

PICO-V2K4-SEMI

PICO-SEMI System

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
● PICO-V2K4-SEMI	1

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

About this Document

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

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

Safety Precautions

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

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

17. If any of the following situations arises, please the contact our service personnel:
 - i. Damaged power cord or plug
 - ii. Liquid intrusion to the device
 - iii. Exposure to moisture
 - iv. Device is not working as expected or in a manner as described in this manual
 - v. The device is dropped or damaged
 - vi. Any obvious signs of damage displayed on the device
18. **DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 60°C (140°F) 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

AAEON System

QO4-381 Rev.A2

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	×	○	○	○	○	○
外壳	○	○	○	○	○	○
中央处理器 与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
液晶模块	×	○	○	○	○	○
光驱	×	○	○	○	○	○
触控模块	×	○	○	○	○	○
电源	×	○	○	○	○	○
电池	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○：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 GB/T 26572 标准规定的限量要求以下。

×：表示该有害物质的某一均质材料超出了 GB/T 26572 的限量要求，然而该部件仍符合欧盟指令 2011/65/EU 的规范。

环保使用期限(EFUP (Environmental Friendly Use Period))：10 年

备注：

一、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。

二、上述部件物质中央处理器、内存、硬盘、光驱、电源为选购品。

三、上述部件物质液晶模块、触控模块仅一体机产品适用。

China RoHS Requirement (EN)

Name and content of hazardous substances in product

AAEON System

QO4-381 Rev.A2

Part Name	Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB Assemblies	×	○	○	○	○	○
Connector and Cable	×	○	○	○	○	○
Chassis	○	○	○	○	○	○
CPU and Memory	×	○	○	○	○	○
Hard Disk	×	○	○	○	○	○
LCD Modules	×	○	○	○	○	○
CD-ROM/DVD-ROM	×	○	○	○	○	○
Touch Modules	×	○	○	○	○	○
Power	×	○	○	○	○	○
Battery	×	○	○	○	○	○

The table is prepared in accordance with the provisions of SJ/T 11364.

○Indicates that said hazardous substance contained in all of the homogenous materials for this product is below the limit requirement of GB/T 26572.

×Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572. But this product still be compliance with 2011/65/EU Directive (allowed with 2011/65/EU Annex III of RoHS exemption with number 6(c),7(a),7(c)-1).

EFUP (Environment Friendly Use Period) value: 10 years.

Notes:

1. This product defined period of use is under normal condition.
2. In above part, CPU/Memory/ Hard Disk/CD-ROM/DVD-ROM/ Power are optional.
3. In above part, LCD Modules/ Touch Modules are for all-in-one product model.

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Chapter 1

Product Specifications

1.1 Specifications

System	
Form Factor	PICO-SEMI
CPU	AMD Ryzen™ V2000 embedded Processor Family V2718 (8C/16T, 1.7~4.15 GHz, TDP 10-25W) V2516 (6C/12T, 2.1~3.95 GHz, TDP 10-25W)
Chipset	AMD Ryzen™ V2000 embedded Processor Family
Memory Type	LPDDR4x 3733MHz Onboard Memory
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	TPM 2.0
RTC Battery	Lithium Battery 3V/240mAh
Dimension	4.80" x 3.18" x 2.13" (122mm x 80.8mm x 54mm)
Gross Weight	0.84 lb. (0.38kg)
OS Support	Windows 10 (64 bit) Linux Ubuntu 20.04.3/Kernel 5.11

Power

Power Requirement	+12V
Power Supply Type	ATX
Connector	DC Jack Connector
Power Consumption	V2718, LPDDR4x onboard 32GB, 4.24A @ +12V (Typical) V2718, LPDDR4x onboard 32GB, 4.82A @ +12V (Max)

Display

Controller	AMD Radeon 6, 7 Graphics (Renoir)
LVDS/eDP	-
Display Interface	Type C to DP x 1 HDMI 2.0b x 1, 4K x 2K 60Hz HDMI 1.4 x 1, 4K x 2K 30Hz (3840 x 2160)
Multiple Display	Up to 3 Simultaneous Displays

Audio

Codec	Realtek ALC269 (Optional)
Audio Interface	Line-out (Optional)
Speaker	-

External I/O

Ethernet	Intel® i226, 10/100/2500Base x 1
	Intel® i210, 10/100/1000Base x 1
USB	USB 3.2 Gen2 Type C x 1
	USB 3.2 Gen 2 x 2
	USB 2.0 x 2 (Optional)
Serial Port	COM 1, COM 2 (RS232/422/485, supports 5V/12V/RI) (Optional)
Video	Type C to DP x 1
	HDMI 2.0b x 1, 4K x 2K 60Hz
	HDMI 1.4 x 1, 4K x 2K 30Hz (3840 x 2160)

Internal I/O

USB	-
Serial Port	-
Video	-
SATA	Onboard NVME SSD 64GB
Audio	Audio Header x 1 (Optional)
DIO/GPIO	8-bit (Optional)
SMBus/I2C	SMBus/I2C x 1 (SMBus as default, I2C selected by HW BOM) (Optional)
Touch	-
Fan	4-Pin Smart Fan x 1
SIM	-
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset

Expansion

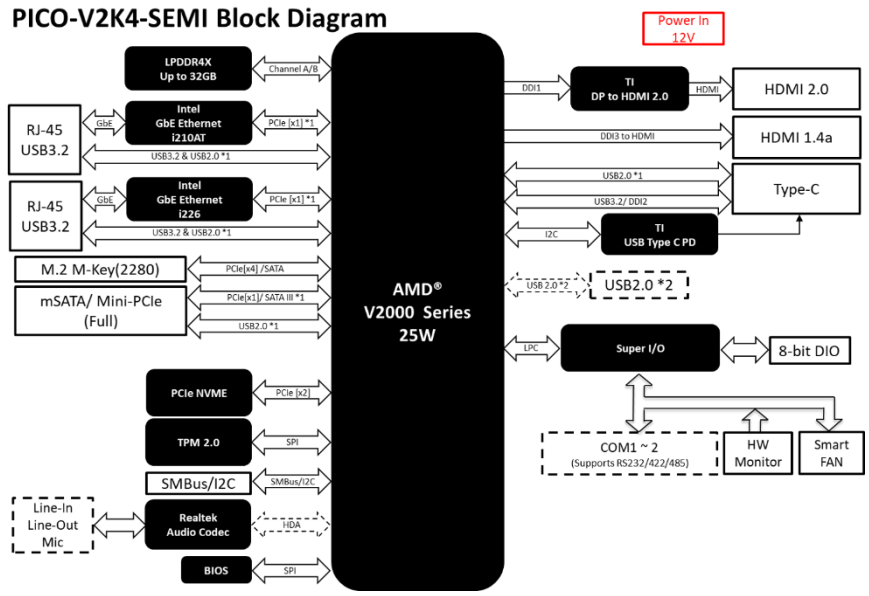
Mini PCI-E/mSATA	mini-PCle (Full) x 1 (PCle [x1] x 1/USB 2.0 as default, mSATA selected by HW BOM)
M.2	M.2 2280 M-Key x 1 (PCle Gen 3 x 4 as default, SATA selected by BIOS)
Others	-

Environment

Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	407,784
EMC	CE/FCC Class A

1.2 Function Block

PICO-V2K4-SEMI Block Diagram

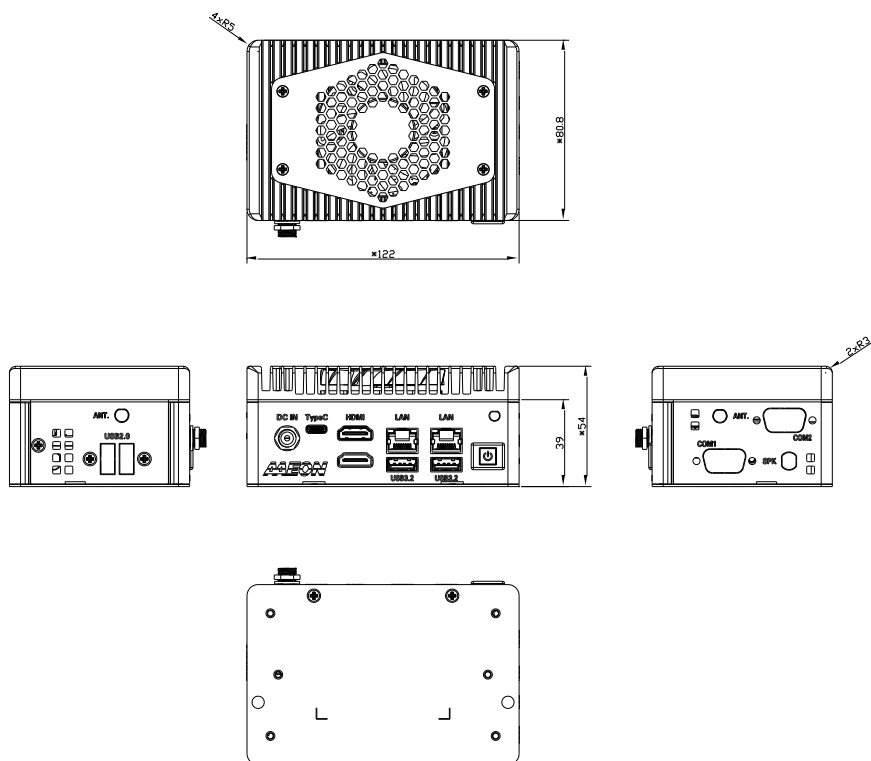


Chapter 2

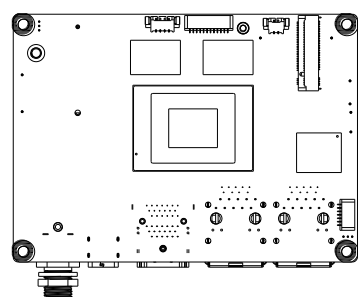
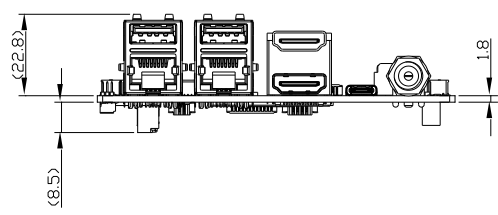
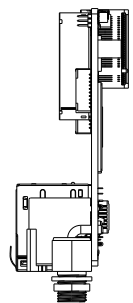
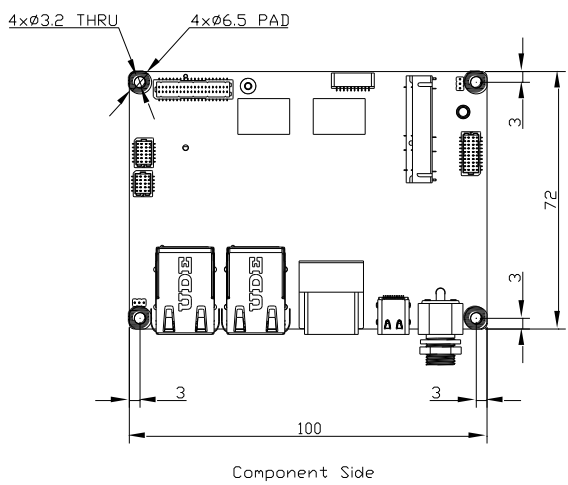
Hardware Information

2.1 Dimensions

System



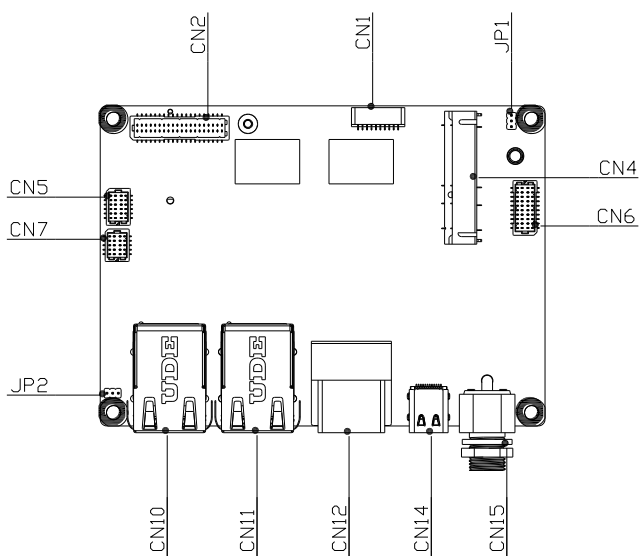
Board



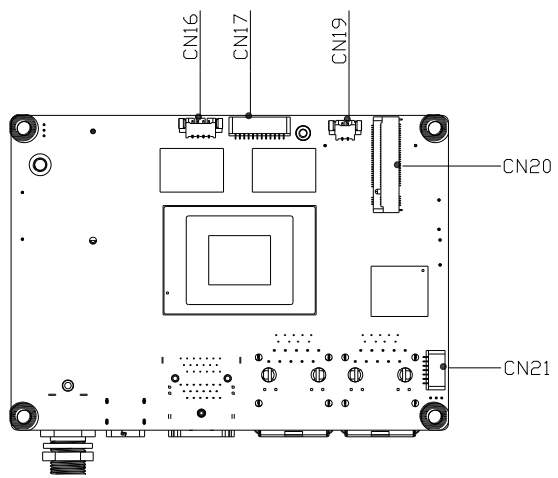
Solder Side

2.2 Jumpers and Connectors

Component Side



Board Side

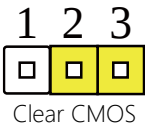
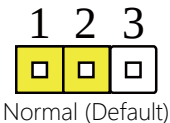


