M2B
71	GND	72	V_3P3_M2B
73	GND	74	V_3P3_M2B
75	M2B_CFG2		

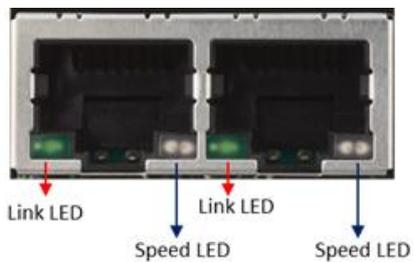
Table 38: M.2 2242 B key signals

2.3 External Connector Pin Definition

■ HDMI 1.4

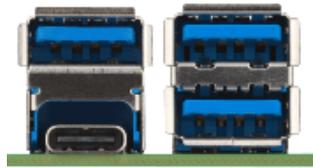


■ 2 x 1G LAN



LED	Color	State	Condition
LINK	N/A	OFF	LAN Link is not established
	GREEN	ON	LAN Link is established
	GREEN	BLINKING	LAN activity occurring
SPEED	N/A	OFF	10 Mb/s data rate
	GREEN	ON	100 Mb/s data rate
	ORANGE	ON	1000 Mb/s data rate

■ 2 x USB3.2 Gen2 port + 1 x USB3.2 Type C port



*Note: USB3.2 port support 5V 0.9A output max
Type C port support 5V 3A output max

■ 2pin DC in Terminal Block

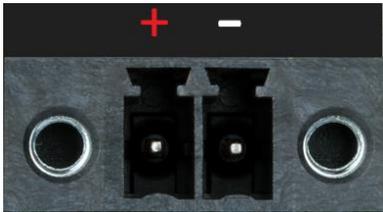


Figure 4: 4Pin,4 Walls,MA,2.5mm,BLACK,ST,TIN,LCP

Distributor	XIAN YI precision CO., LTD
VPN:	HE-ECH350RM-02PLWR
	DINKLE
VPN:	ECH350RM-02PLWR

Pin	Signal Name	w/o POE	with PSE	with PD
1	VDCIN_8V_26V	8V~26V	8V~26V	N/A
2	GND	GND	GND	N/A

Table 4: power Connector signals

■ Serial port header

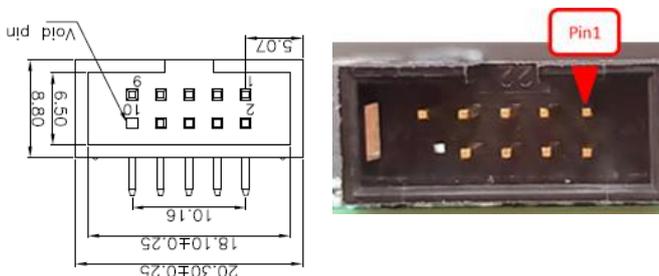


Figure 6: HDR, 5Pin*2,-P10,4 Walls,MA,2.54mm,BLACK,R/A,GOLD 15u",LCP,

	SUPERIOR TECH CO.,LTD.
VPN:	BHED-RC010G7BOLQ-N033

Pin	Signal			Pin	Signal		
	RS232	RS485	RS422		RS232	RS485	RS422
1	DCD (Data Carrier Detect)	R(A) / T(A)	TX(B)	2	RXD# (Receive Data)	R(B) / T(B)	TX(A)
3	TXD# (Transmit Data)	NC	RX(A)	4	DTR (Data Terminal Ready)	NC	RX(B)
5	Ground	Ground	Ground	6	DSR (Data Set Ready)	NC	NC
7	RTS (Request To Send)	DE#/RE	NC	8	CTS (Clear To Send)	NC	NC
9	RI (Ring Indicator)	NC	NC	10	Key (no pin)	Key (no pin)	Key (no pin)

Table 6: RS485/RS422/RS232 Serial port header signals

SYSTEM SETUP

This chapter provides information about how to set up the ME2-10TWT Embedded System hardware installation.

3

CHAPTER 3: SYSTEM SETUP

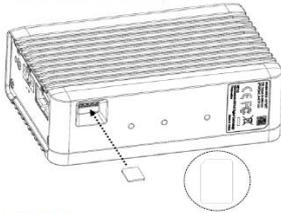
This chapter provides information about how to set up the ME2-10TWT Embedded System hardware installation.

ME2-10TWT

Quick Assembly Guide

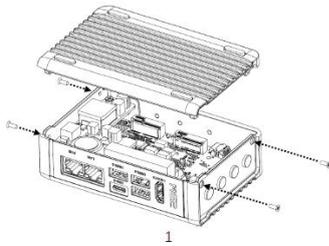
1. 4G/5G Card Installation

Install the nano SIM card (Push-push) from rating label surface. (The direction for SIM card as below)



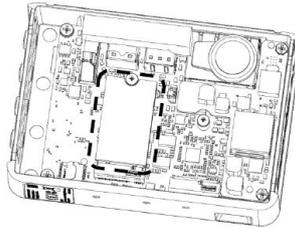
2. Open Bottom Cover

Loosen 4 screws from each side as the dash line locations.

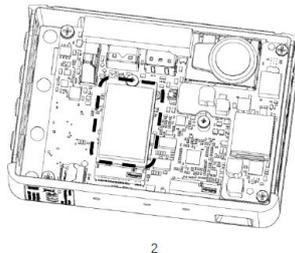


3. M.2 B-Key SSD Installation

3-1 Install M.2 SSD on M.2 slot on dash line area.

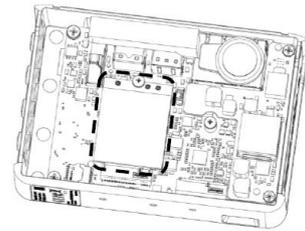


3-2. Put thermal pad on the top surface of M.2 SSD.

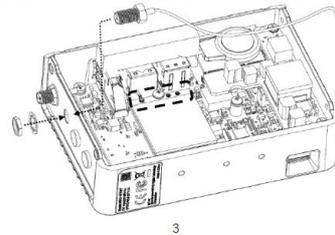


4. M.2 B-Key 4G/5G Card Installation

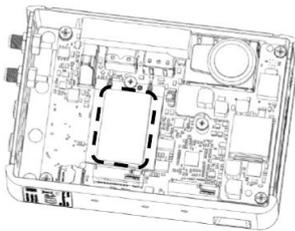
4-1 Install 4G/5G card on M.2 slot.



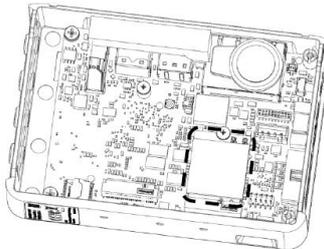
4-2 Remove the rubber caps, install the SMA to IPEX4 antennas and plug in antenna IPEX header on 4G/5G card on dash line area.



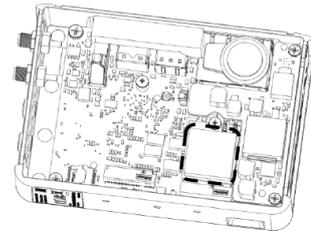
4-3. Put thermal pad on the top surface of 4G/5G card.



5-2 Install WIFI card on M.2 slot

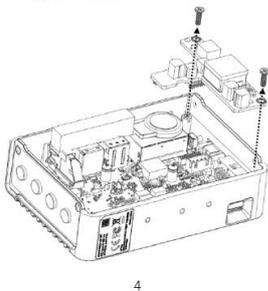


5-4 Install daughter board back and put thermal pad on the top surface of WIFI card.

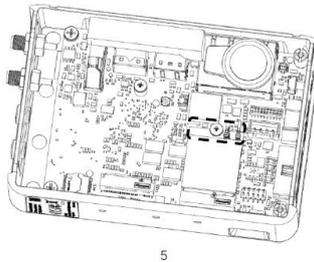


5. M.2 E-Key WIFI Card Installation

5-1 Uninstall daughter board.

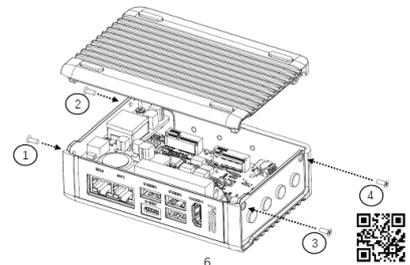


5-3 Remove the rubber caps, install the SMA to IPEX4 antennas and plug in antenna IPEX header on WIFI card on dash line area.



6. Close Bottom cover

Fix the screws by the sequence as below.



BIOS SETUP

This chapter provides information about how to set up BIOS and use BIOS menu items to adjust basic function settings.

4

CHAPTER 4: BIOS SETUP

This chapter provides information about how to set up BIOS and use BIOS menu items to adjust basic function settings.

