AAD-W480Ax

AI@Edge Autonomous In-Vehicle Server

- *10th Gen. Intel® Core™ Xeon/i9/i7 Processor (Comet Lake)*
- *Intel® W480E Chipset*
- *Support One NVIDIA RTX Graphic Card*
- *2x PCIe Slots*

0101 1010 Digital I/O	USB 3.0	4G/LTE	Wi-Fi	CAN Bus	WatchDog Timer
Wide Voltage	**6.0 Gb/s** SATA III	SIM	2.5"	VGA	SSD
M.2 PCIe	TPM 2.0				

User Manual

Acrosser Technology Co., Ltd.
www.acrosser.com

Industrial & Embedded Solutions

Disclaimer

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Purpose

This document is intended to provide the information about the features and use of the product.

Audience

The intended audiences are technical personnel, not for general audiences.

WARNING

Danger of explosion if batteries are incorrectly replaced. Always replace the battery with the same specifications. Dispose of used batteries according to the manufacturer's instructions.

Before running the system, make sure the power cord is firmly plugged into the socket.

CAUTION

IEC 60417-6042 (2010-11)   IEC 60417-6172 (2012-09)

All power cords must be disconnected during product repair.

Ver: 102
Date: Jul. 7, 2023

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Table of Contents

1. System Introduction

AAD-W480Ax is an industrial grade server which designed for autonomous vehicle and AI computing applications developer for collecting data sets, improving self-driving algorithm, and building up high definition map.

This server features with Intel 10th Gen. Xeon processor that can support multi-core with hyper threading. Thanks to Xeon processor, this system can support one GPU card for intensive graphic processing, image recognition, and even artificial intelligence.

More importantly, AAD-W480Ax is dedicated to operate in-vehicle environment, not only anti-shock/vibration design to ensure the system works well on the road, but also endure critical temperature range with no problem at all. AAD-W480Ax is your best PC server for autonomous vehicle, Edge & AI computing.

1.1. Specifications

(Specifications are subject to change without notice.)

System

CPU	• 10th Gen. Intel® Xeon®/Core™ i9/i7 Processor, support max. 80W TDP CPU, socket type, LGA1200
Chipset	• Intel® W480E Chipset
Memory	• 2x DDR4-2933 Memory supports up to 64GB (Up to 32GB per socket)
Graphic Controller	• Intel® UHD Graphics 630 • Support one NVIDIA RTX Graphic Card

Front I/O

Ethernet	• LAN 1: RJ45 Type Intel® I210IT GigE LAN • LAN 2: RJ45 Type Intel® I210IT GigE LAN
USB	• 6x Type A USB 3.2 GEN2x1 (10Gb/s)
Serial Port	• 2x DB9 Type RS232/RS422/485
Display	• 1x VGA: Up to 1920 x 1200 • 1x DVI-D: Up to 1920 x 1200 • 1x HDMI 1.4b Up to 4096 x 2160
Audio	• Realtek® HD Codec, 1 Mic-in, 1 Line-out
PoE	• 2x RJ45 Type PoE Ports, Intel® I210 chipset • IEEE 802.3af compliant

LED	• Green: PIC status
	• Green: HDD
	• Yellow: Power
PCIe Slot	• 1x PCIe[x16] Slot
	• 1x PCIe[x4] Slot
Storage	• 2x 2.5" SSD bay
Other	• 1x Power Button

Rear I/O

Serial Port	• 2x DB9 Type RS232/RS422/485
DIO	• 4DI, 4DO, DB15 Type connector
CANBUS	• 1x DB9 type isolated CAN bus connector
DC-in	• 9~55V DC-in power input w/ terminal block, 450~500W
Antenna type	• 7x external antennas for TX/RX, Diversity
Others	• Need system fan when install GPU Card
Ignition	• Ignition input w/ terminal block

Storage

HDD Bay	• 2x 2.5" SATA III (6Gbps) support S/W RAID 0, 1
M.2	• 1x M.2 Key M Socket (2280)

Expansion

Mini PCIe	• 2x Full Size Mini PCIe slot w/ SIM slots
M.2	• 1x M.2 B key 3042 slot w/ SIM slots
PCIe Slot	• 1x PCIe[x16] Slot
	Support GPU Card. Need extra power input to GPU Card. Suggestion GPU power input: 300~350W
	• 1x PCIe[x4] Slot
Internal USB	• 1x Type A USB 2.0 For USB dongle

Other Features

Hardware Monitoring	• CPU Voltage
	• CPU and System Temperature
Watchdog Timer	• Software Programmable 0~255 Seconds, 0 = disable timer.