2.3 List of Jumpers

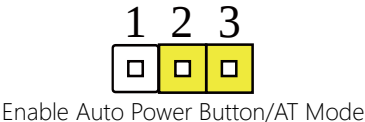
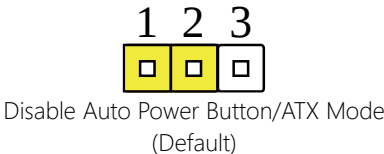
Please refer to the table below for all of the board's jumpers that you can configure for your application

Label	Function
JP1	Clear CMOS Jumper
JP2	Auto Power Button Enable/Disable Selection

2.3.1 Clear CMOS Jumper (JP1)



2.3.2 Auto Power Button Enable/Disable Selection (JP2)

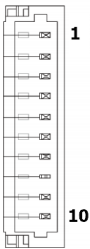


2.4 List of Connectors

Please refer to the table below for all of the board's connectors that you can configure for your application

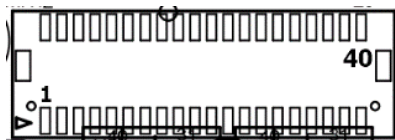
Label	Function
CN1	Front Panel
CN2	COM Port 1/Port 2
CN4	Mini-Card Slot Full size mSATA/mPCIe
CN5	Audio I/O Port
CN6	USB 2.0 Port 1/Port 2
CN7	Digital IO Port
CN10	USB 3.2/USB 2.0 Port 1/LAN (GbE, RJ-45) Port 1
CN11	USB 3.2/USB 2.0 Port 2/LAN (2.5GbE, RJ-45) Port 2
CN12	HDMI Port 1/Port 2
CN14	USB Type C
CN15	DC Jack Connector
CN16	FAN Connector
CN17	LPC Connector
CN19	RTC Battery Connector
CN20	M.2 2280 M-Key Connector
CN21	SPI Flash Programming Port

2.4.1 Front Panel (CN1)



Pin	Pin Name	Signal Type	Signal Level
1	GND	GND	GND
2	EXT_PWRBTN#	IN	
3	SATA_LED-	OUT	
4	SATA_LED+	OUT	
5	BUZZER-	OUT	
6	BUZZER+	OUT	
7	GND	GND	GND
8	PWR_LED+	OUT	
9	GND	GND	GND
10	HWRST#	IN	

2.4.2 COM Port 1/Port 2 (CN2)



COM Port 1/2 RS-232 (Default)

Pin	Pin Name	Signal Type	Signal Level
1	DCD1	IN	
2	DCD2	IN	
3	RX1	IN	
4	RX2	IN	
5	TX1	OUT	±9V
6	TX2	OUT	±9V
7	DTR1	OUT	±9V
8	DTR2	OUT	±9V
9	GND	GND	GND
10	GND	GND	GND
11	DSR1	IN	
12	DSR2	IN	
13	RTS1	OUT	±9V
14	RTS2	OUT	±9V
15	CTS1	IN	
16	CTS2	IN	
17	RI1/ +5V/ +12V	IN/ PWR	+5V/+12V
18	RI2/ +5V/ +12V	IN/ PWR	+5V/+12V
19	NC	NC	NC
20	NC	NC	NC

COM Port 1/2 RS-232 (Default)			
Pin	Pin Name	Signal Type	Signal Level
21	DCD3	IN	
22	DCD4	IN	
23	RX3	IN	
24	RX4	IN	
25	TX3	OUT	±9V
26	TX4	OUT	±9V
27	DTR3	OUT	±9V
28	DTR4	OUT	±9V
29	GND	GND	GND
30	GND	GND	GND
31	DSR3	IN	
32	DSR4	IN	
33	RTS3	OUT	±9V
34	RTS4	OUT	±9V
35	CTS3	IN	
36	CTS4	IN	
37	RI3/ +5V/ +12V	IN/ PWR	+5V/+12V
38	RI4/ +5V/ +12V	IN/ PWR	+5V/+12V
39	NC	NC	NC
40	NC	NC	NC

COM Port 1 RS-422			
Pin	Pin Name	Signal Type	Signal Level
9	GND	GND	GND
1	RS422_TX-	OUT	±9V
3	RS422_TX+	OUT	±9V
5	RS422_RX+	IN	
7	RS422_RX-	IN	

COM Port 1 RS-485			
Pin	Pin Name	Signal Type	Signal Level
9	GND	GND	GND
1	RS485_D-	I/O	±9V
3	RS485_D+	I/O	±9V

Note: COM1 RS-232/422/485 can be set by BIOS setting. Default is RS-232.

Note: COM1 RI/+5V/+12V function can be set by BOM(R30-RI/R40-+12V/R38-+5V).

COM Port 2 RS-422			
Pin	Pin Name	Signal Type	Signal Level
10	GND	GND	GND
2	RS422_TX-	OUT	±9V
4	RS422_TX+	OUT	±9V
6	RS422_RX+	IN	
8	RS422_RX-	IN	

COM Port 2 RS-485			
Pin	Pin Name	Signal Type	Signal Level
10	GND	GND	GND
2	RS485_D-	I/O	±9V
4	RS485_D+	I/O	±9V

Note 1: COM2 RS-232/422/485 can be set by BIOS setting. Default is RS-232.

2.4.3 Mini-Card Slot Full size mSATA/mPCIe (CN4)

Pin	Pin Name	Signal Type	Signal Level
1	PCIE_WAKE#	IN	
2	+3.3V	PWR	+3.3V
3	NC	NC	NC
4	GND	GND	GND
5	NC	NC	NC
6	+1.5V	PWR	+1.5V
7	PCIE_CLK_REQ#	IN	
8	NC	NC	NC
9	GND	GND	GND
10	NC	NC	NC
11	PCIE_REF_CLK-	DIFF	
12	NC	NC	NC
13	PCIE_REF_CLK+	DIFF	
14	NC	NC	NC
15	GND	GND	GND
16	NC	NC	NC

Pin	Pin Name	Signal Type	Signal Level
17	NC	NC	NC
18	GND	GND	GND
19	NC	NC	NC
20	W_DISABLE#	OUT	+3.3V
21	GND	GND	GND
22	PCIE_RST#	OUT	+3.3V
23	PCIE_RX-/SATA_RX+	DIFF	GND
24	+3.3V	PWR	+3.3V
25	PCIE_RX+/SATA_RX-	DIFF	
26	GND	GND	GND
27	GND	GND	GND
28	+1.5V	PWR	+1.5V
29	GND	GND	GND
30	SMB_CLK	I/O	+3.3V
31	PCIE_TX-/SATA_TX-	DIFF	
32	SMB_DATA	I/O	+3.3V
33	PCIE_TX+/SATA_TX+	DIFF	
34	GND	GND	GND
35	GND	GND	GND
36	USB_D-	DIFF	
37	GND	GND	GND
38	USB_D+	DIFF	
39	+3.3V	PWR	+3.3V
40	GND	GND	GND
41	+3.3V	PWR	+3.3V
42	NC	NC	NC

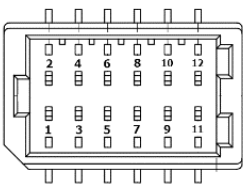
Pin	Pin Name	Signal Type	Signal Level
43	GND	GND	GND
44	NC	NC	NC
45	NC	NC	NC
46	NC	NC	NC
47	NC	NC	NC
48	+1.5V	PWR	+1.5V
49	NC		
50	GND	GND	GND
51	NC	NC	NC
52	+3.3V	PWR	+3.3V

Note: Mini-Card/mSATA function can be set by BOM. Default is mini-PCIE

Mini-PCle: R8983/R8984/R8985/R8986

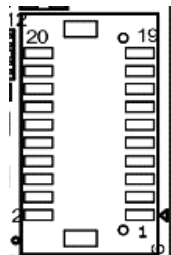
mSATA: C662/C661/C2158/C2159

2.4.4 Audio I/O Port (CN5)



Pin	Pin Name	Signal Type	Signal Level
1	RIGHT_OUT	OUT	
2	MIC_R	IN	
3	LEFT_OUT	OUT	
4	MIC_L	IN	
5	JD_LOUT	IN	
6	JD_MIC	IN	
7	GND_AUDIO	GND	
8	GND_AUDIO	GND	
9	JD_LIN	IN	
10	LINE_R_IN	IN	
11	+5V_AUDIO	PWR	+5V
12	LINE_L_IN	IN	

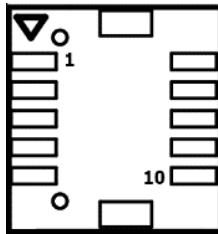
2.4.5 USB 2.0 Port 1/Port 2 (CN6)



Pin	Pin Name	Signal Type	Signal Level
1	+5VSB	PWR	+5V
2	+5VSB	PWR	+5V
3	USB2_2_DN	DIFF	
4	USB2_3_DN	DIFF	
5	USB2_2_DP	DIFF	
6	USB2_3_DP	DIFF	
7	GND	GND	GND
8	GND	GND	GND
9	GND	GND	GND
10	GND	GND	GND
11	+5VSB	PWR	+5V
12	+5VSB	PWR	+5V
13	USB2_6_DN	DIFF	
14	USB2_7_DN	DIFF	
15	USB2_6_DP	DIFF	
16	USB2_7_DP	DIFF	
17	GND	GND	GND

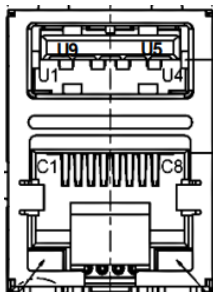
Pin	Pin Name	Signal Type	Signal Level
18	GND	GND	GND
19	GND	GND	GND
20	GND	GND	GND

2.4.6 Digital IO Port (CN7)



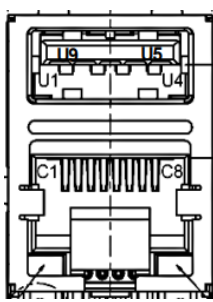
Pin	Pin Name	Signal Type	Signal Level
1	+5V	PWR	+5V
2	DIO_0	IN/OUT	
3	DIO_1	IN/OUT	
4	DIO_2	IN/OUT	
5	DIO_3	IN/OUT	
6	DIO_4	IN/OUT	
7	DIO_5	IN/OUT	
8	DIO_6	IN/OUT	
9	DIO_7	IN/OUT	
10	GND	GND	GND

2.4.7 USB 3.2/USB 2.0 Port 1/LAN (GbE, RJ-45) Port 1 (CN10)



Pin	Pin Name	Signal Type	Signal Level
U1	+5VSB	PWR	+5V
U2	USB2_1_DN	DIFF	
U3	USB2_1_DP	DIFF	
U4	GND	GND	GND
U5	USB3_1_RXN	DIFF	
U6	USB3_1_RXP	DIFF	
U7	GND	GND	GND
U8	USB3_1_TXN	DIFF	
U9	USB3_1_TXP	DIFF	
R2	LAN1_MDIO_P	DIFF	
R3	LAN1_MDIO_N	DIFF	
R4	LAN1_MDI1_P	DIFF	
R5	LAN1_MDI1_N	DIFF	
R6	LAN1_MDI2_P	DIFF	
R7	LAN1_MDI2_N	DIFF	
R8	LAN1_MDI3_P	DIFF	
R9	LAN1_MDI3_N	DIFF	

2.4.8 USB 3.2/USB 2.0 Port 2/LAN (2.5GbE, RJ-45) Port 2 (CN11)



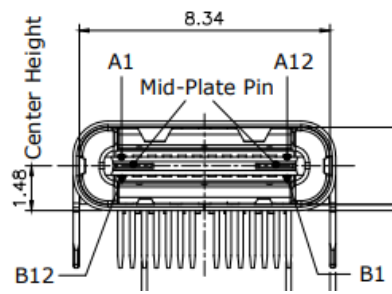
Pin	Pin Name	Signal Type	Signal Level
U1	+5VSB	PWR	+5V
U2	USB2_5_DN	DIFF	
U3	USB2_5_DP	DIFF	
U4	GND	GND	GND
U5	USB3_5_RXN	DIFF	
U6	USB3_5_RXP	DIFF	
U7	GND	GND	GND
U8	USB3_5_TXN	DIFF	
U9	USB3_5_TXP	DIFF	
R2	LAN2_MDI0_P	DIFF	
R3	LAN2_MDI0_N	DIFF	
R4	LAN2_MDI1_P	DIFF	
R5	LAN2_MDI1_N	DIFF	
R6	LAN2_MDI2_P	DIFF	
R7	LAN2_MDI2_N	DIFF	
R8	LAN2_MDI3_P	DIFF	
R9	LAN2_MDI3_N	DIFF	

2.4.9 HDMI Port 1/Port 2 (CN12)

Pin	Pin Name	Signal Type	Signal Level
1	HDMI1_TX2+	DIFF	
2	GND	GND	GND
3	HDMI1_TX2-	DIFF	
4	HDMI1_TX1+	DIFF	
5	GND	GND	GND
6	HDMI1_TX1-	DIFF	
7	HDMI1_TX0+	DIFF	
8	GND	GND	GND
9	HDMI1_TX0-	DIFF	
10	HDMI1_CLK+	DIFF	
11	GND	GND	GND
12	HDMI1_CLK-	DIFF	
13	NC		
14	NC		
15	DDC1_CLK	I/O	+5V
16	DDC1_DATA	I/O	+5V
17	GND	GND	GND
18	+5V	PWR	+5V
19	HDMI1_HPD		
20	HDMI2_TX2+	DIFF	
21	GND	GND	GND
22	HDMI2_TX2-	DIFF	
23	HDMI2_TX1+	DIFF	
24	GND	GND	GND