4.1 Main Page



Field Name	BIOS Vendor
Default Value	American Megatrends
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Core Version
Default Value	5.27
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Compliancy
Default Value	UEFI 2.8 ; PI 1.7
Comment	This field is not selectable. There is no help text associated with it.

Field Name	BIOS Version
Default Value	Display the version of the BIOS

Comment	This field is not selectable. There is no help text associated with it.
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Field Name	Build Date
Default Value	Display build date of the BIOS
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Processor Information
Value	Display the installed CPU brand.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Microcode Version
Value	Display the CPU microcode revision.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Total Memory
Value	Display the installed memory size.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Memory Frequency
Value	Display the installed memory frequency.
Comment	This field is not selectable. There is no help text associated with it.

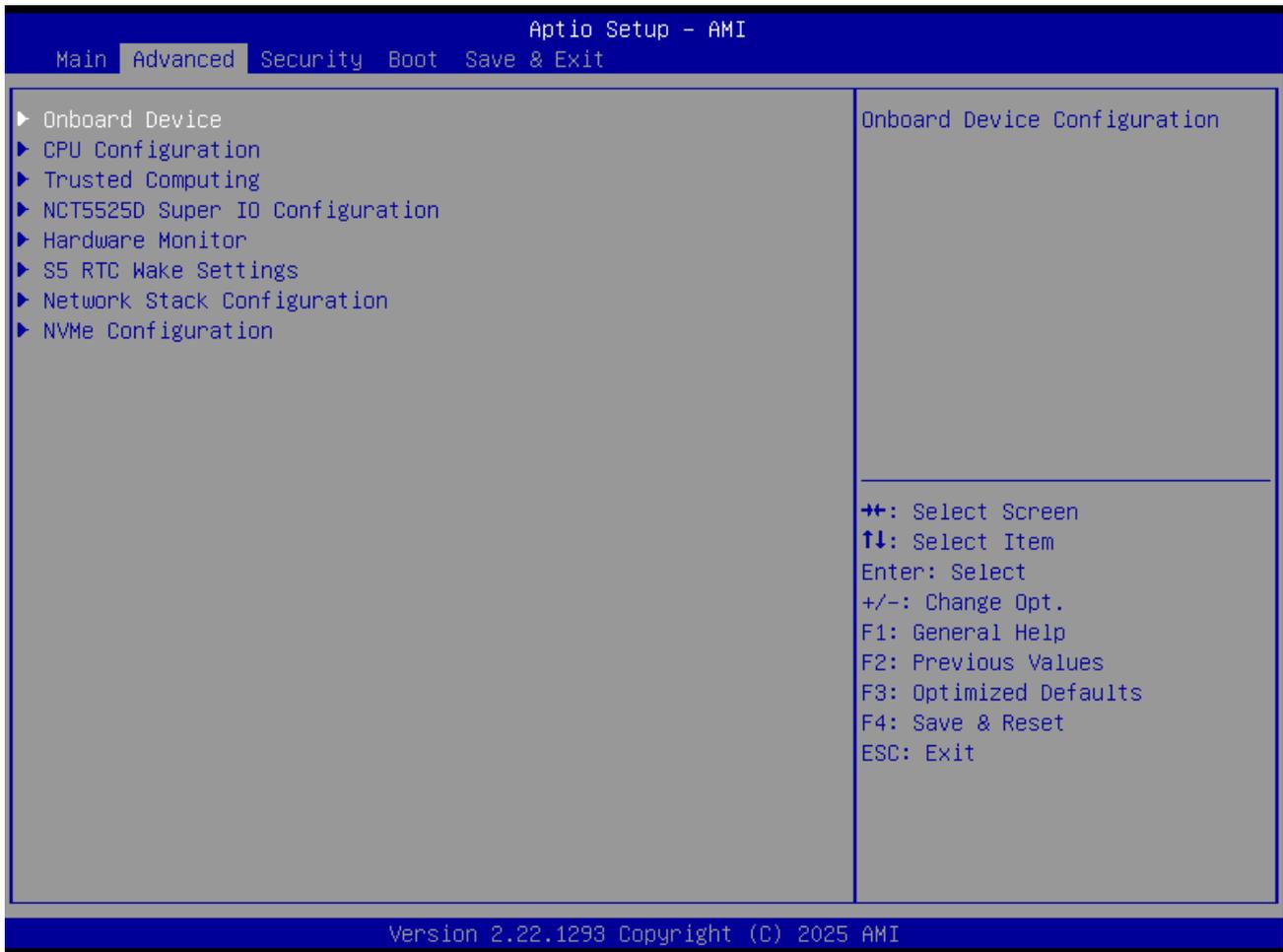
Field Name	ME FW Version
Value	ME Firmware Version.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	ME Firmware SKU
Value	ME Firmware SKU.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	System Date
Default Value	[Www mm/dd/yyyy]
Possible Value	Www : Mon/Tue/Wed/Thu/Fri/Sat/Sun mm : 1-12 dd : 1-31 yyyy : 2005-2099
Help	Set the Date. Use Tab to switch between Date elements. Default Ranges: Year: 2005-2099 Months: 1-12 Days: Dependent on month Range of Years may vary.

Field Name	System Time
Default Value	[hh :mm :ss]
Possible Value	hh : 0-23 mm : 0-59 ss : 0-59
Help	Set the Time. Use Tab to switch between Time elements.

4.2 Advanced Page



Field Name	Onboard Device
Help	Onboard Device Configuration.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	CPU Configuration
Help	CPU Configuration Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	Trusted Computing
Help	Trusted Computing Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	NCT5525D Super IO Configuration
Help	System Super IO Chip Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	Hardware Monitor
Help	Monitor hardware status
Comment	Press Enter when selected to go into the associated Sub-Menu.

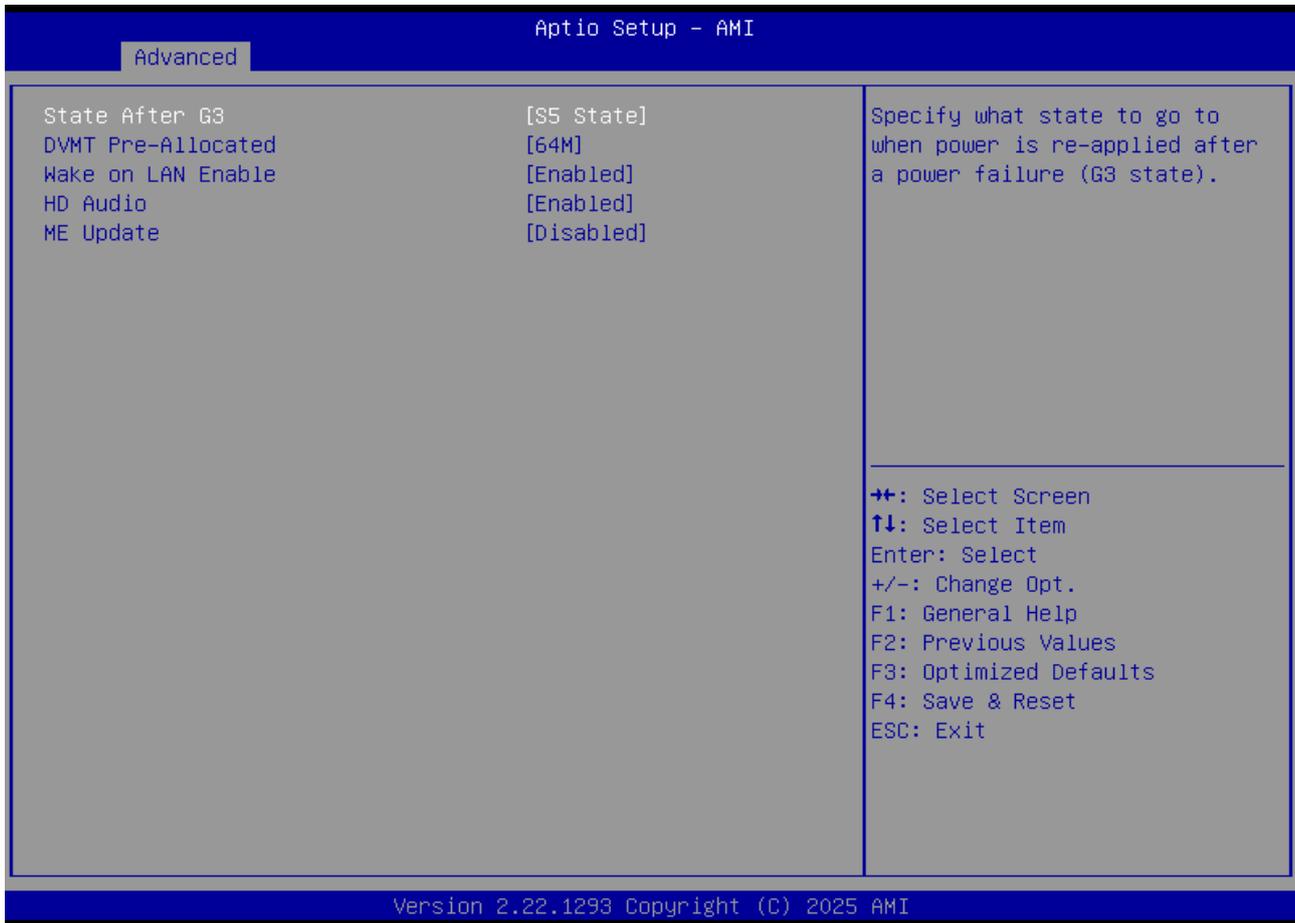
Field Name	S5 RTC Wake Settings
Help	Enable system to wake from S5 using RTC alarm
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	Network Stack Configuration
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Help	Network Stack Settings.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	NVMe Configuration
Help	NVMe Device Options Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

4.2.1 Onboard Device



Field Name	State After G3
Default Value	[S5 State]
Possible Value	S0 State S5 State
Help	Specify what state to go to when power is re-applied after a power failure (G3 state).