Software

| OS Support | • Window 10 IoT 64-bits |
| | • Ubuntu 20.04, 64-bits(Linux Kernel 5.4.0 or above) |

Mechanical & Environment

Architecture	• Aluminum heatsink and metal chassis
Dimension	• 270(W) x 140(H) x 360(D) mm
Operating Temperature	• Fanless Design: 35W TDP CPU : -30°C to 60°C 65W TDP CPU : -30°C to 50°C • Fan Design: 80W TDP CPU : -30°C to 40°C • With Graphics Card: -20°C to 45°C with system fan
Storage Temperature	• -40°C ~ 85°C (-40°F ~ 185°F)
Humidity	• 5~90%, non-condensing
Vibration	• IEC 60068-2-64 • SSD: 3Grms, 5Hz to 500Hz, 3 Axis
Shock	• IEC 60068-2-27 • SSD: 50G @ wallmount, Half-sine, 11ms
Certification	• CE / FCC class A / E Mark

CPU List

Series	CPU	Base Freq. (GHz)	TDP (W)	ECC RAM
Intel® Xeon®	W-1290TE	4.5	35	Yes
	W-1270E	4.8	80	
	W-1270TE	4.4	35	
	W-1250E	4.7	80	
	W-1250TE	3.8	35	
Intel® Core™	i9-10900E	4.7	65	NA
	i9-10900TE	4.5	35	
	i7-10700E	4.5	65	
	i7-10700TE	4.4	35	
	i5-10500E	3.1	65	
	i5-10500TE	2.3	35	
	i3-10300E	3.2	65	
	i3-10300TE	2.3	35	

Module List

Module Name	System Fan	PoE
AAD-W480A1-000	No	No
AAD-W480A2-000	Yes	No
AAD-W480A1-P20	No	Yes
AAD-W480A2-P20	Yes	Yes

1.2.   Package Contents

Check if the following items are included in the package.

Item	Q'ty
☐ AAD-W480Ax	1
☐ Terminal block set	1
☐ Wall mount bracket set	1
☐ Screws kit	1
☐ M.2 x 2 and mini PCIe x 2 sets screws	1
☐ GPU fixing kit (Applied to AAD-W480A2-000 and AAD-W480A2-P20 only.)	1

1.3. System Dissection

1.3.1. Dimensions

(Unit: mm)