Pin	Pin Name	Signal Type	Signal Level
25	HDMI2_TX1-	DIFF	
26	HDMI2_TX0+	DIFF	
27	GND	GND	GND
28	HDMI2_TX0-	DIFF	
29	HDMI2_CLK+	DIFF	
30	GND	GND	GND
31	HDMI2_CLK-	DIFF	
32	NC		
33	NC		
34	DDC2_CLK	I/O	+5V
35	DDC2_DATA	I/O	+5V
36	GND	GND	GND
37	+5V	PWR	+5V
38	HDMI2_HPD		

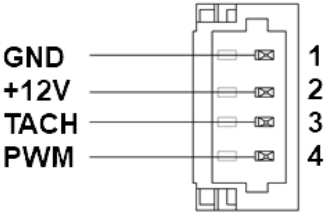
2.4.10 USB Type C (CN14)



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

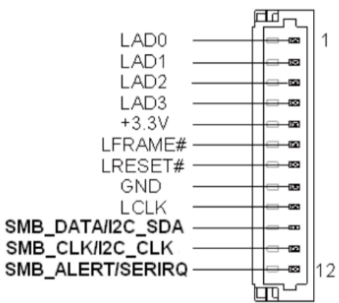
Pin	Pin Name	Signal Type	Signal Level
B7	USB_P0_DN_C	DIFF	
B8	DP2_AUXN_CON	DIFF	
B9	+5VSB	PWR	+5V
B10	SSRXN1	DIFF	
B11	SSRXP1	DIFF	
B12	GND	GND	GND

2.4.11 FAN Connector (CN16)



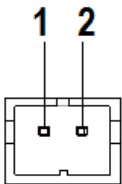
Pin	Pin Name	Signal Type	Signal Level
1	GND	GND	GND
2	+V12S	PWR	+12V
3	TACH	IN	
4	PWM	OUT	

2.4.12 LPC Connector (CN17)



Pin	Pin Name	Signal Type	Signal Level
1	LAD0	IN/OUT	+3.3V
2	LAD1	IN/OUT	+3.3V
3	LAD2	IN/OUT	+3.3V
4	LAD3	IN/OUT	+3.3V
5	+V3P3S	PWR	+3.3V
6	LFRAME#	IN	
7	LRESET#	OUT	+3.3V
8	GND	GND	GND
9	LPC_CLK	OUT	
10	SMB_DATA/ I2C_SDA	IN/OUT	
11	SMB_CLK/ I2C_CLK	OUT	
12	SMB_ALERT/ INT_SERIRQ	IN	+3.3V

2.4.13 RTC Battery Connector (CN19)

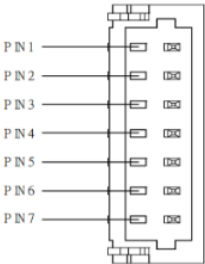


Pin	Pin Name	Signal Type	Signal Level
1	+3.3V	PWR	+3.3V
2	GND	GND	GND

2.4.14 M.2 2280 M-Key Connector (CN20)

Standard specifications.

2.4.15 SPI Flash Programming Port (CN21)



Pin	Pin Name	Signal Type	Signal Level
1	SPI_MISO	OUT	
2	GND	GND	GND
3	SPI_CLK	IN	

Pin	Pin Name	Signal Type	Signal Level
4	+1.8VSB	PWR	+1.8V
5	SPI_MOSI	IN	
6	SPI_CS	IN	
7	NC		

Chapter 3

AMI BIOS Setup

3.1 System Test and Initialization

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

System configuration verification

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

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

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

The PICO-V2K4-SEMI CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs down.

3.2 AMI BIOS Setup

The AMI BIOS ROM has a pre-installed Setup program that allows users to modify basic system configurations. These configurations are stored in the battery-backed CMOS RAM and BIOS NVRAM so the information is retained when power is turned off.

To enter BIOS Setup, turn on the system and immediately press or <ESC>.

The following BIOS menus and their functions are listed below.

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

Advanced: Enable/disable boot options for legacy network devices.

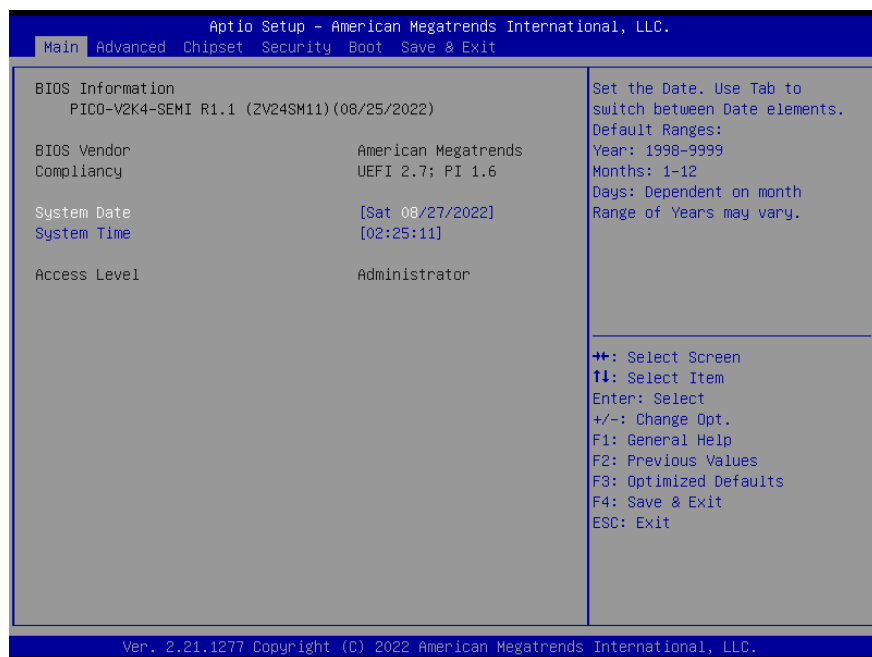
Chipset: Host bridge parameters.

Boot: Enable/disable quiet boot option.

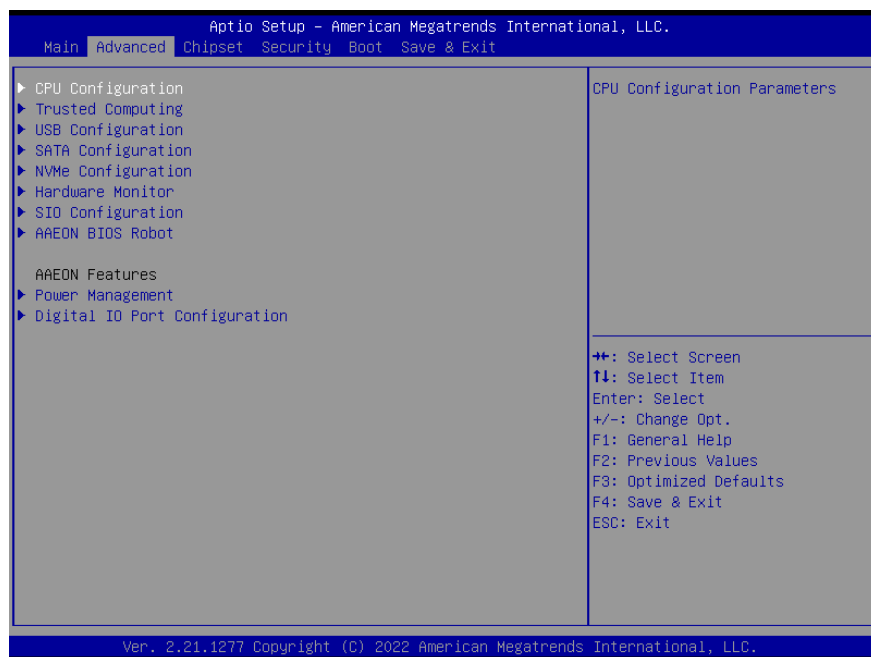
Security: Set setup administrator password.

Save & Exit: Save changes to BIOS settings and exit BIOS program. Note: The system may need to restart for some changes to take effect.

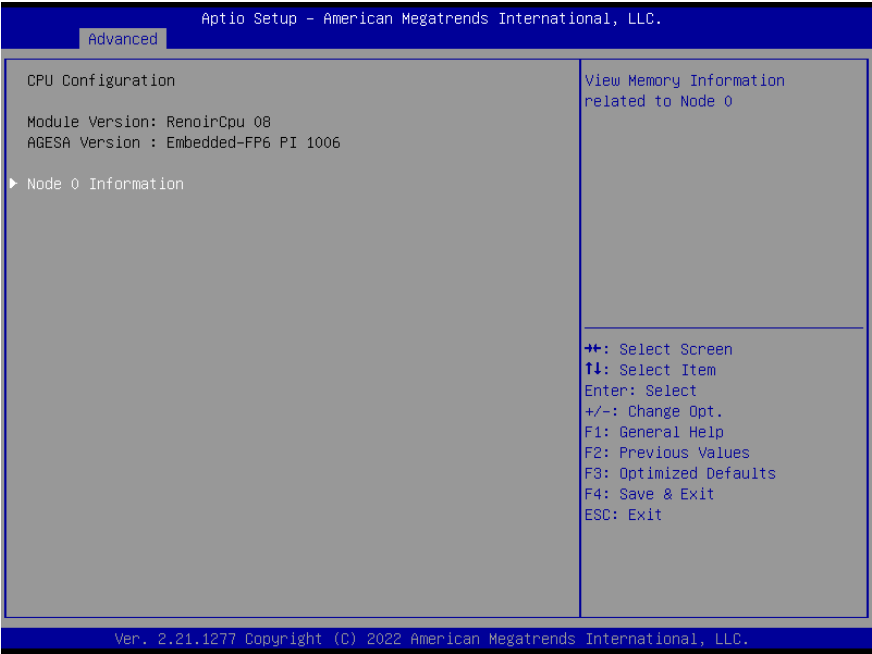
3.3 Setup Submenu: Main



3.4 Setup Submenu: Advanced



3.4.1 CPU Configuration



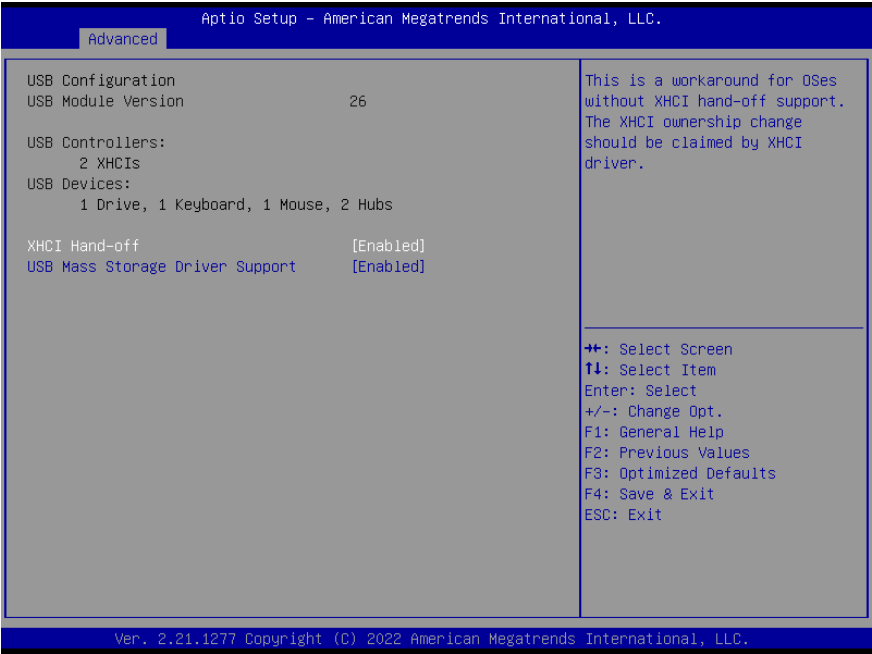
3.4.2 Trusted Computing



Options summary:		
Security Device Support	Enable	Optimal Default, Failsafe Default
	Disable	
Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.		
SHA-1 PCR Bank	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enable or Disable SHA-1 PCR Bank		
SHA256 PCR Bank	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable SHA256 PCR Bank.		
SHA384 PCR Bank	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable SHA384 PCR Bank.		
SM3_256 PCR Bank	Enabled	Optimal Default, Failsafe Default
	Disabled	