Field Name	DVMT Pre-Allocated
Default Value	[64M]
Possible Value	64M 32M/F7 36M 40M 44M 48M 52M 56M 60M
Help	Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by

	the Internal Graphics Device.
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Field Name	Wake on LAN Enable
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable/Disable integrated LAN to wake the system.

Field Name	HD Audio
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Control Detection of the HD-Audio device. Disabled = HDA will be unconditionally disabled Enabled = HDA will be unconditionally enabled.

Field Name	ME Update
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Temporary disable Intel CSME for ME FW Update. Enabled = Intel CSME disabled after first time reboot only.

4.2.2 CPU Configuration

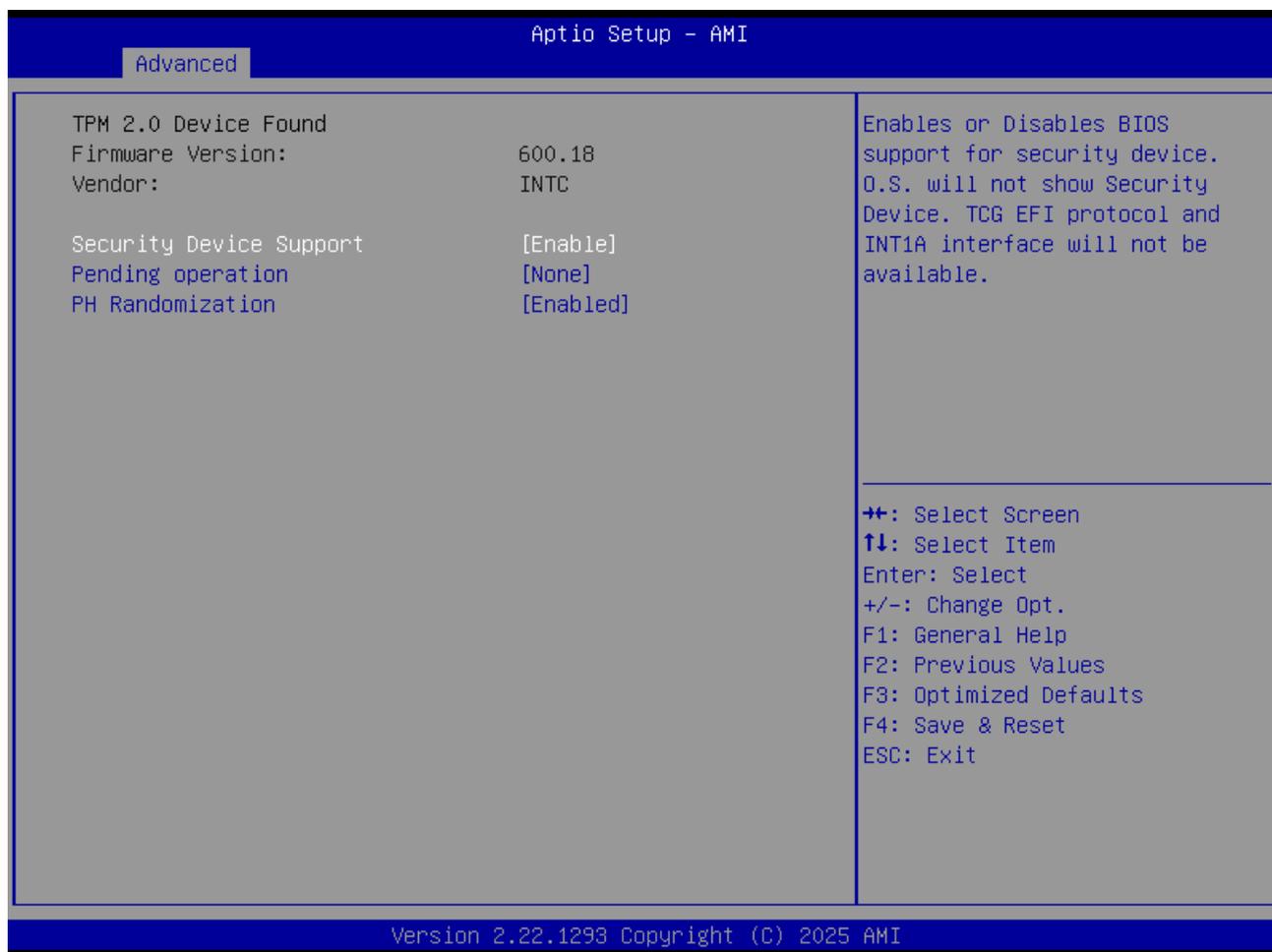


Field Name	ID
Default Value	Displays CPU Signature
Comment	This field is not selectable. There is no help text associated with it.
Field Name	Brand String
Default Value	[Intel CPU Brand String]
Comment	This field is not selectable. There is no help text associated with it.
Field Name	VMX
Default Value	VMX Supported or Not
Comment	This field is not selectable. There is no help text associated with it.
Field Name	SMX/TXT
Default Value	SMX/TXT Supported or Not
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Intel (VMX) Virtualization Technology
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Field Name	Intel Trusted Execution Technology
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enables utilization of additional hardware capabilities provided by Intel (R) Trusted Execution Technology. Changes require a full power cycle to take effect.

4.2.3 Trusted Computing



Field Name	Firmware Version
Default Value	TPM module version.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Vendor
Default Value	TPM module vendor name.
Comment	This field is not selectable. There is no help text associated with it.

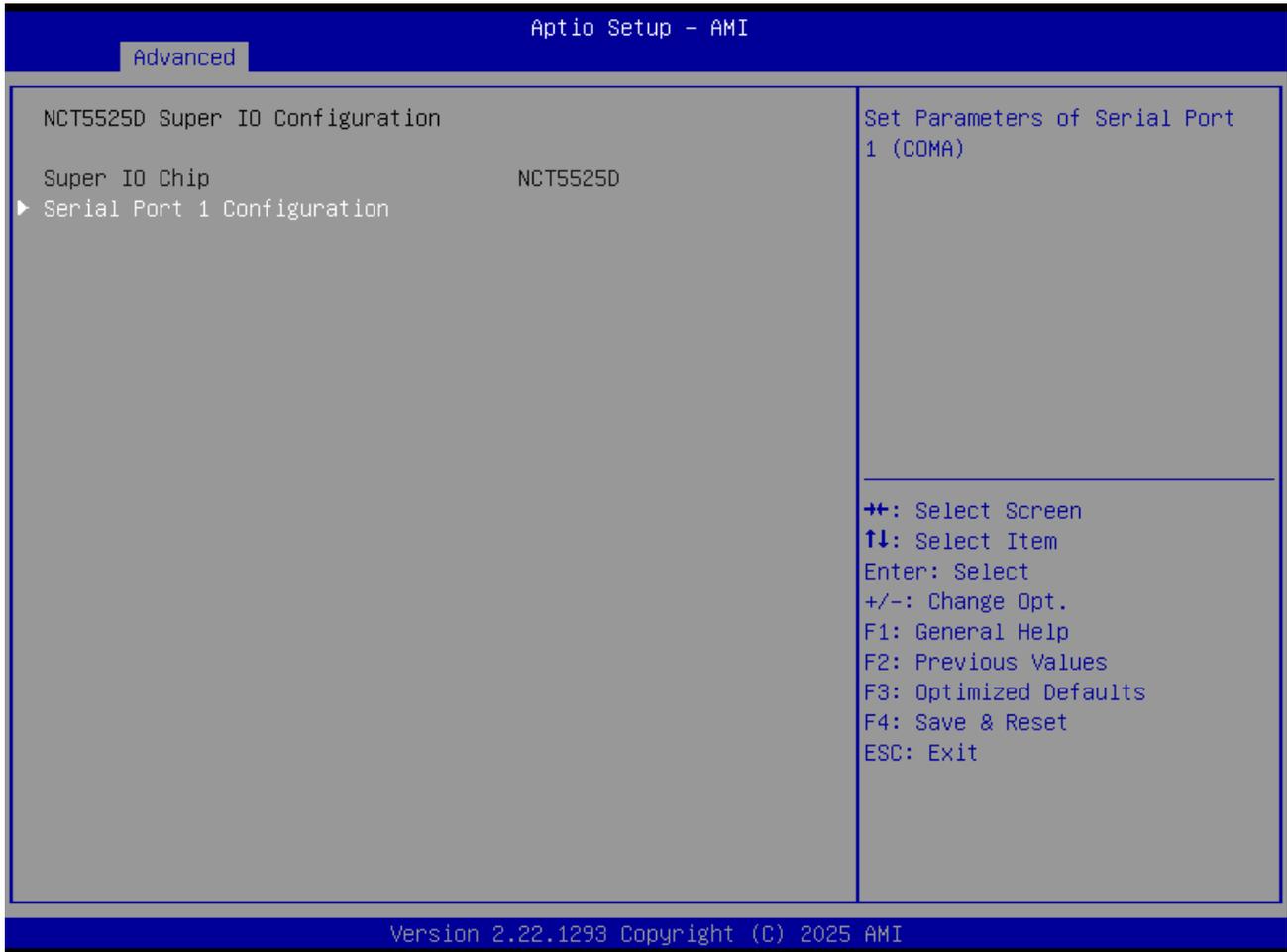
Field Name	Security Device Support
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Default Value	[Enable]
Possible Value	Enable Disable
Help	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