AAD-W480A1:
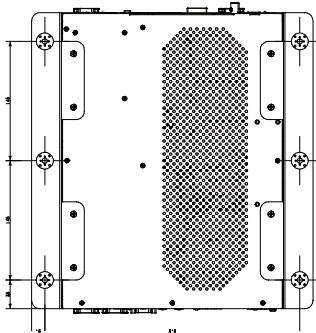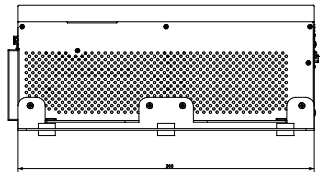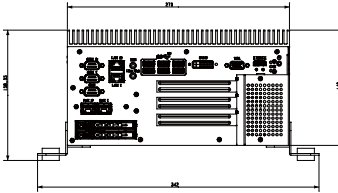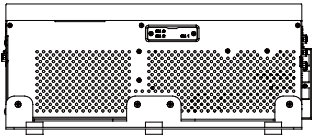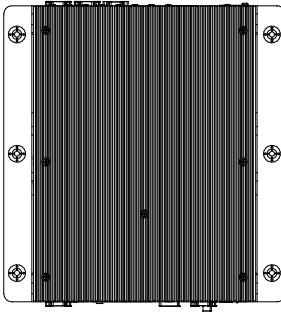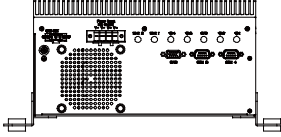
AAD-W480A2:
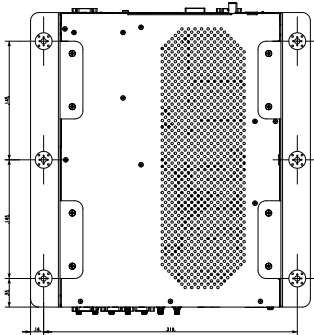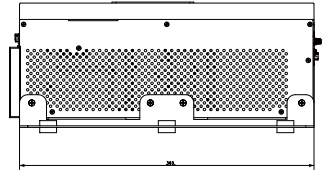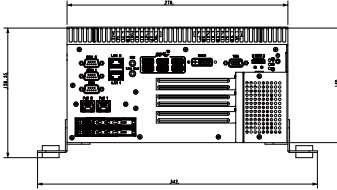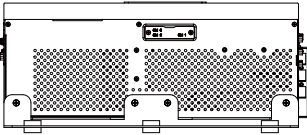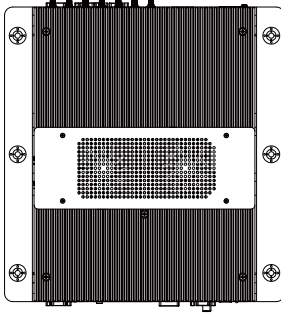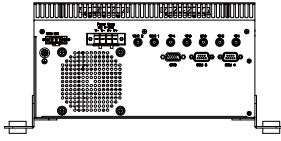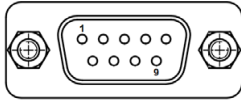
(The peripherals shown in this layout dimensions are used for illustration only, may not come with the package.)

1.3.2. Front I/O Panel
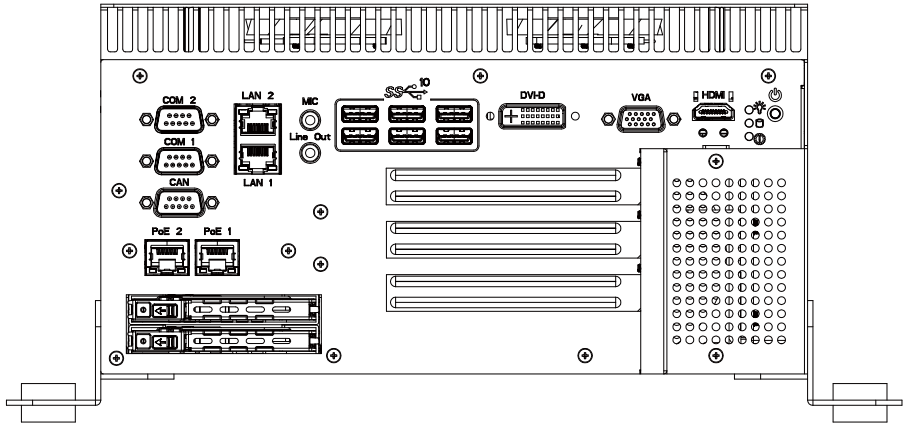
COM1, COM2

RS-232/422/485 port multi-protocol connector (DB9 male).
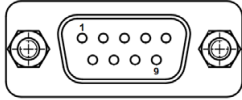
	Pin #	RS-232 Signal	RS-422 Signal	RS-485 Signal
	1	DCD	TX(B)	D-(B)
	2	RxD	TX(A)	D+(A)
	3	TxD	RX(A)	-
	4	DTR	RX(B)	-
	5	GND	GND	GND
	6	DSR	-	-
	7	RTS	-	-
	8	CTS	-	-
	9	RI	-	-

Note: 232/422/485 mode change by BIOS
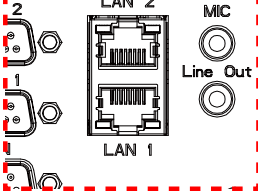
PoE 1, PoE 2