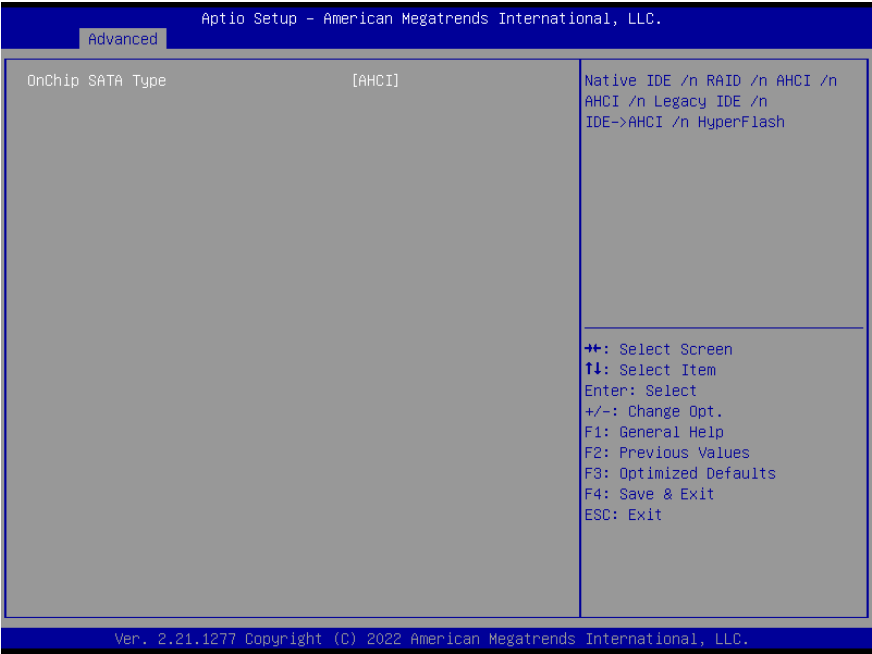
Options summary:		
Enable or Disable SM3_256 PCR Bank		
Pending operation	None	Optimal Default, Failsafe Default
	TPM Clear	
Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device.		
Platform	Enabled	Optimal Default, Failsafe Default
Hierarchy	Disabled	
Enable or Disable Platform Hierarchy		
Storage Hierarchy	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable Storage Hierarchy		
Endorsement Hierarchy	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable or Disable Endorsement Hierarchy		
TPM 2.0 UEFI	TCG_2	Optimal Default, Failsafe Default
Spec Version	TCG_1.2	
Select the TCH2 Spec Version Support.		
TCG_1.2: The Compatible mode for Win8/Win10		
TCG_2: Support new TCG2 protocol and event format for Win10 or later		
Physical Presence	1.3	Optimal Default, Failsafe Default
Spec Version	1.2	
Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3		
Device Select	Auto	Optimal Default, Failsafe Default
	TPM 1.2	
	TPM 2.0	
TPM 1.2 will restrict support to TPM 1.2 devices, TPM 2.0 will restrict support to TPM 2.0 devices, Auto will support both with the default set to TPM 2.0 devices if not found, TPM 1.2 devices will be enumerated.		
Disable Block Sid	Disabled	Optimal Default, Failsafe Default
	Enabled	
Override to allow SID authentication in TCG Storage device		

3.4.3 USB Configuration

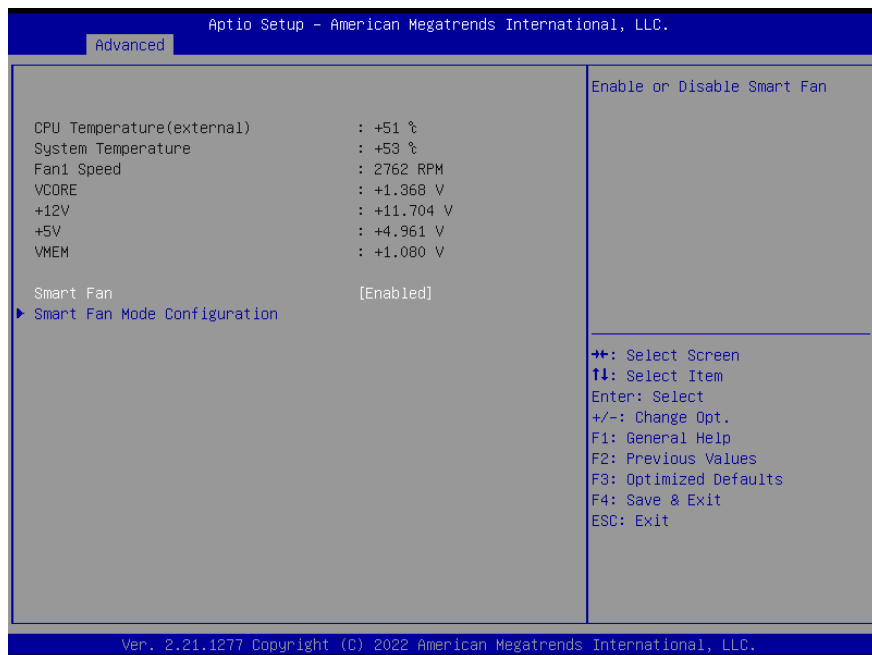


Options summary:		
XHCI Hand-off	Enabled	Optimal Default, Failsafe Default
	Disabled	
This is a workaround for Oses without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.		
USB Mass Storage Driver Support	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enable/Disable USB Mass Storage Driver Support.		

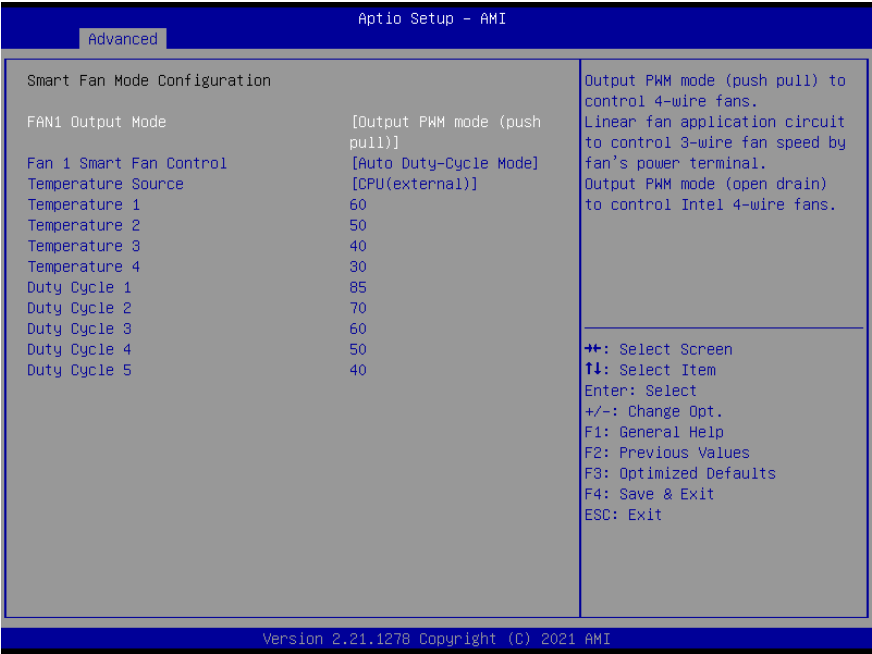
3.4.4 SATA Configuration



3.4.5 Hardware Monitor

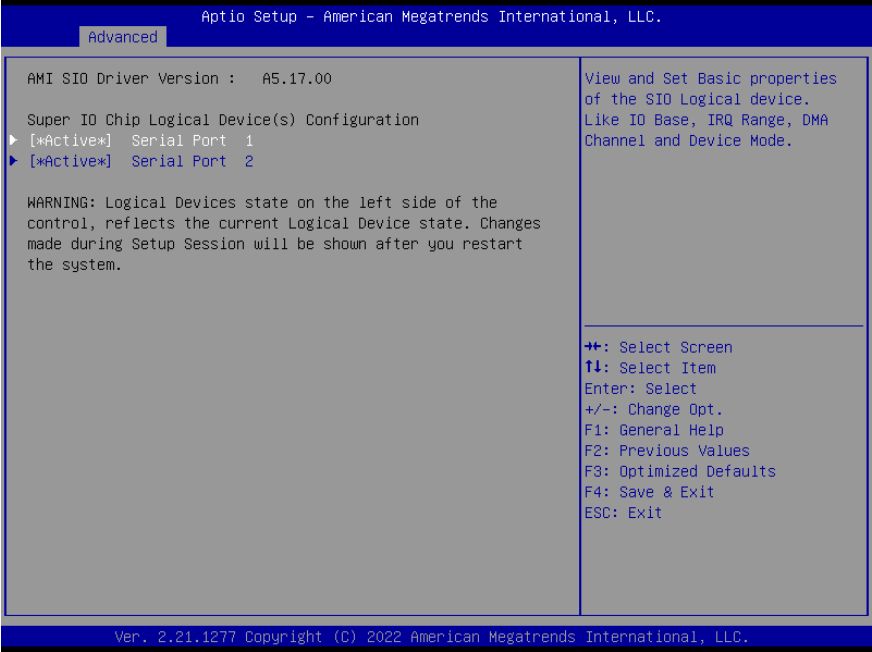


3.4.5.1 Smart Fan Mode Configuration

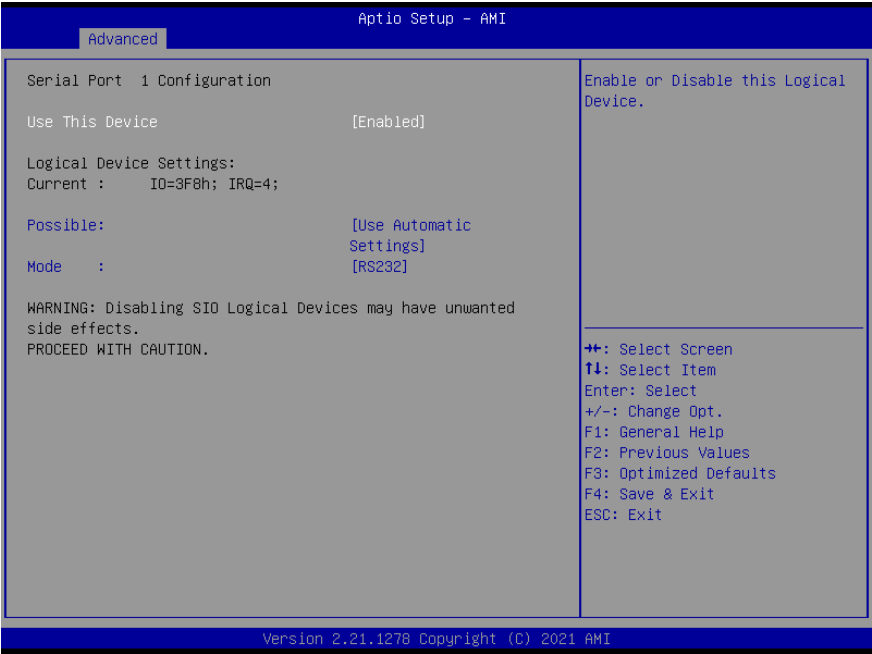


Options summary:		
Fan1 Output Mode	Output PWM mode (push pull)	Optimal Default, Failsafe Default
Output PWM mode (push pull) to control 4-wire fans. Linear fan application circuit to control 3-wire fan speed by fan's power terminal. Output PWM mode (open drain) to control Intel 4-wire fans.		
Fan1 Smart Fan control	Manual Duty Mode	
	Auto Duty-Cycle Mode	Optimal Default, Failsafe Default
Smart Fan Mode select		
Manual Duty Mode	60	Optimal Default, Failsafe Default
Manual mode fan control, user can write expected duty cycle (PWM fan type) 1-100		

3.4.6 SIO Configuration



3.4.6.1 Serial Port Configuration



Options summary:		
Use This Device	Disabled	
	Enabled	Optimal Default, Failsafe Default
En/Disable Serial Port (COM)		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=2F8; IRQ=3;	
	IO=3F8; IRQ=4;	
Select an optimal setting for IO device		
mode	RS232	Optimal Default, Failsafe Default
	RS422	
	RS485	
UART RS232/422/485 selection		

3.4.7 AAEON BIOS Robot



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

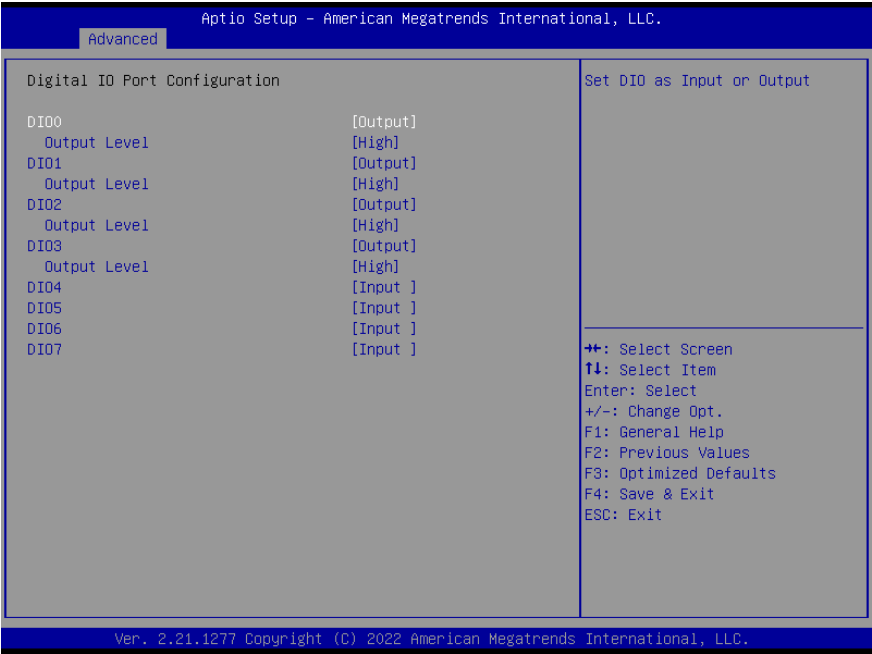
Options summary:		
Enabled - Robot set Watch Dog Timer (WDT) after POST completion, before BIOS transfer control to OS. WARNING: Before enabling this function, a program in OS must be in responsible for clearing WDT. Also, this function should be disabled if OS is going to update itself.		
OS Timer (minute)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

3.4.8 Power Management



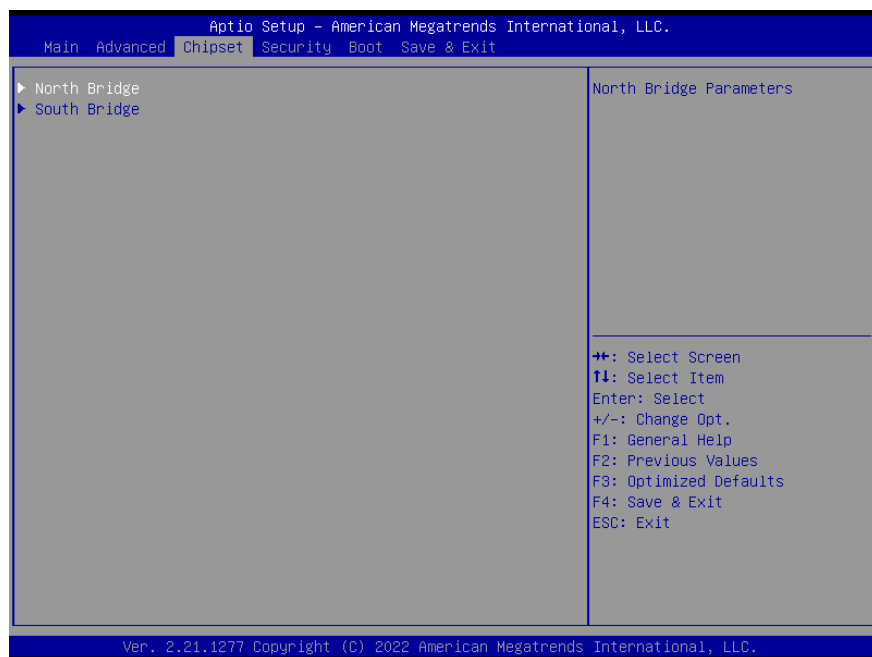
Options summary:		
Power Mode	ATX Type	Optimal Default, Failsafe Default
	AT Type	
Select power supply mode.		
Restore AC Power Loss	Last State	Optimal Default, Failsafe Default
	Always On	
	Always Off	
Select power state when power is re-applied after a power failure.		
RTC wake system from S5	Disabled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

3.4.9 Digital IO Port Configuration



Options summary:		
DIO Port0~7	Output	Optimal Default, Failsafe Default
	Input	
Set DIO as Input or Output.		
Output Level	High	Optimal Default, Failsafe Default
	Low	
Set output level when DIO pin is output.		