Field Name	Pending operation
Default Value	[None]
Possible Value	None TPM Clear
Help	Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device.

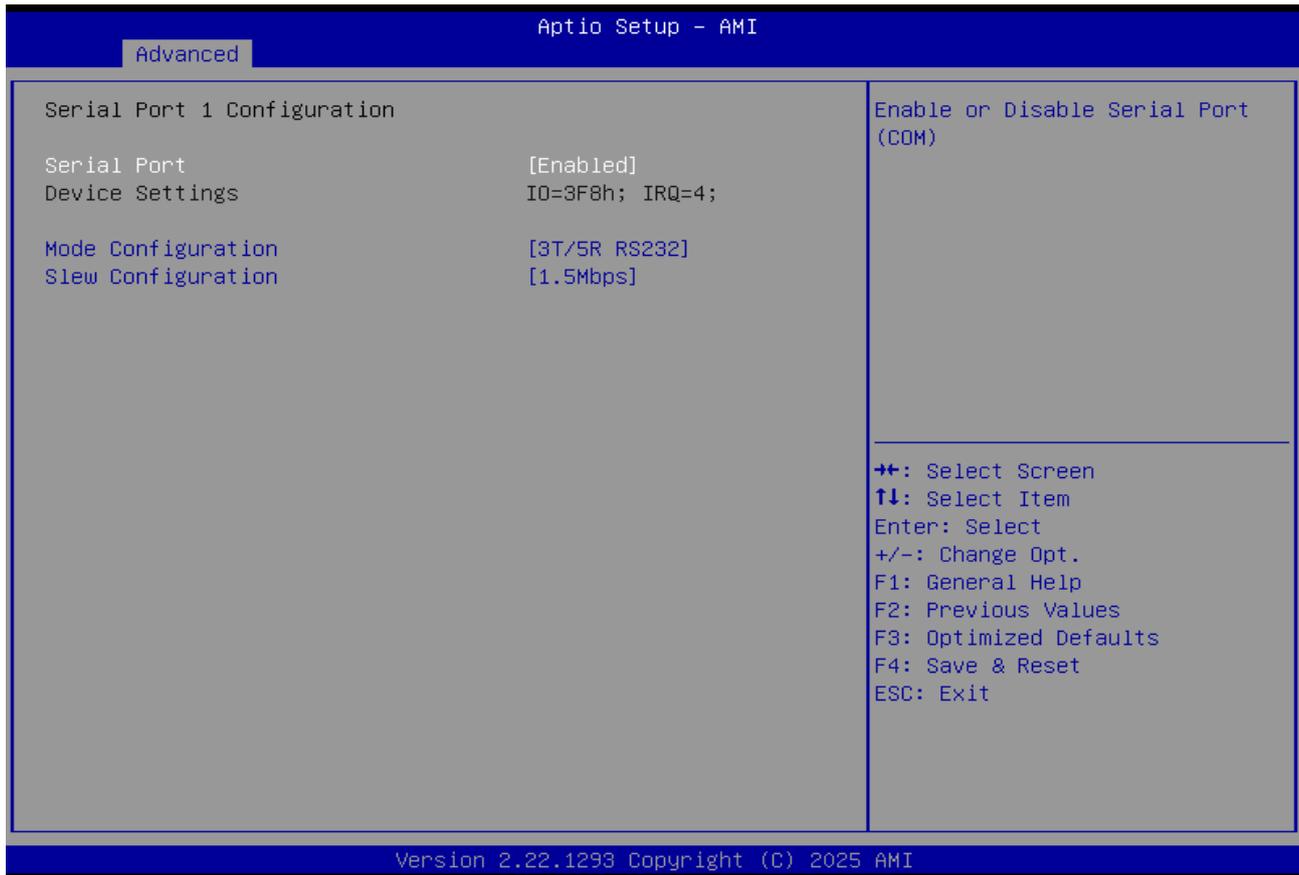
Field Name	PH Randomization
Default Value	[Enable]
Possible Value	Enable Disable
Help	Enables or Disables Platform Hierarchy randomization. DO NOT ENABLE THIS QUESTION IN PRODUCTION PLATFORMS. THIS IS FOR DEVELOPMENT TESTING. OVERRIDE Change PlatformAuth ELINK for production platforms supporting TXT.

4.2.4 NCT5525D Super IO Configuration



Field Name	Serial Port 1 Configuration
Help	Set Parameters of Serial Port 1 (COMA)
Comment	Press Enter when selected to go into the associated Sub-Menu.

4.2.5 Serial Port 1 Configuration(option)



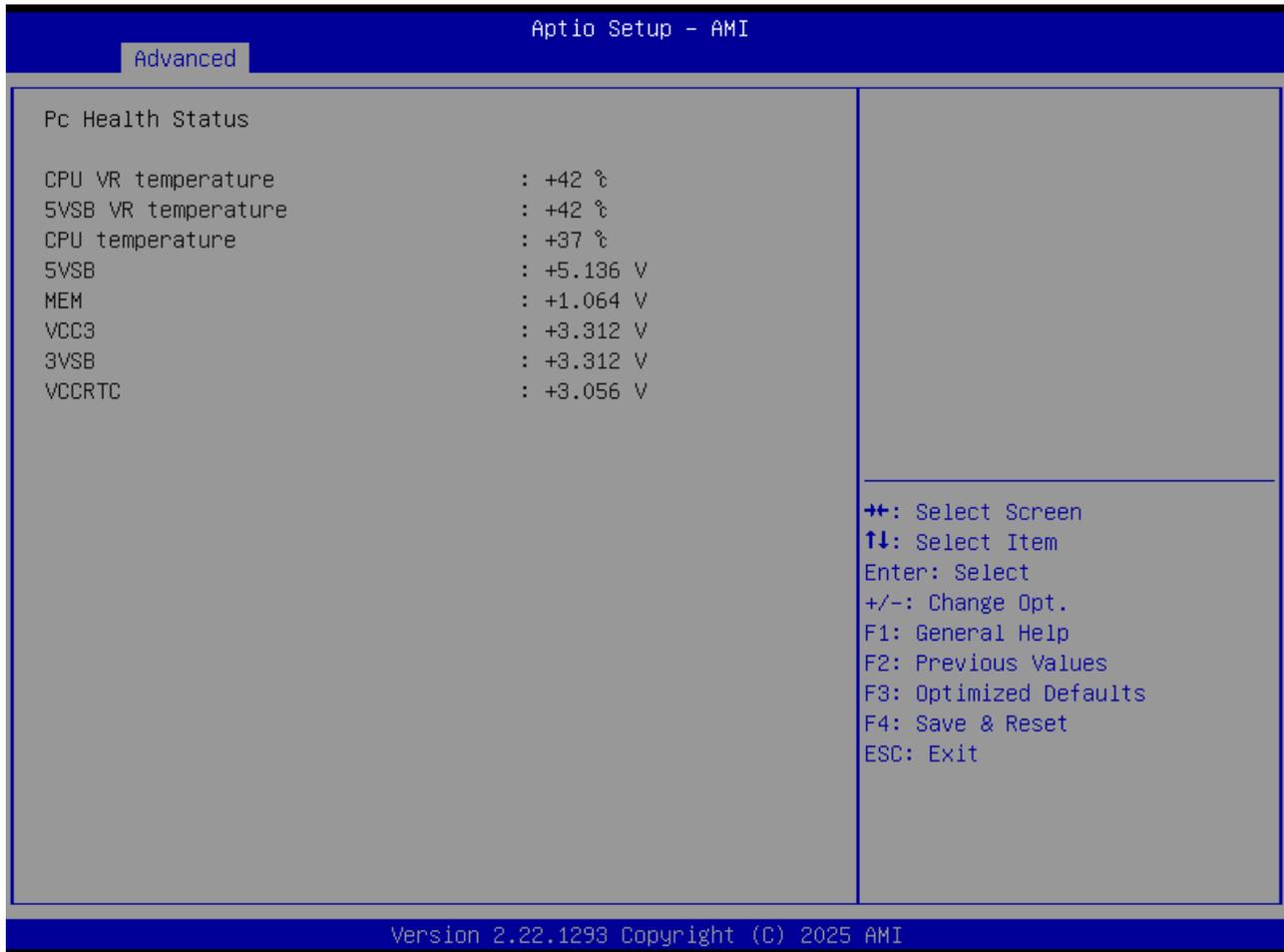
Field Name	Serial Port
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	Device Settings
Default Value	Device Super IO COM1 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	Mode Configuration
Default Value	[3T/5R RS232]
Possible Value	1T/1R RS422 3T/5R RS232 1T/1R RS485 TX ENABLE Low Active 1T/1R RS422 with termination resistor 1T/1R RS485 with termination resistor TX ENABLE Low Active Disabled
Help	Configure serial port as RS232/RS422/RS485.