PoE (PSE mode, IEEE 802.3af compliant ,up to 15.4W at 48V per port)

CAN

Pin #	Signal
1	NC
2	CAN-L
3	GND
4	NC
5	NC
6	NC
7	CAN-H
8	NC
9	NC
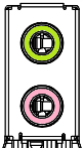
Termination Resistor Slide Switch		
	1	ON
	3	OFF
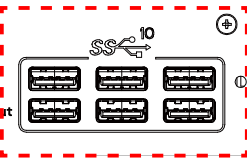
LAN1, LAN2

LED		10	100	1000
Right	**Link**	Green	Green	Green
	Active	Blinking	Blinking	Blinking
Left	**Speed**	OFF	Yellow	Green

MIC / Line Out

MIC (Pink): Microphone input jack
Line Out (Green): Audio output jack

USB1 ~ USB6

Standard Type A USB3.2 GEN 2

Pin #	Signal	Pin #	Signal
1	VCC5	**5**	SS_RX -
2	DATA-	**6**	SS_RX +
3	DATA+	**7**	GND
4	GND	**8**	SS_TX -
		9	SS_TX +

DVI-D

DVI Connector

Pin #	Signal	Pin #	Signal
C1	NC	C2	NC
C3	NC	C4	NC
D1	DATA2-	D2	DATA2+
D3	GND	D4	NC
D5	NC	D6	DDCCLK -
D7	DDCDATA	D8	NC
D9	DATA1-	D10	DATA1+
D11	GND	D12	NC
D13	NC	D14	VCC5
D15	GND	D16	DVI_HPD
D17	DATA0-	D18	DATA0+
D19	GND	D20	NC
D21	NC	D22	GND
D23	CLK+	D24	CLK-

VGA

Pin #	Signal	Pin #	Signal
1	VGA_RED	2	VGA_GREEN
3	VGA_BLUE	4	NC
5	GND	6	GND
7	NC	8	GND
9	VCC5	10	GND
11	NC	12	VGA_SDA
13	VGA_HSYNC	14	VGA_VSYNC
15	VGA_SCL		

Status/HDD/Power LED Indicator

Light	Display
Green	Status LED
Green	HD LED
Yellow	Power LED

Status LED Flashing Status:
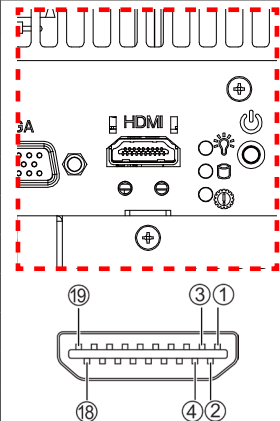
A Status LED is used to indicate the status of the system. In normal condition, the LED will flash a number of blink to state the status. Each blink remains 200 ms ON followed by a 200 ms OFF. Each Cycle will have a 2-second OFF in between.

LED Flashing Numbers	Status
0 (Constant On)	Power output runs normally.
1	Standby Mode (System off)
3	Power On Delay
5	Boot Up Delay
6	Soft Off Delay
4	Shutdown Delay
2	Hard Off Delay

If abnormal condition occur, the LED will flash a 1.5-second pulse followed by numbers of 200 ms pulse to indicate the error status.

LED Flashing Numbers	Error Status
1 Long, 1 Short	System cannot be turned on or was turned off because battery voltage is below the Battery Low Voltage.
1 Long, 2 Short	System on/off fail. When motherboard cannot turn on or turn off after retry.

HDMI

Pin #	Signal	Pin #	Signal
1	DATA2+	2	GND
3	DATA2-	4	DATA1+
5	GND	6	DATA1-
7	DATA0+	8	GND
9	DATA0-	10	CAN_L
11	GND	12	
13	NC	14	NC
15	DDCCL	16	DDCDA
17	GND	18	+5V
19	HPD		

Power Button
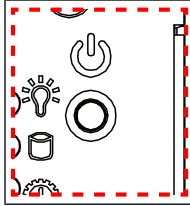
	Use a thin and long object to reach into the hole and push the button in.