3.5 Setup Submenu: Chipset



3.5.1 North Bridge



3.5.1.1 North Bridge Configuration



3.6 Setup Submenu: Security



Change User/Administrator Password

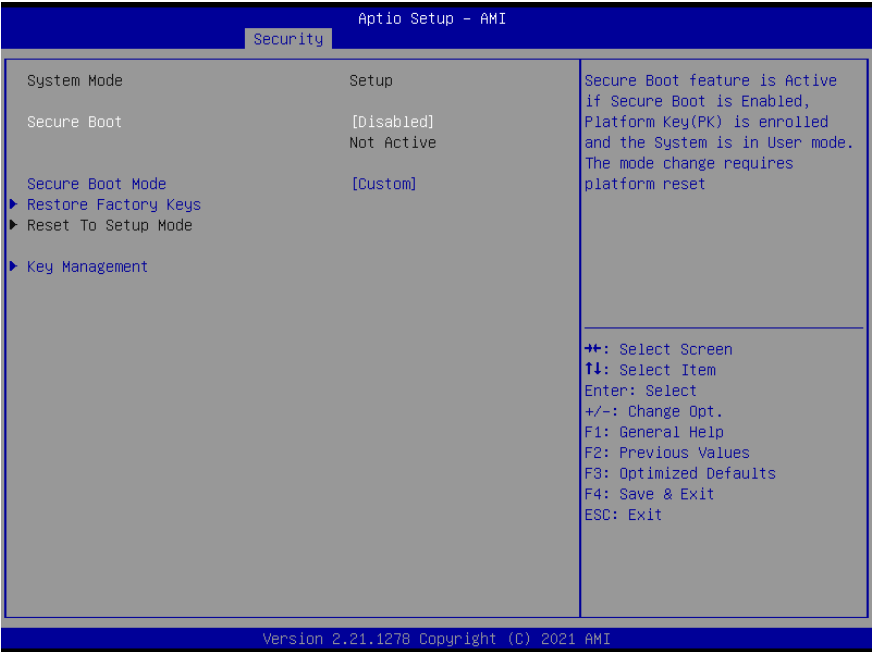
You can set an Administrator Password or User Password. An Administrator Password must be set before you can set a User Password. The password will be required during boot up, or when the user enters the Setup utility. A User Password does not provide access to many of the features in the Setup utility.

Select the password you wish to set, and press Enter. In the dialog box, enter your password (must be between 3 and 20 letters or numbers). Press Enter and retype your password to confirm. Press Enter again to set the password.

Removing the Password

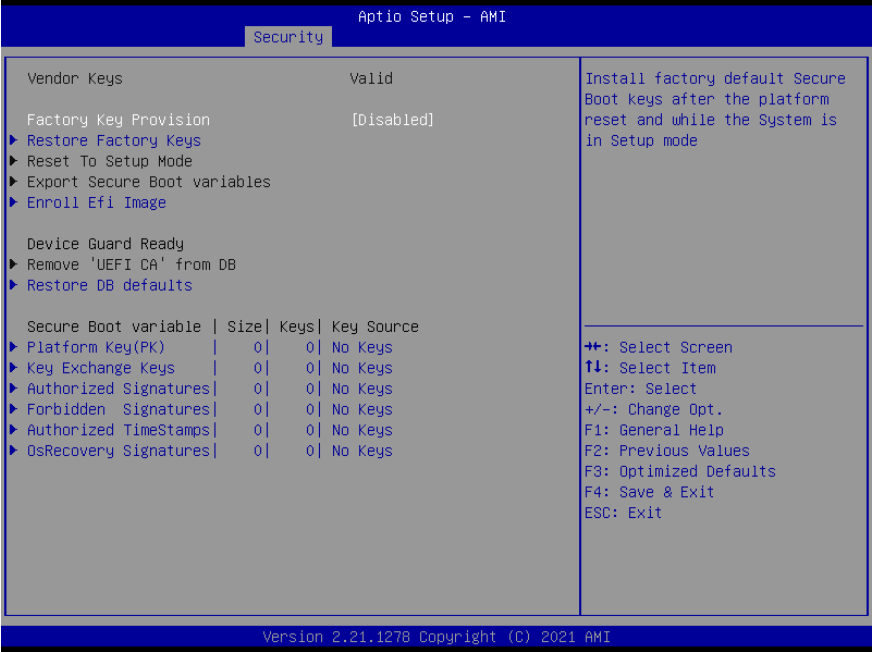
Select the password you want to remove and enter the current password. At the next dialog box press Enter to disable password protection.

3.6.1 Secure Boot



Options summary:		
Secure Boot	Disabled	Optimal Default, Failsafe Default
	Enabled	
Secure Boot feature is Active if Secure Boot is Enabled, Platform Key(PLK) is enrolled and the System is in User mode. The mode change requires platform reset		
Secure Boot Mode	Standard	
	Custom	Optimal Default, Failsafe Default
Secure Boot mode options: Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication		
Restore Factory Keys	Force System to User Mode. Install factory default Secure Boot key databases.	
Reset to Setup Mode	Delete all Secure Boot key databases from NVRAM	

3.6.1.1 Key Management



Options summary:		
Factory Key Provision	Disabled	Optimal Default, Failsafe Default
	Enabled	
Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode.		
Restore Factory Keys	Force System to User Mode. Install factory default Secure Boot key databases.	
Reset to Setup Mode	Delete all Secure Boot key databases from NVRAM.	
Export Secure Boot variables	Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device.	
Enroll Efi Image	Allow the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).	

Options summary:	
Remove 'UEFI CA' from DB	Device Guard ready system must not list 'Microsoft UEFI CA' Certificate in Authorized Signature database (db).
Restore DB defaults	Restore DB variable to factory defaults.

Secure Boot Variables

Enroll Factory Defaults or load certificates from a file:

1. Public Key Certificate in:

- EFI_SIGNATURE_LIST
- EFI_CERT_X509 (DER encoded)
- EFI_CERT_RSA2048 (bin)
- EFI_CERT_SHAXXX

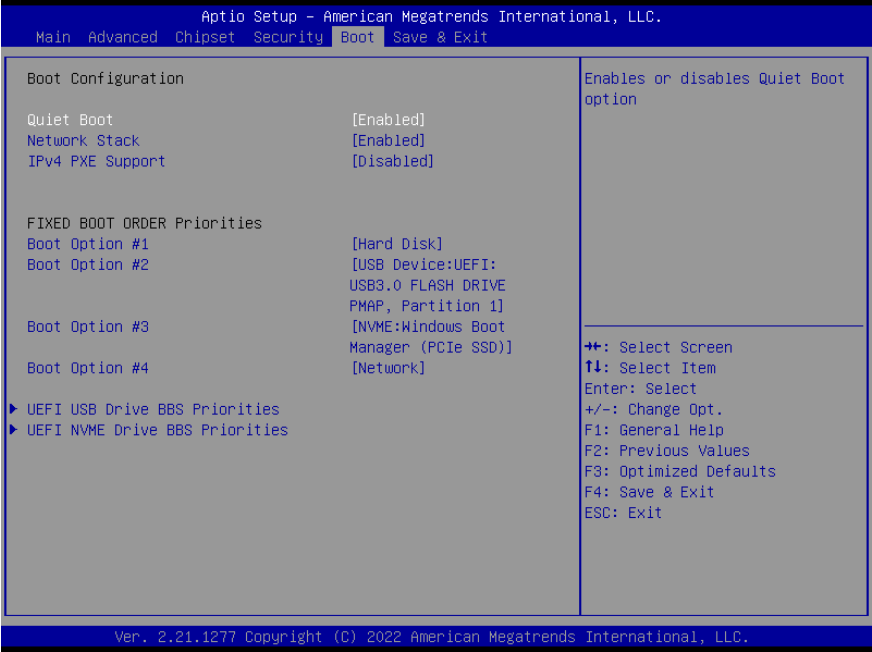
2. Authenticated UEFI Variable

3. EFI PE/COFF Image (SHA256)

Key Source:

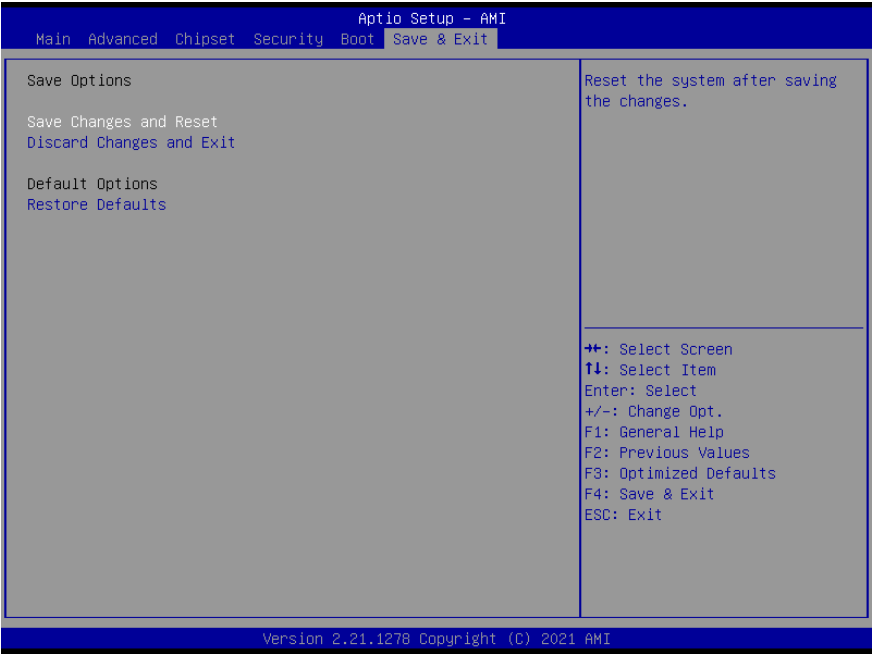
Default, External, Mixed

3.7 Setup Submenu: Boot



Options summary:		
Quiet Boot	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable or Disable Quiet Boot option.		
Network Stack	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disable UEFI Network Stack.		
IPv4 PXE Support	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enable/Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.		
FIXED BOOT ORDER Priorities		Sets the system boot order

3.8 Setup Submenu: Save & Exit



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

Chapter 4

Drivers Installation

4.1 Drivers Download and Installation

Drivers for the PICO-V2K4-SEMI can be downloaded from the product page on the AAEON website by following this link:

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

Download the driver(s) you need and extract the folder(s) to your local drive or removable storage, then follow the steps below to install them.

Step 1 – Install Chipset Driver

1. Open the **AMD Chipset** folder.
2. Run the **AMD_Chipset_Software.exe** file.
3. Follow the instructions
4. Drivers will be installed automatically

Step 2 – Install Graphics Driver

1. Open the **AMD Graphics** folder.
2. Run the **Setup.exe** file.
3. Follow the instructions
4. Driver will be installed automatically

Step 3 – Install LAN Driver

1. Open the **LAN** folder.
2. Run the **PROWinx64.exe** file
3. Follow the instructions
4. Driver will be installed automatically

Step 4 – Install Audio Driver

1. Open the **Realtek Audio** folder.
2. Run the **Setup.exe** file
3. Follow the instructions
4. Driver will be installed automatically

Appendix A

Mating Connectors

A.1 List of Mating Connectors and Cables

The following table lists mating connectors and available cables.