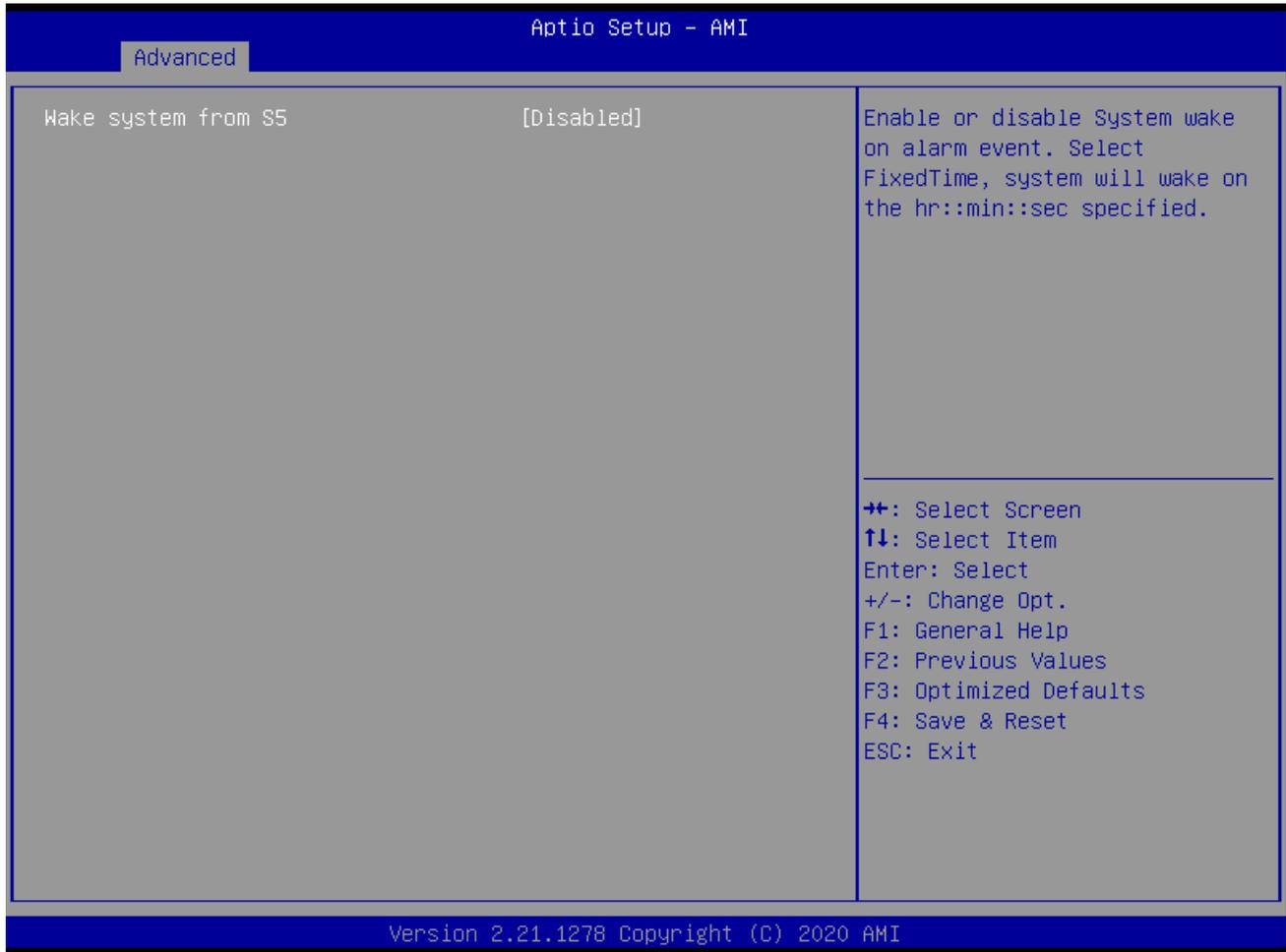
Field Name	Slew Configuration
Default Value	[1.5Mbps]
Possible Value	256Kbps 1.5Mbps
Help	Configure serial port slew.

4.2.5.1 Hardware Monitor



Type	Range
CPU VR Temperature	0~90°C
5VSB VR Temperature	0~90°C
CPU Temperature	0~100°C
5VSB	4.75V~5.25V
MEM	1V~1.12V
VCCRTC	2V~3.465V
3VSB	3.135V~3.465V
VCC3	3.135V~3.465V

4.2.5.2 S5 RTC Wake Settings



Field Name	Wake system from S5
Default Value	[Disabled]
Possible Value	Disabled Fixed Time
Help	Enable or disable System wake on alarm event, Select FixedTime, system will wake on the hr::min::sec specified.

Field Name	Wake up hour(Show when Wake system from S5 set to Fixed Time)
Default Value	0
Possible Value	0-23
Help	Select 0-23 For example enter 3 for 3am and 15 for 3pm

Field Name	Wake up minute(Show when Wake system from S5 set to Fixed Time)
Default Value	0
Possible Value	0-59
Help	Select 0 – 59 for Minute

Field Name	Wake up second(Show when Wake system from S5 set to Fixed Time)
Default Value	0
Possible Value	0 - 59
Help	Select 0 – 59 for Second