HDD-1 ~ HDD-2

HDD bays reserved for installation of your 2.5" hard disks (H: 7mm).

1.3.3. Rear I/O Panel
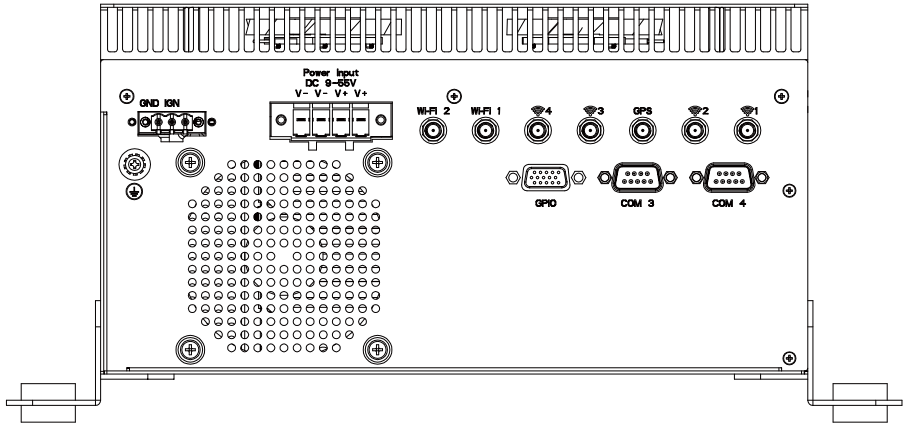
IGN
Ignition-ON Signal Connector
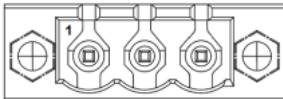
Pin #	Signal
1	NC
2	Ignition
3	Ground

Power Input
9~55VDC Terminal Block

Pin #	Signal
1, 2	DC 9~55V Power input
3, 4	Ground

Aux 12V Output for PCIE Graphic Card
Standard 6+2Pin 12V Aux Power connector for High Power PCIE Card (Applied to AAD-W480A2-000 and AAD-W480A2-P20 only.)
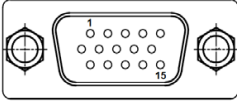
Pin #	Signal	Pin #	Signal
1	+12V	5	GND
2	+12V	6	Sense0
3	+12V	7	GND
4	Sense1	8	GND
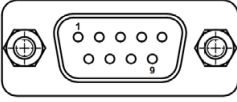
GPIO

GPIO Port Connector (DB15 male)

| Pin #	Signal	Pin #	Signal
1	GPO0	**9**	-
2	GPO1	**10**	-
3	GPO2	**11**	GPI4
4	GPO3	**12**	GPI5
5	GND	**13**	GPI6
6	GND	**14**	GPI7
7	-	**15**	Optional 9~55V Power Input
8	-		

COM3, COM4

RS-232/422/485 port multi-protocol connector (DB9 male).

Pin #	RS-232 Signal	RS-422 Signal	RS-485 Signal
1	DCD	TX(B)	D-(B)
2	RxD	TX(A)	D+(A)
3	TxD	RX(A)	-
4	DTR	RX(B)	-
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-
9	RI	-	-