Function	Description	Mating Connector		Available Cable	Mating Cable P/N
		Vendor	Model no		
CN1	Front Panel	JST	SHR-10V-S-B	Front Panel Cable	170X000582
CN2	COM Port*2	ACES	50247-040H0H0-001	Dual COM Port Cable	170X000568
CN5	Audio with detect	ACES	50247-012H0H0-001	Audio cable	170X000482
CN6	USB 2.0	ACES	50247-020H0H0-001	USB2.0 Cable	170X000576
CN7	DIO	ACES	50247-010H0H0-001	N/A	N/A
CN17	eSPI/ LPC Connector	JST	SHR-12V-S-B	LPC debug Cable	1703120130
CN19	Battery	Molex	51021-0200	Battery Cable	175011301K

Appendix B

I/O Information

B.1 I/O Address Map

>		Direct memory access (DMA)	
▼		Input/output (IO)	
		[0000000000000000 - 000000000000000F]	Direct memory access controller
		[0000000000000000 - 00000000000003AF]	PCI Express Root Complex
		[0000000000000010 - 000000000000001F]	Motherboard resources
		[0000000000000020 - 0000000000000021]	Programmable interrupt controller
		[0000000000000022 - 000000000000003F]	Motherboard resources
		[0000000000000040 - 0000000000000043]	System timer
		[0000000000000061 - 0000000000000061]	System speaker
		[0000000000000063 - 0000000000000063]	Motherboard resources
		[0000000000000065 - 0000000000000065]	Motherboard resources
		[0000000000000067 - 000000000000006F]	Motherboard resources
		[0000000000000070 - 0000000000000071]	System CMOS/real time clock
		[0000000000000072 - 000000000000007F]	Motherboard resources
		[0000000000000080 - 0000000000000080]	Motherboard resources
		[0000000000000081 - 0000000000000083]	Direct memory access controller
		[0000000000000084 - 0000000000000086]	Motherboard resources
		[0000000000000087 - 0000000000000087]	Direct memory access controller
		[0000000000000088 - 0000000000000088]	Motherboard resources
		[0000000000000089 - 000000000000008B]	Direct memory access controller
		[000000000000008C - 000000000000008E]	Motherboard resources
		[000000000000008F - 000000000000008F]	Direct memory access controller
		[0000000000000090 - 000000000000009F]	Motherboard resources
		[00000000000000A0 - 00000000000000A1]	Programmable interrupt controller
		[00000000000000A2 - 00000000000000BF]	Motherboard resources
		[00000000000000B1 - 00000000000000B1]	Motherboard resources
		[00000000000000C0 - 00000000000000DF]	Direct memory access controller
		[00000000000000E0 - 00000000000000EF]	Motherboard resources
		[00000000000002E8 - 00000000000002EF]	Communications Port (COM4)
		[00000000000002F8 - 00000000000002FF]	Communications Port (COM2)
		[00000000000003B0 - 00000000000003DF]	PCI Express Root Complex
		[00000000000003E0 - 0000000000000CF7]	PCI Express Root Complex
		[00000000000003E8 - 00000000000003EF]	Communications Port (COM3)
		[00000000000003F8 - 00000000000003FF]	Communications Port (COM1)
		[000000000000040B - 000000000000040B]	Motherboard resources
		[00000000000004D0 - 00000000000004D1]	Motherboard resources
		[00000000000004D6 - 00000000000004D6]	Motherboard resources
		[0000000000000800 - 000000000000089F]	Motherboard resources
		[0000000000000900 - 000000000000090F]	Motherboard resources
		[0000000000000910 - 000000000000091F]	Motherboard resources
		[0000000000000A00 - 0000000000000A0F]	Motherboard resources
		[0000000000000A10 - 0000000000000A1F]	Motherboard resources

	[000000000000008C - 000000000000008E] Motherboard resources
	[000000000000008F - 000000000000008F] Direct memory access controller
	[0000000000000090 - 000000000000009F] Motherboard resources
	[00000000000000A0 - 00000000000000A1] Programmable interrupt controller
	[00000000000000A2 - 00000000000000BF] Motherboard resources
	[00000000000000B1 - 00000000000000B1] Motherboard resources
	[00000000000000C0 - 00000000000000DF] Direct memory access controller
	[00000000000000E0 - 00000000000000EF] Motherboard resources
	[00000000000002E8 - 00000000000002EF] Communications Port (COM4)
	[00000000000002F8 - 00000000000002FF] Communications Port (COM2)
	[00000000000003B0 - 00000000000003DF] PCI Express Root Complex
	[00000000000003E0 - 0000000000000CF7] PCI Express Root Complex
	[00000000000003E8 - 00000000000003EF] Communications Port (COM3)
	[00000000000003F8 - 00000000000003FF] Communications Port (COM1)
	[000000000000040B - 000000000000040B] Motherboard resources
	[00000000000004D0 - 00000000000004D1] Motherboard resources
	[00000000000004D6 - 00000000000004D6] Motherboard resources
	[0000000000000800 - 000000000000089F] Motherboard resources
	[0000000000000900 - 000000000000090F] Motherboard resources
	[0000000000000910 - 000000000000091F] Motherboard resources
	[0000000000000A00 - 0000000000000A0F] Motherboard resources
	[0000000000000A10 - 0000000000000A1F] Motherboard resources
	[0000000000000A20 - 0000000000000A2F] Motherboard resources
	[0000000000000B00 - 0000000000000B0F] Motherboard resources
	[0000000000000B20 - 0000000000000B3F] Motherboard resources
	[0000000000000C00 - 0000000000000C01] Motherboard resources
	[0000000000000C14 - 0000000000000C14] Motherboard resources
	[0000000000000C50 - 0000000000000C51] Motherboard resources
	[0000000000000C52 - 0000000000000C52] Motherboard resources
	[0000000000000C6C - 0000000000000C6C] Motherboard resources
	[0000000000000C6F - 0000000000000C6F] Motherboard resources
	[0000000000000CD0 - 0000000000000CD1] Motherboard resources
	[0000000000000CD2 - 0000000000000CD3] Motherboard resources
	[0000000000000CD4 - 0000000000000CD5] Motherboard resources
	[0000000000000CD6 - 0000000000000CD7] Motherboard resources
	[0000000000000CD8 - 0000000000000CDF] Motherboard resources
	[0000000000000D00 - 000000000000FFFF] PCI Express Root Complex
	[0000000000000E00 - 000000000000EFFF] PCI Express Root Port
	[0000000000000EF00 - 000000000000EFFF] AMD Radeon(TM) Graphics
	[0000000000000F000 - 000000000000FFFF] PCI Express Root Port

>  Interrupt request (IRQ)

>  Memory

B.2 Memory Address Map

>	Input/output (IO)
>	Interrupt request (IRQ)
▼	Memory
	[0000000000A0000 - 0000000000BFFFF] PCI Express Root Complex
	[0000000000C0000 - 0000000000DFFFF] PCI Express Root Complex
	[0000000000D000000 - 00000000DFFFFFF] AMD Radeon(TM) Graphics
	[00000000D0000000 - 00000000E01FFFF] PCI Express Root Port
	[00000000D0000000 - 00000000FE8FFFF] PCI Express Root Complex
	[00000000E0000000 - 00000000E01FFFF] AMD Radeon(TM) Graphics
	[00000000F0000000 - 00000000F7FFFFF] System board
	[00000000FD000000 - 00000000FDFFFFFF] Motherboard resources
	[00000000FE400000 - 00000000FE4FFFF] AMD Sensor Fusion Hub
	[00000000FE400000 - 00000000FE8FFFF] PCI Express Root Port
	[00000000FE500000 - 00000000FE5FFFF] AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	[00000000FE600000 - 00000000FE6FFFF] AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	[00000000FE700000 - 00000000FE7FFFF] AMD PSP 10.0 Device
	[00000000FE800000 - 00000000FE8FFFF] AMD Radeon(TM) Graphics
	[00000000FE880000 - 00000000FE8BFFF] AMD Audio CoProcessor
	[00000000FE8F0000 - 00000000FE8FFFF] High Definition Audio Controller
	[00000000FE8F8000 - 00000000FE8BFFF] High Definition Audio Controller
	[00000000FE8FC000 - 00000000FE8DFFF] AMD Sensor Fusion Hub
	[00000000FE8FE000 - 00000000FE8FFFF] AMD PSP 10.0 Device
	[00000000FE900000 - 00000000FE91FFF] Intel(R) I210 Gigabit Network Connection
	[00000000FE900000 - 00000000FE9FFFF] PCI Express Root Port
	[00000000FE920000 - 00000000FE93FFF] Intel(R) I210 Gigabit Network Connection
	[00000000FEA00000 - 00000000FEA03FFF] Standard NVM Express Controller
	[00000000FEA00000 - 00000000FEAFFFF] PCI Express Root Port
	[00000000FEB80000 - 00000000FEBFFFF] Motherboard resources
	[00000000FEC00000 - 00000000FEC0FFF] Motherboard resources
	[00000000FEC01000 - 00000000FEC01FFF] Motherboard resources
	[00000000FEC10000 - 00000000FEC10FFF] AMD Embedded SPI Flash
	[00000000FEC10000 - 00000000FEC10FFF] Motherboard resources
	[00000000FED00000 - 00000000FED003FF] High precision event timer
	[00000000FED40000 - 00000000FED44FFF] Trusted Platform Module 2.0
	[00000000FED80000 - 00000000FED8FFFF] Motherboard resources
	[00000000FED81200 - 00000000FED812FF] AMD GPIO Controller
	[00000000FED81500 - 00000000FED818FF] AMD GPIO Controller
	[00000000FEDC0000 - 00000000FEDC0FFF] Motherboard resources
	[00000000FEDC2000 - 00000000FEDC2FFF] AMD I2C Controller
	[00000000FEE00000 - 00000000FEE00FFF] Motherboard resources
	[00000000FEE00000 - 00000000FFFFFFF] PCI Express Root Complex
	[00000000FF000000 - 00000000FFFFFFF] Motherboard resources

B.3 IRQ Mapping Chart

>		Direct memory access (DMA)
>		Input/output (IO)
✓		Interrupt request (IRQ)
		(ISA) 0x00000000 (00) High precision event timer
		(ISA) 0x00000000 (00) System timer
		(ISA) 0x00000003 (03) Communications Port (COM2)
		(ISA) 0x00000004 (04) Communications Port (COM1)
		(ISA) 0x00000007 (07) AMD GPIO Controller
		(ISA) 0x00000008 (08) High precision event timer
		(ISA) 0x0000000A (10) AMD I2C Controller
		(ISA) 0x0000000B (11) Communications Port (COM3)
		(ISA) 0x0000000B (11) Communications Port (COM4)
		(ISA) 0x00000037 (55) Microsoft ACPI-Compliant System
		(ISA) 0x00000038 (56) Microsoft ACPI-Compliant System
		(ISA) 0x00000039 (57) Microsoft ACPI-Compliant System
		(ISA) 0x0000003A (58) Microsoft ACPI-Compliant System
		(ISA) 0x0000003B (59) Microsoft ACPI-Compliant System
		(ISA) 0x0000003C (60) Microsoft ACPI-Compliant System
		(ISA) 0x0000003D (61) Microsoft ACPI-Compliant System
		(ISA) 0x0000003E (62) Microsoft ACPI-Compliant System
		(ISA) 0x0000003F (63) Microsoft ACPI-Compliant System
		(ISA) 0x00000040 (64) Microsoft ACPI-Compliant System
		(ISA) 0x00000041 (65) Microsoft ACPI-Compliant System
		(ISA) 0x00000042 (66) Microsoft ACPI-Compliant System
		(ISA) 0x00000043 (67) Microsoft ACPI-Compliant System
		(ISA) 0x00000044 (68) Microsoft ACPI-Compliant System
		(ISA) 0x00000045 (69) Microsoft ACPI-Compliant System
		(ISA) 0x00000046 (70) Microsoft ACPI-Compliant System
		(ISA) 0x00000047 (71) Microsoft ACPI-Compliant System
		(ISA) 0x00000048 (72) Microsoft ACPI-Compliant System
		(ISA) 0x00000049 (73) Microsoft ACPI-Compliant System
		(ISA) 0x0000004A (74) Microsoft ACPI-Compliant System
		(ISA) 0x0000004B (75) Microsoft ACPI-Compliant System
		(ISA) 0x0000004C (76) Microsoft ACPI-Compliant System
		(ISA) 0x0000004D (77) Microsoft ACPI-Compliant System
		(ISA) 0x0000004E (78) Microsoft ACPI-Compliant System
		(ISA) 0x0000004F (79) Microsoft ACPI-Compliant System
		(ISA) 0x00000050 (80) Microsoft ACPI-Compliant System
		(ISA) 0x00000051 (81) Microsoft ACPI-Compliant System
		(ISA) 0x00000052 (82) Microsoft ACPI-Compliant System
		(ISA) 0x00000053 (83) Microsoft ACPI-Compliant System
		(ISA) 0x00000054 (84) Microsoft ACPI-Compliant System