4.2.5.3 Network Stack Configuration

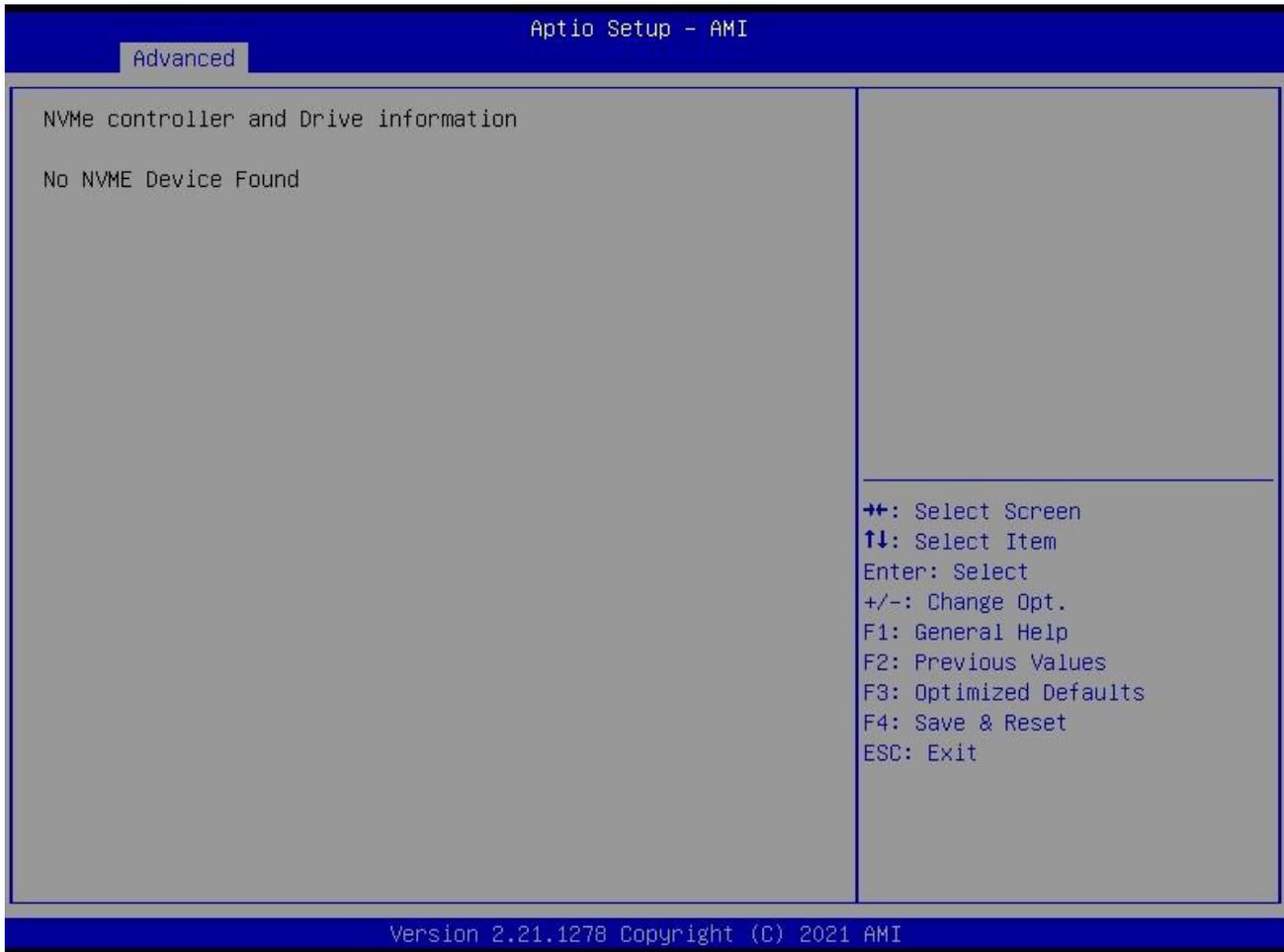


Field Name	Network stack
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enable/Disable UEFI Network stack.

Field Name	Ipv4 PXE Support (Available when Network stack Enabled)
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enable/Disable Ipv4 PXE Boot Support. If disabled IPV4 PXE boot support will not be available.

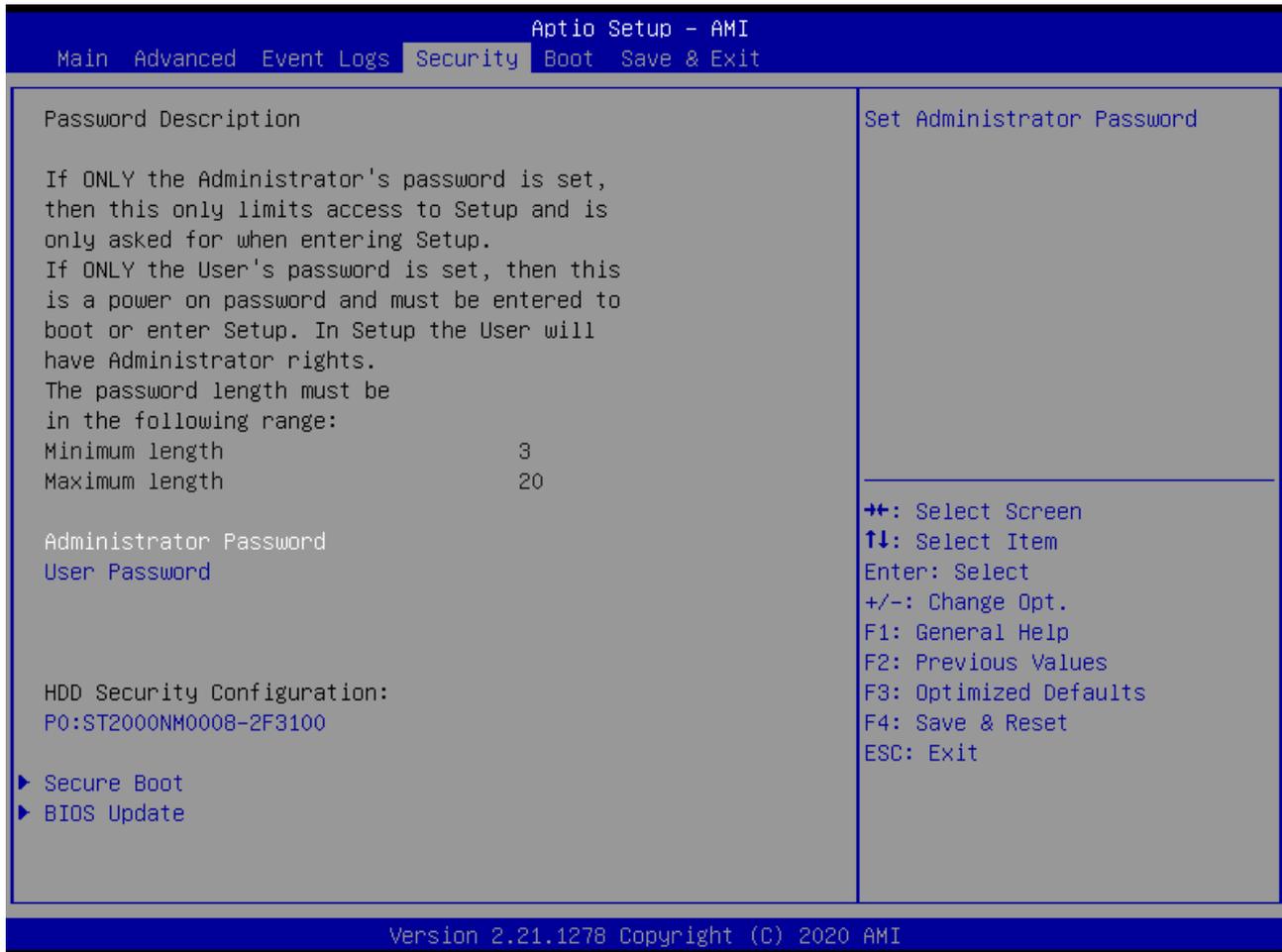
Field Name	Ipv6 PXE Support (Available when Network stack Enabled)
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enable/Disable Ipv6 PXE Boot Support. If disabled IPV6 PXE boot support will not be available.

4.2.5.4 NVMe Configuration



Field Name	(Device)
Comment	Press Enter when selected to go into the associated Sub-Menu.

4.2.6 Security Page



Field Name	Administrator Password
Help	Set Administrator Password

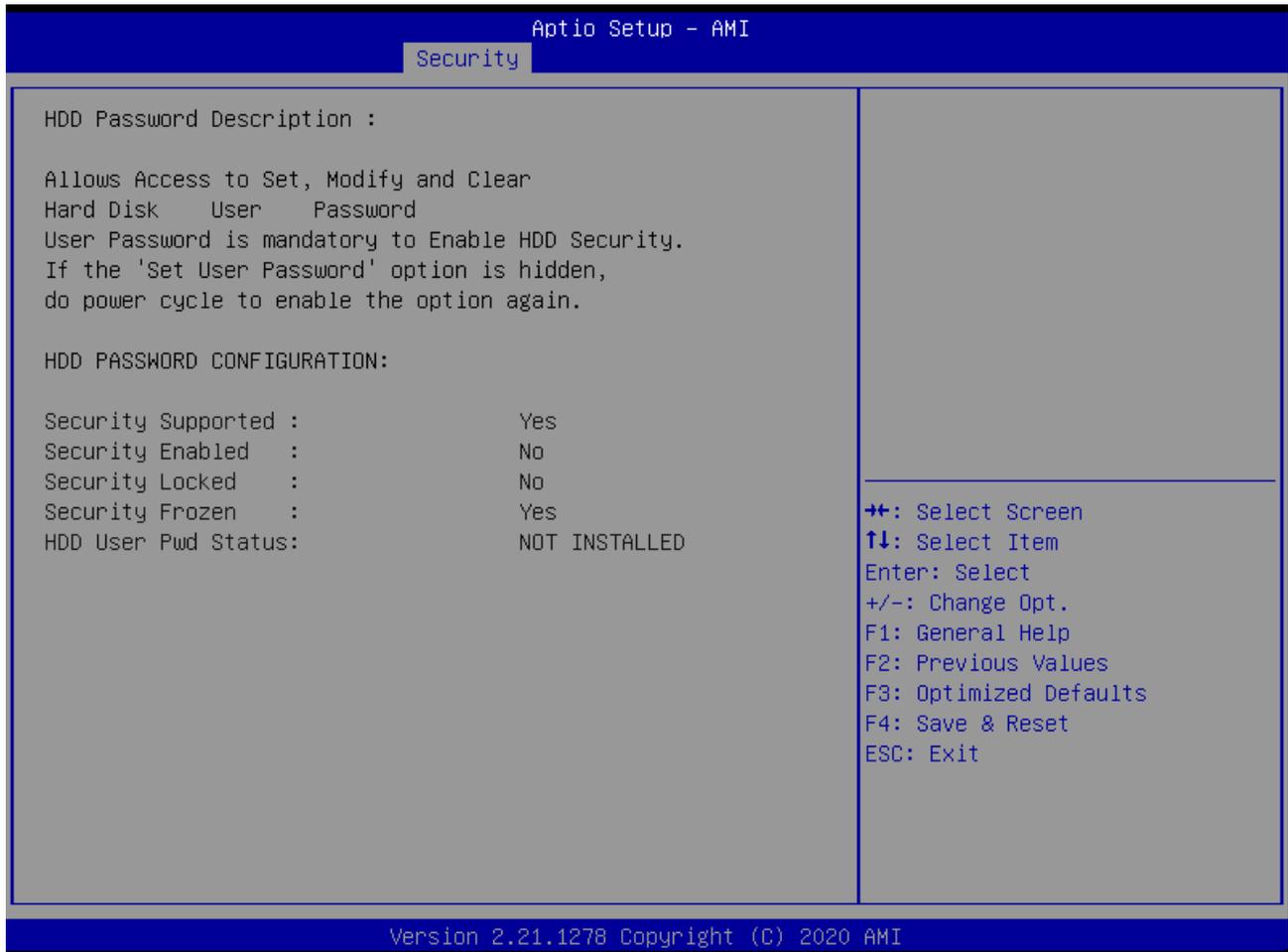
Field Name	User Password
Help	Set User Password.