Note: 232/422/485 mode change by BIOS

1.3.4. Side I/O Panel
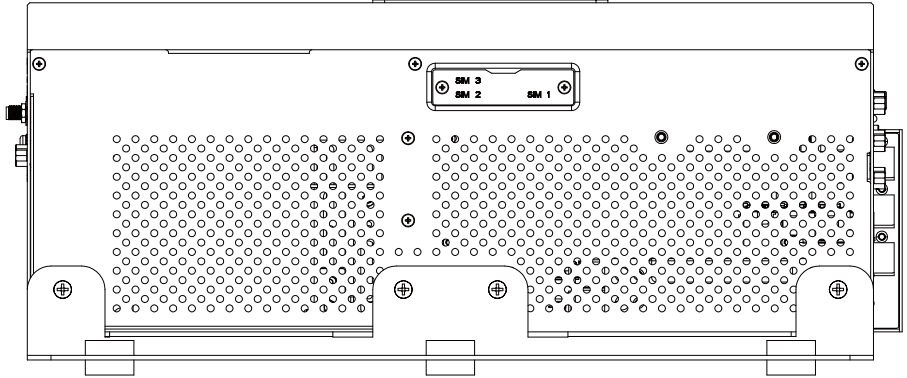
SIM 1 ~ 3

SIM Slots
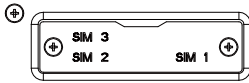
SIM 1	for MPCIE1 4G/5G PCIE mini Card
SIM 2	for MPCIE2 4G/5G PCIE mini Card
SIM 3	for M2B1 4G/5G M.2 Card

2. Components Assembly

The products shown in this procedure are used for illustration only, may not reflect the exact outlooks.

2.1. CPU Socket Assembly

Step 1:   Press down the lever and pull it gently aside away from the socket to open up the socket tray.
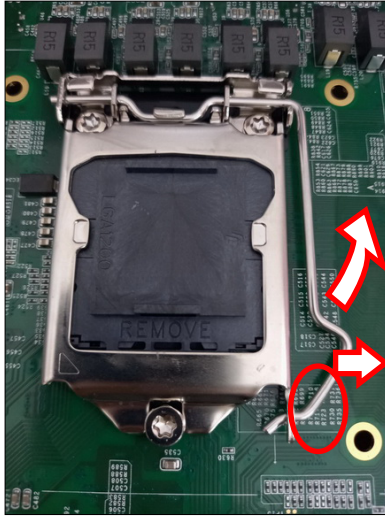
Step 2:   Remove the protective plastic cap that was originally placed on the socket. Align the two notches on both the CPU and the socket. Gently place the CPU into the socket. DO NOT damage the contact pins !
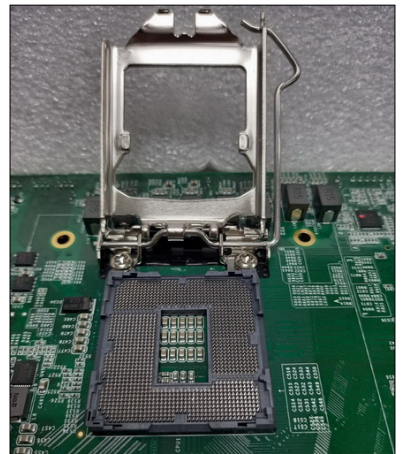
Step 3:   Once the CPU has been gently seated, close the retention cover and make sure it rests under the screw. Now lower the retention lever and push it back down into place. Lowering the lever may require some force.
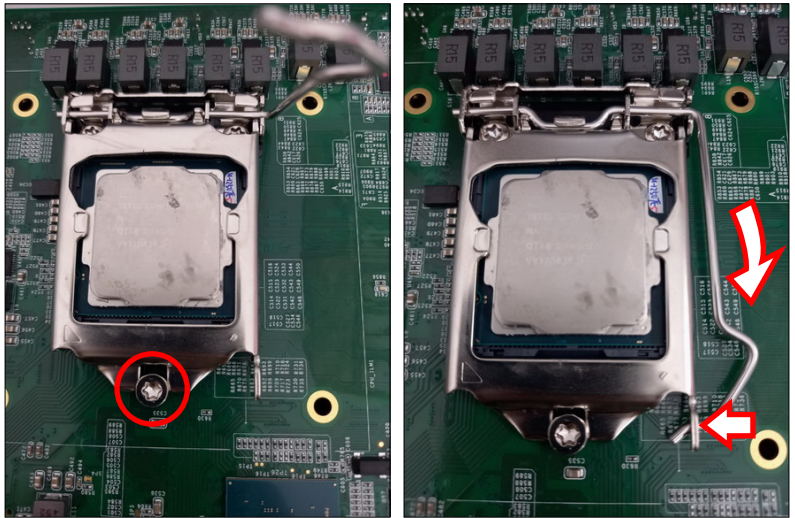
2.2. CPU Installation