	(ISA) 0x00000054 (84)	Microsoft ACPI-Compliant System
	(ISA) 0x00000055 (85)	Microsoft ACPI-Compliant System
	(ISA) 0x00000056 (86)	Microsoft ACPI-Compliant System
	(ISA) 0x00000057 (87)	Microsoft ACPI-Compliant System
	(ISA) 0x00000058 (88)	Microsoft ACPI-Compliant System
	(ISA) 0x00000059 (89)	Microsoft ACPI-Compliant System
	(ISA) 0x0000005A (90)	Microsoft ACPI-Compliant System
	(ISA) 0x0000005B (91)	Microsoft ACPI-Compliant System
	(ISA) 0x0000005C (92)	Microsoft ACPI-Compliant System
	(ISA) 0x0000005D (93)	Microsoft ACPI-Compliant System
	(ISA) 0x0000005E (94)	Microsoft ACPI-Compliant System
	(ISA) 0x0000005F (95)	Microsoft ACPI-Compliant System
	(ISA) 0x00000060 (96)	Microsoft ACPI-Compliant System
	(ISA) 0x00000061 (97)	Microsoft ACPI-Compliant System
	(ISA) 0x00000062 (98)	Microsoft ACPI-Compliant System
	(ISA) 0x00000063 (99)	Microsoft ACPI-Compliant System
	(ISA) 0x00000064 (100)	Microsoft ACPI-Compliant System
	(ISA) 0x00000065 (101)	Microsoft ACPI-Compliant System
	(ISA) 0x00000066 (102)	Microsoft ACPI-Compliant System
	(ISA) 0x00000067 (103)	Microsoft ACPI-Compliant System
	(ISA) 0x00000068 (104)	Microsoft ACPI-Compliant System
	(ISA) 0x00000069 (105)	Microsoft ACPI-Compliant System
	(ISA) 0x0000006A (106)	Microsoft ACPI-Compliant System
	(ISA) 0x0000006B (107)	Microsoft ACPI-Compliant System
	(ISA) 0x0000006C (108)	Microsoft ACPI-Compliant System
	(ISA) 0x0000006D (109)	Microsoft ACPI-Compliant System
	(ISA) 0x0000006E (110)	Microsoft ACPI-Compliant System
	(ISA) 0x0000006F (111)	Microsoft ACPI-Compliant System
	(ISA) 0x00000070 (112)	Microsoft ACPI-Compliant System
	(ISA) 0x00000071 (113)	Microsoft ACPI-Compliant System
	(ISA) 0x00000072 (114)	Microsoft ACPI-Compliant System
	(ISA) 0x00000073 (115)	Microsoft ACPI-Compliant System
	(ISA) 0x00000074 (116)	Microsoft ACPI-Compliant System
	(ISA) 0x00000075 (117)	Microsoft ACPI-Compliant System
	(ISA) 0x00000076 (118)	Microsoft ACPI-Compliant System
	(ISA) 0x00000077 (119)	Microsoft ACPI-Compliant System
	(ISA) 0x00000078 (120)	Microsoft ACPI-Compliant System
	(ISA) 0x00000079 (121)	Microsoft ACPI-Compliant System
	(ISA) 0x0000007A (122)	Microsoft ACPI-Compliant System
	(ISA) 0x0000007B (123)	Microsoft ACPI-Compliant System
	(ISA) 0x0000007C (124)	Microsoft ACPI-Compliant System
	(ISA) 0x0000007D (125)	Microsoft ACPI-Compliant System

	(ISA) 0x0000007E (126)	Microsoft ACPI-Compliant System
	(ISA) 0x0000007F (127)	Microsoft ACPI-Compliant System
	(ISA) 0x00000080 (128)	Microsoft ACPI-Compliant System
	(ISA) 0x00000081 (129)	Microsoft ACPI-Compliant System
	(ISA) 0x00000082 (130)	Microsoft ACPI-Compliant System
	(ISA) 0x00000083 (131)	Microsoft ACPI-Compliant System
	(ISA) 0x00000084 (132)	Microsoft ACPI-Compliant System
	(ISA) 0x00000085 (133)	Microsoft ACPI-Compliant System
	(ISA) 0x00000086 (134)	Microsoft ACPI-Compliant System
	(ISA) 0x00000087 (135)	Microsoft ACPI-Compliant System
	(ISA) 0x00000088 (136)	Microsoft ACPI-Compliant System
	(ISA) 0x00000089 (137)	Microsoft ACPI-Compliant System
	(ISA) 0x0000008A (138)	Microsoft ACPI-Compliant System
	(ISA) 0x0000008B (139)	Microsoft ACPI-Compliant System
	(ISA) 0x0000008C (140)	Microsoft ACPI-Compliant System
	(ISA) 0x0000008D (141)	Microsoft ACPI-Compliant System
	(ISA) 0x0000008E (142)	Microsoft ACPI-Compliant System
	(ISA) 0x0000008F (143)	Microsoft ACPI-Compliant System
	(ISA) 0x00000090 (144)	Microsoft ACPI-Compliant System
	(ISA) 0x00000091 (145)	Microsoft ACPI-Compliant System
	(ISA) 0x00000092 (146)	Microsoft ACPI-Compliant System
	(ISA) 0x00000093 (147)	Microsoft ACPI-Compliant System
	(ISA) 0x00000094 (148)	Microsoft ACPI-Compliant System
	(ISA) 0x00000095 (149)	Microsoft ACPI-Compliant System
	(ISA) 0x00000096 (150)	Microsoft ACPI-Compliant System
	(ISA) 0x00000097 (151)	Microsoft ACPI-Compliant System
	(ISA) 0x00000098 (152)	Microsoft ACPI-Compliant System
	(ISA) 0x00000099 (153)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009A (154)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009B (155)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009C (156)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009D (157)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009E (158)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009F (159)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A0 (160)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A1 (161)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A2 (162)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A3 (163)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A4 (164)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A5 (165)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A6 (166)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A7 (167)	Microsoft ACPI-Compliant System

	(ISA) 0x000000A8 (168)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A9 (169)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AA (170)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AB (171)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AC (172)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AD (173)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AE (174)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AF (175)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B0 (176)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B1 (177)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B2 (178)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B3 (179)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B4 (180)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B5 (181)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B6 (182)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B7 (183)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B8 (184)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B9 (185)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BA (186)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BB (187)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BC (188)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BD (189)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BE (190)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BF (191)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C0 (192)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C1 (193)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C2 (194)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C3 (195)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C4 (196)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C5 (197)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C6 (198)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C7 (199)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C8 (200)	Microsoft ACPI-Compliant System
	(ISA) 0x000000C9 (201)	Microsoft ACPI-Compliant System
	(ISA) 0x000000CA (202)	Microsoft ACPI-Compliant System
	(ISA) 0x000000CB (203)	Microsoft ACPI-Compliant System
	(ISA) 0x000000CC (204)	Microsoft ACPI-Compliant System
	(ISA) 0x00000100 (256)	Microsoft ACPI-Compliant System
	(ISA) 0x00000101 (257)	Microsoft ACPI-Compliant System
	(ISA) 0x00000102 (258)	Microsoft ACPI-Compliant System
	(ISA) 0x00000103 (259)	Microsoft ACPI-Compliant System
	(ISA) 0x00000104 (260)	Microsoft ACPI-Compliant System

	(ISA) 0x00000105 (261)	Microsoft ACPI-Compliant System
	(ISA) 0x00000106 (262)	Microsoft ACPI-Compliant System
	(ISA) 0x00000107 (263)	Microsoft ACPI-Compliant System
	(ISA) 0x00000108 (264)	Microsoft ACPI-Compliant System
	(ISA) 0x00000109 (265)	Microsoft ACPI-Compliant System
	(ISA) 0x0000010A (266)	Microsoft ACPI-Compliant System
	(ISA) 0x0000010B (267)	Microsoft ACPI-Compliant System
	(ISA) 0x0000010C (268)	Microsoft ACPI-Compliant System
	(ISA) 0x0000010D (269)	Microsoft ACPI-Compliant System
	(ISA) 0x0000010E (270)	Microsoft ACPI-Compliant System
	(ISA) 0x0000010F (271)	Microsoft ACPI-Compliant System
	(ISA) 0x00000110 (272)	Microsoft ACPI-Compliant System
	(ISA) 0x00000111 (273)	Microsoft ACPI-Compliant System
	(ISA) 0x00000112 (274)	Microsoft ACPI-Compliant System
	(ISA) 0x00000113 (275)	Microsoft ACPI-Compliant System
	(ISA) 0x00000114 (276)	Microsoft ACPI-Compliant System
	(ISA) 0x00000115 (277)	Microsoft ACPI-Compliant System
	(ISA) 0x00000116 (278)	Microsoft ACPI-Compliant System
	(ISA) 0x00000117 (279)	Microsoft ACPI-Compliant System
	(ISA) 0x00000118 (280)	Microsoft ACPI-Compliant System
	(ISA) 0x00000119 (281)	Microsoft ACPI-Compliant System
	(ISA) 0x0000011A (282)	Microsoft ACPI-Compliant System
	(ISA) 0x0000011B (283)	Microsoft ACPI-Compliant System
	(ISA) 0x0000011C (284)	Microsoft ACPI-Compliant System
	(ISA) 0x0000011D (285)	Microsoft ACPI-Compliant System
	(ISA) 0x0000011E (286)	Microsoft ACPI-Compliant System
	(ISA) 0x0000011F (287)	Microsoft ACPI-Compliant System
	(ISA) 0x00000120 (288)	Microsoft ACPI-Compliant System
	(ISA) 0x00000121 (289)	Microsoft ACPI-Compliant System
	(ISA) 0x00000122 (290)	Microsoft ACPI-Compliant System
	(ISA) 0x00000123 (291)	Microsoft ACPI-Compliant System
	(ISA) 0x00000124 (292)	Microsoft ACPI-Compliant System
	(ISA) 0x00000125 (293)	Microsoft ACPI-Compliant System
	(ISA) 0x00000126 (294)	Microsoft ACPI-Compliant System
	(ISA) 0x00000127 (295)	Microsoft ACPI-Compliant System
	(ISA) 0x00000128 (296)	Microsoft ACPI-Compliant System
	(ISA) 0x00000129 (297)	Microsoft ACPI-Compliant System
	(ISA) 0x0000012A (298)	Microsoft ACPI-Compliant System
	(ISA) 0x0000012B (299)	Microsoft ACPI-Compliant System
	(ISA) 0x0000012C (300)	Microsoft ACPI-Compliant System
	(ISA) 0x0000012D (301)	Microsoft ACPI-Compliant System
	(ISA) 0x0000012E (302)	Microsoft ACPI-Compliant System

	(ISA) 0x0000012F (303)	Microsoft ACPI-Compliant System
	(ISA) 0x00000130 (304)	Microsoft ACPI-Compliant System
	(ISA) 0x00000131 (305)	Microsoft ACPI-Compliant System
	(ISA) 0x00000132 (306)	Microsoft ACPI-Compliant System
	(ISA) 0x00000133 (307)	Microsoft ACPI-Compliant System
	(ISA) 0x00000134 (308)	Microsoft ACPI-Compliant System
	(ISA) 0x00000135 (309)	Microsoft ACPI-Compliant System
	(ISA) 0x00000136 (310)	Microsoft ACPI-Compliant System
	(ISA) 0x00000137 (311)	Microsoft ACPI-Compliant System
	(ISA) 0x00000138 (312)	Microsoft ACPI-Compliant System
	(ISA) 0x00000139 (313)	Microsoft ACPI-Compliant System
	(ISA) 0x0000013A (314)	Microsoft ACPI-Compliant System
	(ISA) 0x0000013B (315)	Microsoft ACPI-Compliant System
	(ISA) 0x0000013C (316)	Microsoft ACPI-Compliant System
	(ISA) 0x0000013D (317)	Microsoft ACPI-Compliant System
	(ISA) 0x0000013E (318)	Microsoft ACPI-Compliant System
	(ISA) 0x0000013F (319)	Microsoft ACPI-Compliant System
	(ISA) 0x00000140 (320)	Microsoft ACPI-Compliant System
	(ISA) 0x00000141 (321)	Microsoft ACPI-Compliant System
	(ISA) 0x00000142 (322)	Microsoft ACPI-Compliant System
	(ISA) 0x00000143 (323)	Microsoft ACPI-Compliant System
	(ISA) 0x00000144 (324)	Microsoft ACPI-Compliant System
	(ISA) 0x00000145 (325)	Microsoft ACPI-Compliant System
	(ISA) 0x00000146 (326)	Microsoft ACPI-Compliant System
	(ISA) 0x00000147 (327)	Microsoft ACPI-Compliant System
	(ISA) 0x00000148 (328)	Microsoft ACPI-Compliant System
	(ISA) 0x00000149 (329)	Microsoft ACPI-Compliant System
	(ISA) 0x0000014A (330)	Microsoft ACPI-Compliant System
	(ISA) 0x0000014B (331)	Microsoft ACPI-Compliant System
	(ISA) 0x0000014C (332)	Microsoft ACPI-Compliant System
	(ISA) 0x0000014D (333)	Microsoft ACPI-Compliant System
	(ISA) 0x0000014E (334)	Microsoft ACPI-Compliant System
	(ISA) 0x0000014F (335)	Microsoft ACPI-Compliant System
	(ISA) 0x00000150 (336)	Microsoft ACPI-Compliant System
	(ISA) 0x00000151 (337)	Microsoft ACPI-Compliant System
	(ISA) 0x00000152 (338)	Microsoft ACPI-Compliant System
	(ISA) 0x00000153 (339)	Microsoft ACPI-Compliant System
	(ISA) 0x00000154 (340)	Microsoft ACPI-Compliant System
	(ISA) 0x00000155 (341)	Microsoft ACPI-Compliant System
	(ISA) 0x00000156 (342)	Microsoft ACPI-Compliant System
	(ISA) 0x00000157 (343)	Microsoft ACPI-Compliant System
	(ISA) 0x00000158 (344)	Microsoft ACPI-Compliant System