Field Name	HDD Security drive
Help	HDD Security Configuration for selected drive
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	Secure Boot
Help	Secure Boot Configuration
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	BIOS Update
Help	BIOS Update support
Comment	Press Enter when selected to go into the associated Sub-Menu.

4.2.7 HDD Security



Field Name	Set User Password
Help	Set HDD User Password. *** Advisable to Power Cycle System after Setting Hard Disk Passwords ***. Discard or Save changes option in setup does not have any impact on HDD when password is set or removed. If the 'Set HDD User Password' option is hidden, do power cycle to enable the option again

4.2.8 Secure Boot



Field Name	Secure Boot
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Secure Boot feature is Active if Secure Boot is Enabled, Platform Key(PK) is enrolled and the System is in User mode. The mode change requires platform reset

Field Name	Secure Boot Mode
Default Value	[Standard]
Possible Value	Standard Custom
Help	Secure Boot mode options: Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication

Field Name	Restore Factory Keys
Help	Force System to User Mode. Install factory default Secure Boot key databases

Field Name	Reset to Setup Mode
Help	Delete all Secure Boot key databases from NVRAM

Field Name	Key Management
Help	Enables expert users to modify Secure Boot Policy variables without variable authentication
Comment	Enables expert users to modify Secure Boot Policy variables without variable authentication

Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,Modified,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu “Key Management”.

Field Name	Key Exchange Keys
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,Modified,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	Authorized Signatures
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,Modified,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

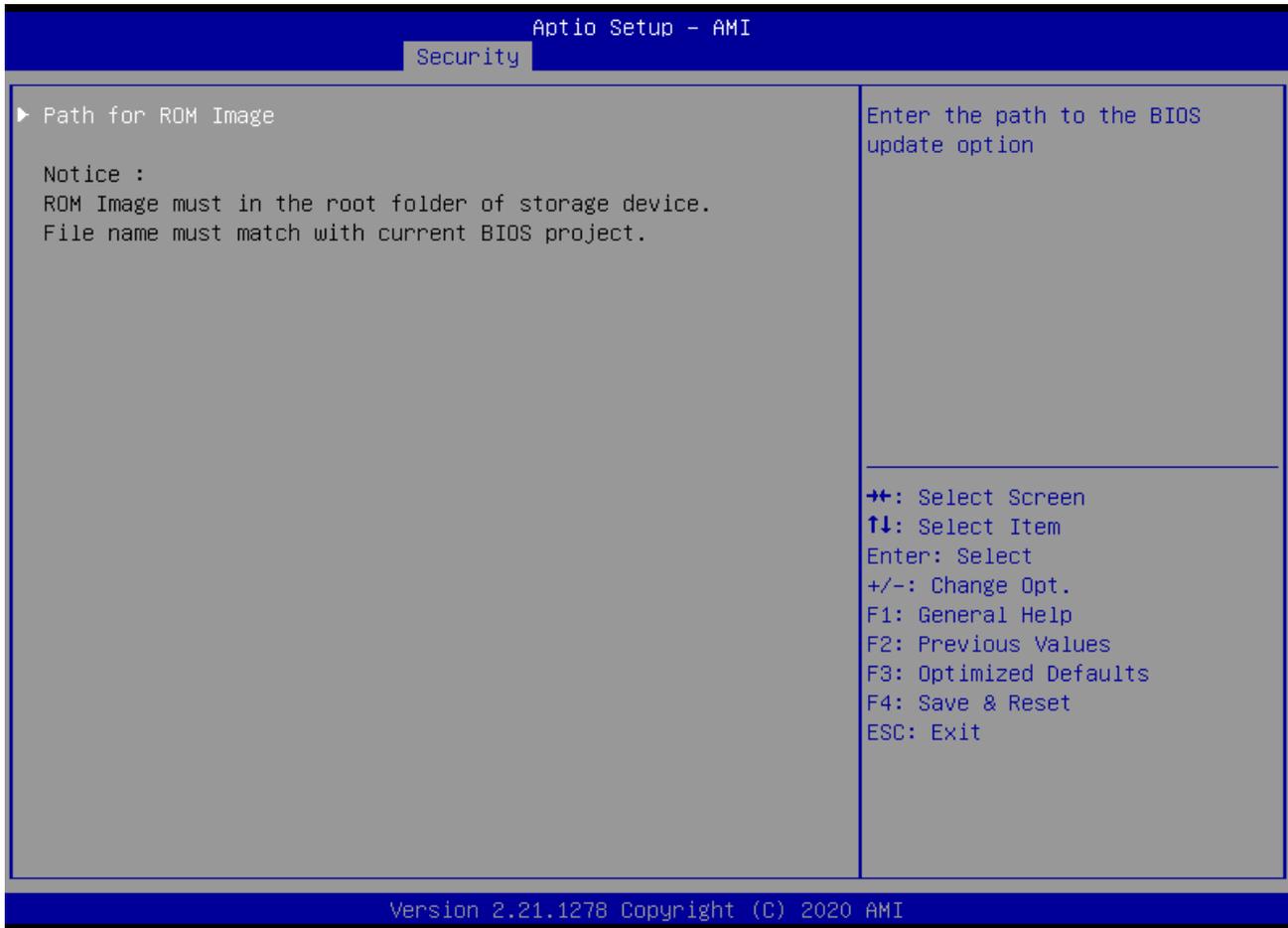
Field Name	Forbidden Signatures
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,Modified,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	Authorized TimeStamps
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file:

	1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,Modified,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