Step 1:   Remove the four screws that fasten the fan screen. Move away the screen.
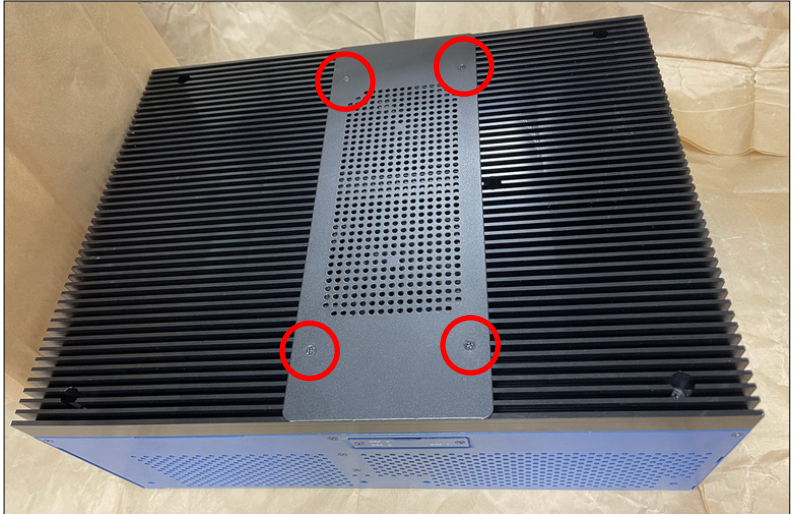
Step 2:   Unplug the fan power cables. Remove the seven screws that fasten the heat sink.
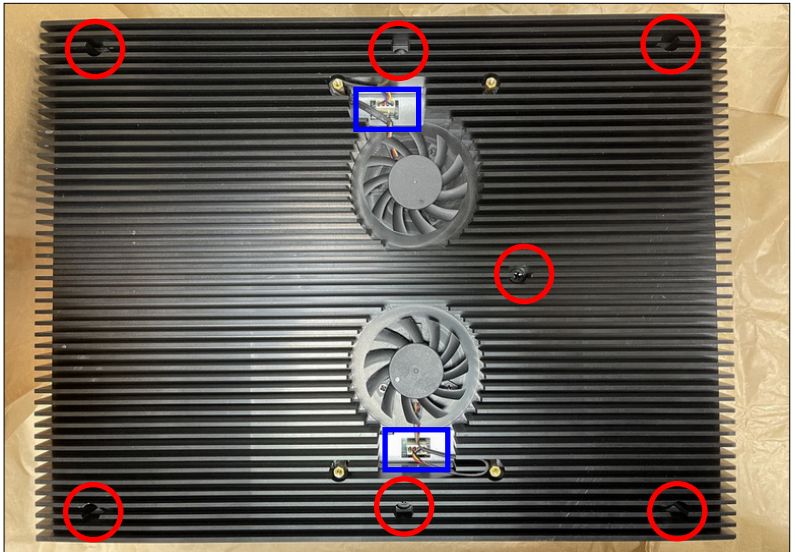
Step 3:   Lift the heat sink up by reaching into the grooves on both sides of the chassis.

Step 4:   Install the CPU by following the CPU socket assembly procedure.