	(ISA) 0x00000159 (345)	Microsoft ACPI-Compliant System
	(ISA) 0x0000015A (346)	Microsoft ACPI-Compliant System
	(ISA) 0x0000015B (347)	Microsoft ACPI-Compliant System
	(ISA) 0x0000015C (348)	Microsoft ACPI-Compliant System
	(ISA) 0x0000015D (349)	Microsoft ACPI-Compliant System
	(ISA) 0x0000015E (350)	Microsoft ACPI-Compliant System
	(ISA) 0x0000015F (351)	Microsoft ACPI-Compliant System
	(ISA) 0x00000160 (352)	Microsoft ACPI-Compliant System
	(ISA) 0x00000161 (353)	Microsoft ACPI-Compliant System
	(ISA) 0x00000162 (354)	Microsoft ACPI-Compliant System
	(ISA) 0x00000163 (355)	Microsoft ACPI-Compliant System
	(ISA) 0x00000164 (356)	Microsoft ACPI-Compliant System
	(ISA) 0x00000165 (357)	Microsoft ACPI-Compliant System
	(ISA) 0x00000166 (358)	Microsoft ACPI-Compliant System
	(ISA) 0x00000167 (359)	Microsoft ACPI-Compliant System
	(ISA) 0x00000168 (360)	Microsoft ACPI-Compliant System
	(ISA) 0x00000169 (361)	Microsoft ACPI-Compliant System
	(ISA) 0x0000016A (362)	Microsoft ACPI-Compliant System
	(ISA) 0x0000016B (363)	Microsoft ACPI-Compliant System
	(ISA) 0x0000016C (364)	Microsoft ACPI-Compliant System
	(ISA) 0x0000016D (365)	Microsoft ACPI-Compliant System
	(ISA) 0x0000016E (366)	Microsoft ACPI-Compliant System
	(ISA) 0x0000016F (367)	Microsoft ACPI-Compliant System
	(ISA) 0x00000170 (368)	Microsoft ACPI-Compliant System
	(ISA) 0x00000171 (369)	Microsoft ACPI-Compliant System
	(ISA) 0x00000172 (370)	Microsoft ACPI-Compliant System
	(ISA) 0x00000173 (371)	Microsoft ACPI-Compliant System
	(ISA) 0x00000174 (372)	Microsoft ACPI-Compliant System
	(ISA) 0x00000175 (373)	Microsoft ACPI-Compliant System
	(ISA) 0x00000176 (374)	Microsoft ACPI-Compliant System
	(ISA) 0x00000177 (375)	Microsoft ACPI-Compliant System
	(ISA) 0x00000178 (376)	Microsoft ACPI-Compliant System
	(ISA) 0x00000179 (377)	Microsoft ACPI-Compliant System
	(ISA) 0x0000017A (378)	Microsoft ACPI-Compliant System
	(ISA) 0x0000017B (379)	Microsoft ACPI-Compliant System
	(ISA) 0x0000017C (380)	Microsoft ACPI-Compliant System
	(ISA) 0x0000017D (381)	Microsoft ACPI-Compliant System
	(ISA) 0x0000017E (382)	Microsoft ACPI-Compliant System
	(ISA) 0x0000017F (383)	Microsoft ACPI-Compliant System
	(ISA) 0x00000180 (384)	Microsoft ACPI-Compliant System
	(ISA) 0x00000181 (385)	Microsoft ACPI-Compliant System
	(ISA) 0x00000182 (386)	Microsoft ACPI-Compliant System

	(ISA) 0x00000183 (387)	Microsoft ACPI-Compliant System
	(ISA) 0x00000184 (388)	Microsoft ACPI-Compliant System
	(ISA) 0x00000185 (389)	Microsoft ACPI-Compliant System
	(ISA) 0x00000186 (390)	Microsoft ACPI-Compliant System
	(ISA) 0x00000187 (391)	Microsoft ACPI-Compliant System
	(ISA) 0x00000188 (392)	Microsoft ACPI-Compliant System
	(ISA) 0x00000189 (393)	Microsoft ACPI-Compliant System
	(ISA) 0x0000018A (394)	Microsoft ACPI-Compliant System
	(ISA) 0x0000018B (395)	Microsoft ACPI-Compliant System
	(ISA) 0x0000018C (396)	Microsoft ACPI-Compliant System
	(ISA) 0x0000018D (397)	Microsoft ACPI-Compliant System
	(ISA) 0x0000018E (398)	Microsoft ACPI-Compliant System
	(ISA) 0x0000018F (399)	Microsoft ACPI-Compliant System
	(ISA) 0x00000190 (400)	Microsoft ACPI-Compliant System
	(ISA) 0x00000191 (401)	Microsoft ACPI-Compliant System
	(ISA) 0x00000192 (402)	Microsoft ACPI-Compliant System
	(ISA) 0x00000193 (403)	Microsoft ACPI-Compliant System
	(ISA) 0x00000194 (404)	Microsoft ACPI-Compliant System
	(ISA) 0x00000195 (405)	Microsoft ACPI-Compliant System
	(ISA) 0x00000196 (406)	Microsoft ACPI-Compliant System
	(ISA) 0x00000197 (407)	Microsoft ACPI-Compliant System
	(ISA) 0x00000198 (408)	Microsoft ACPI-Compliant System
	(ISA) 0x00000199 (409)	Microsoft ACPI-Compliant System
	(ISA) 0x0000019A (410)	Microsoft ACPI-Compliant System
	(ISA) 0x0000019B (411)	Microsoft ACPI-Compliant System
	(ISA) 0x0000019C (412)	Microsoft ACPI-Compliant System
	(ISA) 0x0000019D (413)	Microsoft ACPI-Compliant System
	(ISA) 0x0000019E (414)	Microsoft ACPI-Compliant System
	(ISA) 0x0000019F (415)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A0 (416)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A1 (417)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A2 (418)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A3 (419)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A4 (420)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A5 (421)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A6 (422)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A7 (423)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A8 (424)	Microsoft ACPI-Compliant System
	(ISA) 0x000001A9 (425)	Microsoft ACPI-Compliant System
	(ISA) 0x000001AA (426)	Microsoft ACPI-Compliant System
	(ISA) 0x000001AB (427)	Microsoft ACPI-Compliant System
	(ISA) 0x000001AC (428)	Microsoft ACPI-Compliant System

	(ISA) 0x000001AD (429)	Microsoft ACPI-Compliant System
	(ISA) 0x000001AE (430)	Microsoft ACPI-Compliant System
	(ISA) 0x000001AF (431)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B0 (432)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B1 (433)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B2 (434)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B3 (435)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B4 (436)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B5 (437)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B6 (438)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B7 (439)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B8 (440)	Microsoft ACPI-Compliant System
	(ISA) 0x000001B9 (441)	Microsoft ACPI-Compliant System
	(ISA) 0x000001BA (442)	Microsoft ACPI-Compliant System
	(ISA) 0x000001BB (443)	Microsoft ACPI-Compliant System
	(ISA) 0x000001BC (444)	Microsoft ACPI-Compliant System
	(ISA) 0x000001BD (445)	Microsoft ACPI-Compliant System
	(ISA) 0x000001BE (446)	Microsoft ACPI-Compliant System
	(ISA) 0x000001BF (447)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C0 (448)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C1 (449)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C2 (450)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C3 (451)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C4 (452)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C5 (453)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C6 (454)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C7 (455)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C8 (456)	Microsoft ACPI-Compliant System
	(ISA) 0x000001C9 (457)	Microsoft ACPI-Compliant System
	(ISA) 0x000001CA (458)	Microsoft ACPI-Compliant System
	(ISA) 0x000001CB (459)	Microsoft ACPI-Compliant System
	(ISA) 0x000001CC (460)	Microsoft ACPI-Compliant System
	(ISA) 0x000001CD (461)	Microsoft ACPI-Compliant System
	(ISA) 0x000001CE (462)	Microsoft ACPI-Compliant System
	(ISA) 0x000001CF (463)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D0 (464)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D1 (465)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D2 (466)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D3 (467)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D4 (468)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D5 (469)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D6 (470)	Microsoft ACPI-Compliant System

	(ISA) 0x000001D7 (471)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D8 (472)	Microsoft ACPI-Compliant System
	(ISA) 0x000001D9 (473)	Microsoft ACPI-Compliant System
	(ISA) 0x000001DA (474)	Microsoft ACPI-Compliant System
	(ISA) 0x000001DB (475)	Microsoft ACPI-Compliant System
	(ISA) 0x000001DC (476)	Microsoft ACPI-Compliant System
	(ISA) 0x000001DD (477)	Microsoft ACPI-Compliant System
	(ISA) 0x000001DE (478)	Microsoft ACPI-Compliant System
	(ISA) 0x000001DF (479)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E0 (480)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E1 (481)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E2 (482)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E3 (483)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E4 (484)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E5 (485)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E6 (486)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E7 (487)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E8 (488)	Microsoft ACPI-Compliant System
	(ISA) 0x000001E9 (489)	Microsoft ACPI-Compliant System
	(ISA) 0x000001EA (490)	Microsoft ACPI-Compliant System
	(ISA) 0x000001EB (491)	Microsoft ACPI-Compliant System
	(ISA) 0x000001EC (492)	Microsoft ACPI-Compliant System
	(ISA) 0x000001ED (493)	Microsoft ACPI-Compliant System
	(ISA) 0x000001EE (494)	Microsoft ACPI-Compliant System
	(ISA) 0x000001EF (495)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F0 (496)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F1 (497)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F2 (498)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F3 (499)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F4 (500)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F5 (501)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F6 (502)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F7 (503)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F8 (504)	Microsoft ACPI-Compliant System
	(ISA) 0x000001F9 (505)	Microsoft ACPI-Compliant System
	(ISA) 0x000001FA (506)	Microsoft ACPI-Compliant System
	(ISA) 0x000001FB (507)	Microsoft ACPI-Compliant System
	(ISA) 0x000001FC (508)	Microsoft ACPI-Compliant System
	(ISA) 0x000001FD (509)	Microsoft ACPI-Compliant System
	(ISA) 0x000001FE (510)	Microsoft ACPI-Compliant System
	(ISA) 0x000001FF (511)	Microsoft ACPI-Compliant System
	(ISA) 0x00000400 (1024)	Trusted Platform Module 2.0

	(ISA) 0x00000401 (1025)	I2C HID Device
	(PCI) 0x00000024 (36)	High Definition Audio Controller
	(PCI) 0x00000025 (37)	AMD Sensor Fusion Hub
	(PCI) 0x00000027 (39)	AMD Audio CoProcessor
	(PCI) 0x00000027 (39)	High Definition Audio Controller
	(PCI) 0xFFFFFD5 (-43)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFD6 (-42)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFD7 (-41)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFD8 (-40)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFD9 (-39)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDA (-38)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDB (-37)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDC (-36)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDD (-35)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDE (-34)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDF (-33)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE0 (-32)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE1 (-31)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE2 (-30)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE3 (-29)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE4 (-28)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE5 (-27)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE6 (-26)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE7 (-25)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE8 (-24)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE9 (-23)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEA (-22)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEB (-21)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEC (-20)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFED (-19)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEE (-18)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEF (-17)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFF0 (-16)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFF1 (-15)	AMD PSP 10.0 Device
	(PCI) 0xFFFFFF2 (-14)	AMD PSP 10.0 Device
	(PCI) 0xFFFFFF3 (-13)	Standard NVM Express Controller
	(PCI) 0xFFFFFF4 (-12)	Standard NVM Express Controller
	(PCI) 0xFFFFFF5 (-11)	Standard NVM Express Controller
	(PCI) 0xFFFFFF6 (-10)	Standard NVM Express Controller
	(PCI) 0xFFFFFF7 (-9)	Standard NVM Express Controller
	(PCI) 0xFFFFFF8 (-8)	Standard NVM Express Controller
	(PCI) 0xFFFFFF9 (-7)	Standard NVM Express Controller

	(PCI) 0xFFFFFD6 (-42)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFD7 (-41)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFD8 (-40)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFD9 (-39)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDA (-38)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDB (-37)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDC (-36)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDD (-35)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDE (-34)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFDF (-33)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFEE (-32)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE1 (-31)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE2 (-30)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE3 (-29)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE4 (-28)	AMD USB 3.10 eXtensible Host Controller - 1.10 (Microsoft)
	(PCI) 0xFFFFFE5 (-27)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE6 (-26)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE7 (-25)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE8 (-24)	AMD Radeon(TM) Graphics
	(PCI) 0xFFFFFE9 (-23)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEA (-22)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEB (-21)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEC (-20)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFED (-19)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEE (-18)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFEF (-17)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFFF0 (-16)	Intel(R) I210 Gigabit Network Connection
	(PCI) 0xFFFFFFF1 (-15)	AMD PSP 10.0 Device
	(PCI) 0xFFFFFFF2 (-14)	AMD PSP 10.0 Device
	(PCI) 0xFFFFFFF3 (-13)	Standard NVM Express Controller
	(PCI) 0xFFFFFFF4 (-12)	Standard NVM Express Controller
	(PCI) 0xFFFFFFF5 (-11)	Standard NVM Express Controller
	(PCI) 0xFFFFFFF6 (-10)	Standard NVM Express Controller
	(PCI) 0xFFFFFFF7 (-9)	Standard NVM Express Controller
	(PCI) 0xFFFFFFF8 (-8)	Standard NVM Express Controller
	(PCI) 0xFFFFFFF9 (-7)	Standard NVM Express Controller
	(PCI) 0xFFFFFFFA (-6)	Standard NVM Express Controller
	(PCI) 0xFFFFFFFB (-5)	Standard NVM Express Controller
	(PCI) 0xFFFFFFFC (-4)	PCI Express Root Port
	(PCI) 0xFFFFFFFD (-3)	PCI Express Root Port
	(PCI) 0xFFFFFFFE (-2)	PCI Express Root Port

>  Memory

B.4 Direct Memory Access MAP

- ▼  DESKTOP-5RQ8OAS
 - ▼  Direct memory access (DMA)
 -  4 Direct memory access controller
 - >  Input/output (IO)
 - >  Interrupt request (IRQ)
 - >  Memory