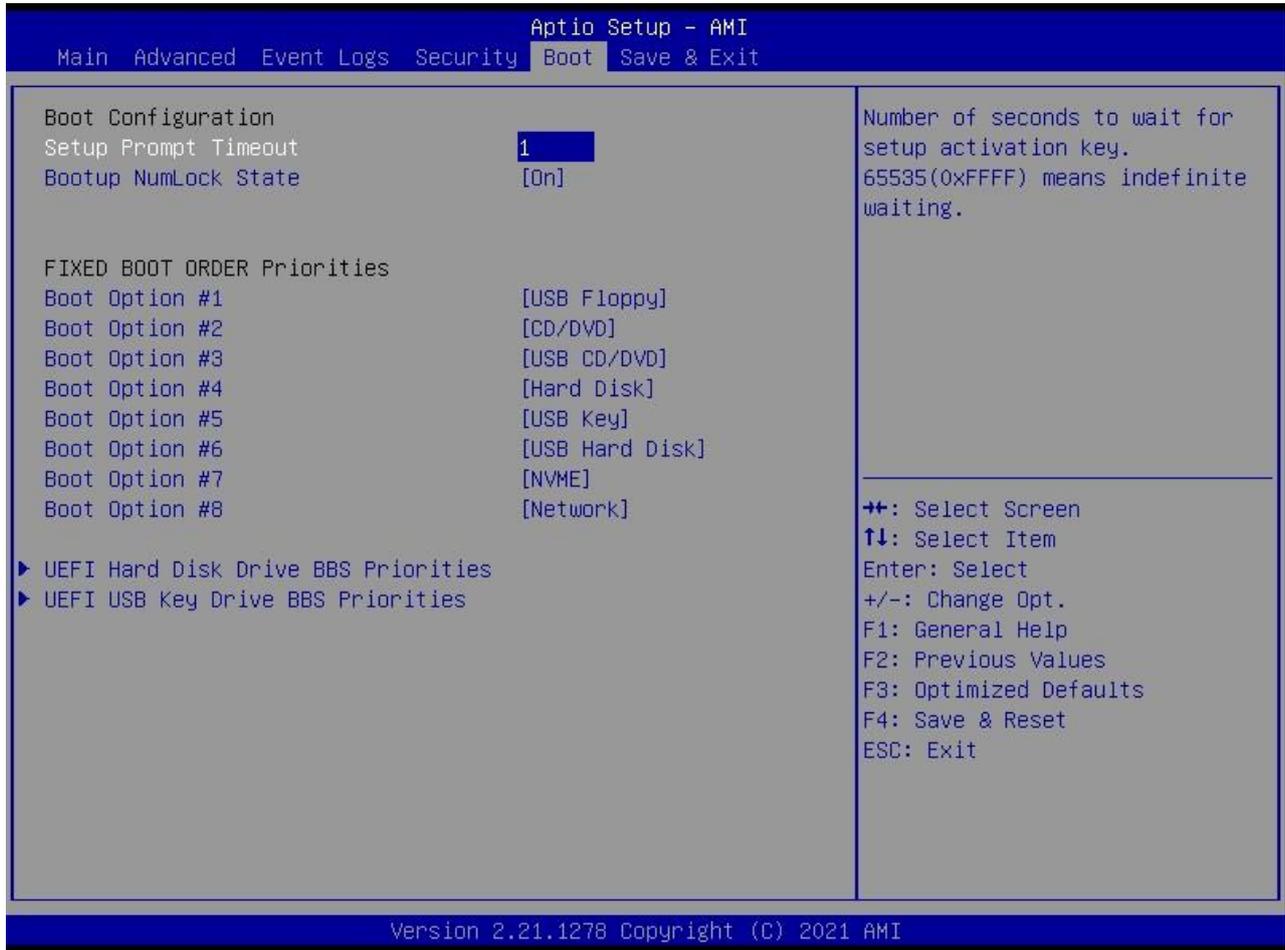
Field Name	OsRecovery Signatures
Default Value	Size:0, Keys:0, Key source: No Keys
Help	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,Modified,Mixed
comment	Press Enter when selected to go into the associated Sub-Menu.

4.3 BIOS Update



Field Name	Path for ROM Image
Help	Enter the path to the BIOS update option

4.4 Boot Page



Field Name	Setup Prompt Timeout
Default Value	1
Possible Value	1~65535
Help	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Field Name	Bootup NumLock State
Default Value	[On]
Possible Value	On Off
Help	Select the keyboard NumLock state

Field Name	Boot Option #1
Default Value	[USB Floppy]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled
Help	Sets the system boot order

Field Name	Boot Option #2
Default Value	[CD/DVD]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled

Help	Sets the system boot order
------	----------------------------

Field Name	Boot Option #3
Default Value	[USB CD/DVD]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled
Help	Sets the system boot order

Field Name	Boot Option #4
Default Value	[Hard Disk]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled
Help	Sets the system boot order

Field Name	Boot Option #5
Default Value	[USB Key]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled
Help	Sets the system boot order

Field Name	Boot Option #6
Default Value	[USB Hard Disk]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled
Help	Sets the system boot order

Field Name	Boot Option #7
Default Value	[NVME]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled
Help	Sets the system boot order

Field Name	Boot Option #8
Default Value	[Network]
Possible Value	USB Floppy, CD/DVD, USB CD/DVD, Hard Disk , USB Key, USB Hard Disk , NVME, Network, Disabled
Help	Sets the system boot order

Field Name	UEFI USB Floppy Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI USB Floppy Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	UEFI CDROM/DVD ROM Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI CDROM/DVD Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	UEFI USB CDROM/DVD ROM Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI USB CDROM/DVD Drives.

Comment	Press Enter when selected to go into the associated Sub-Menu.
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Field Name	UEFI Hard Disk Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI Hard Disk Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

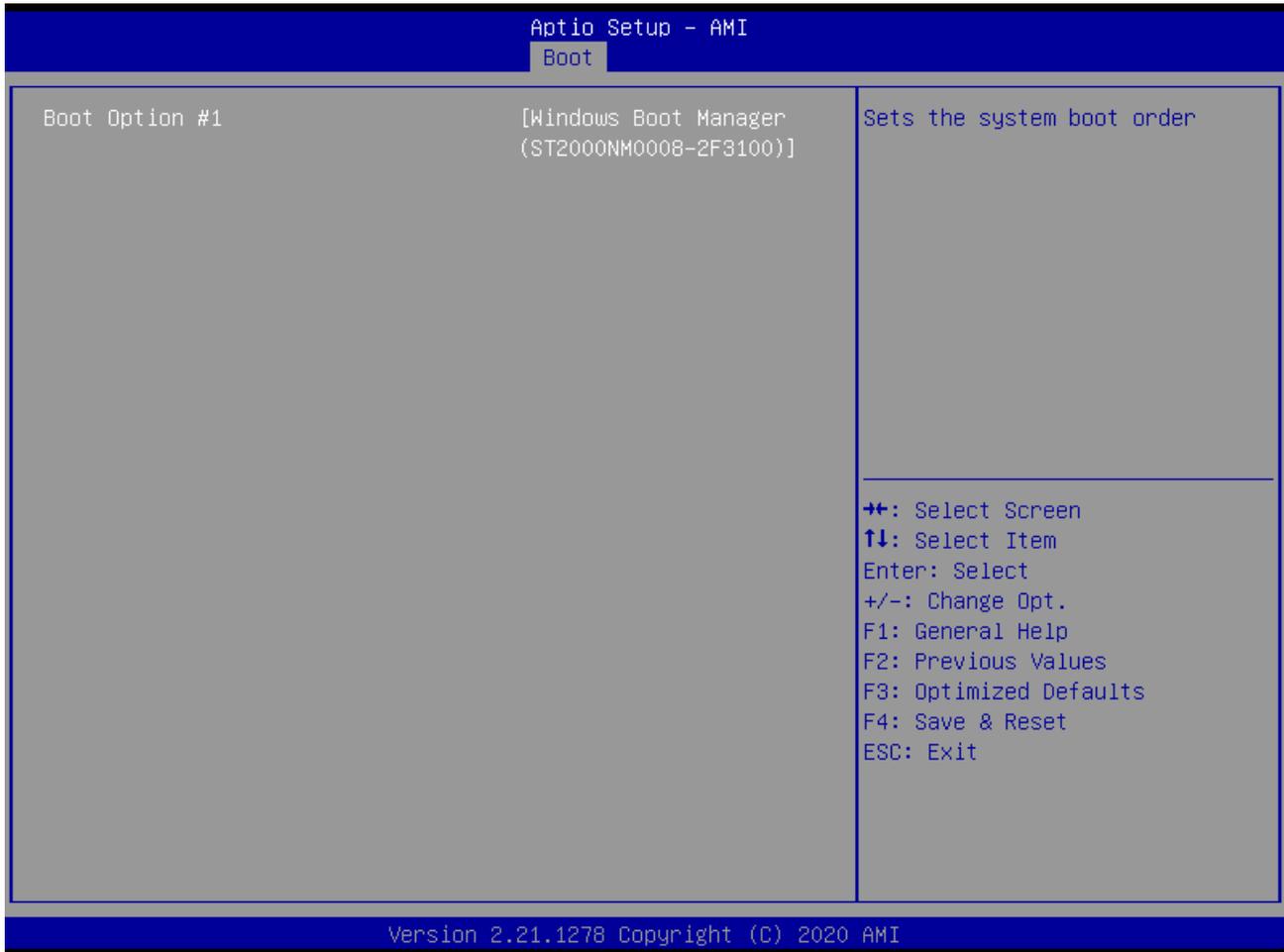
Field Name	UEFI USB KEY Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI USB Key Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	UEFI USB Hard Disk Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI USB Hard Disk Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	UEFI NVME Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI NVME Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	UEFI NETWORK Drive BBS Priorities
Help	Specifies the Boot Device Priority sequence from available UEFI NETWORK Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

4.4.1 (List Boot Device Type) Drive BBS Priorities



Field Name	Boot Option #1
Default Value	
Possible Value	Boot Device Name 1 of this type, Disable
Help	Sets the system boot order

4.5 Save & Exit Page



Field Name	Save Changes and Reset
Help	Reset the system after saving the changes.

Field Name	Discard Changes and Rest
Help	Reset system setup without saving any changes.

Field Name	Restore Defaults
Help	Restore/Load Default values for all the setup options.