Step 5: Make sure each thermal pad is pasted at the correct position and its protective film has been removed.
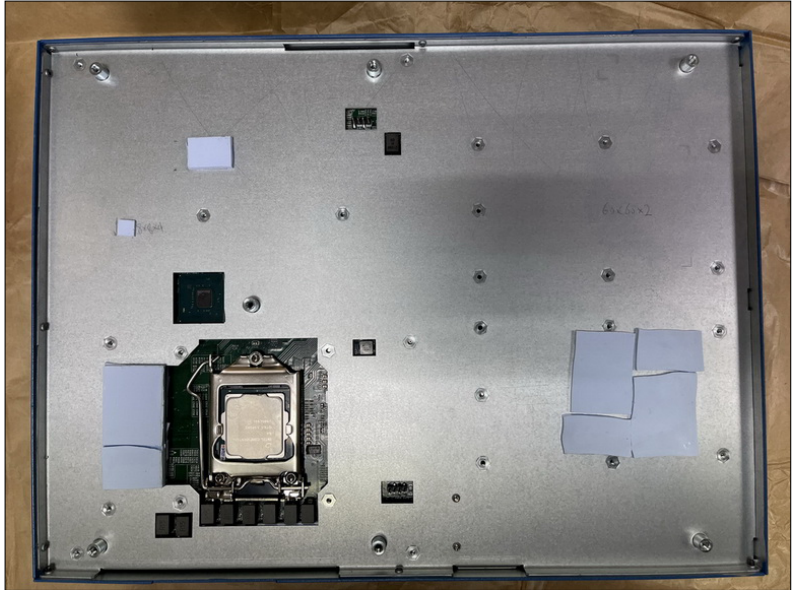
Step 6: Fasten the heat sink with seven screws. Plug the fan power cables.
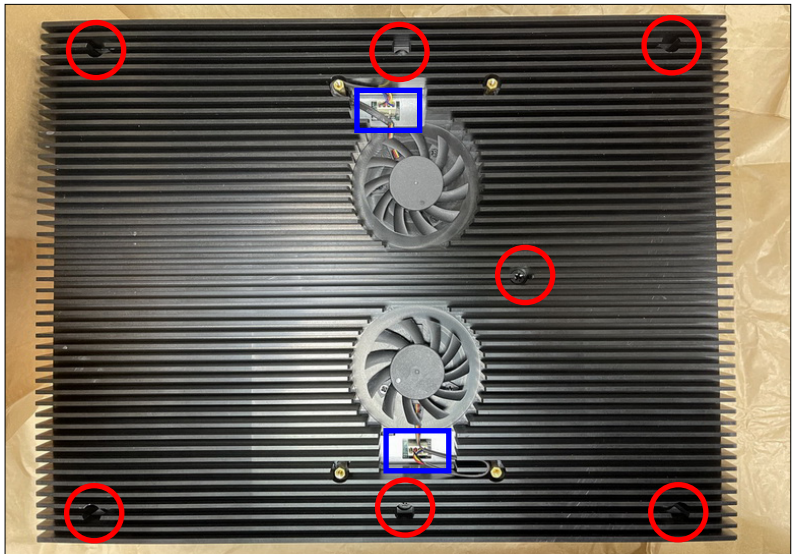
Step 7: Pay attention to the direction when assembling the fan power cables. Snap the excess wires into the groove around the copper pillar. Do not hinder the fan rotation.
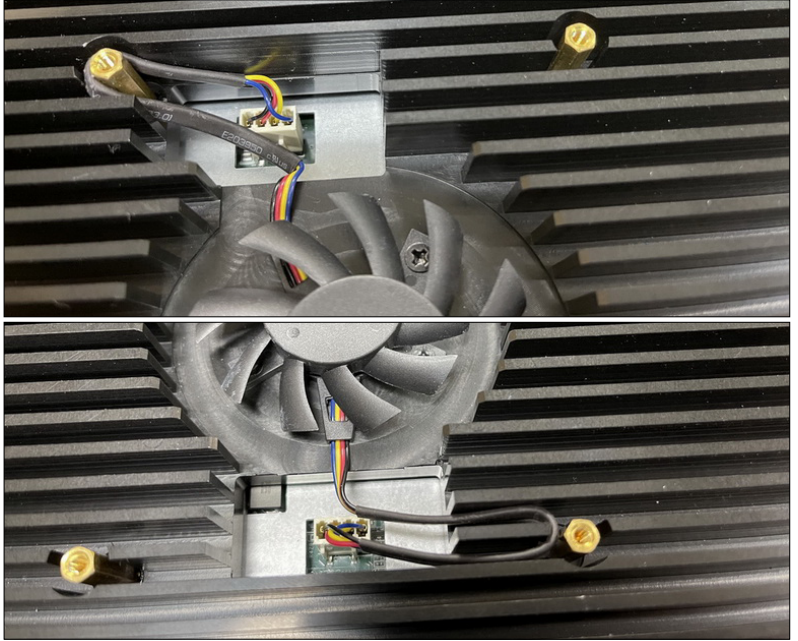
Step 8: Fasten the fan screen with four screws.
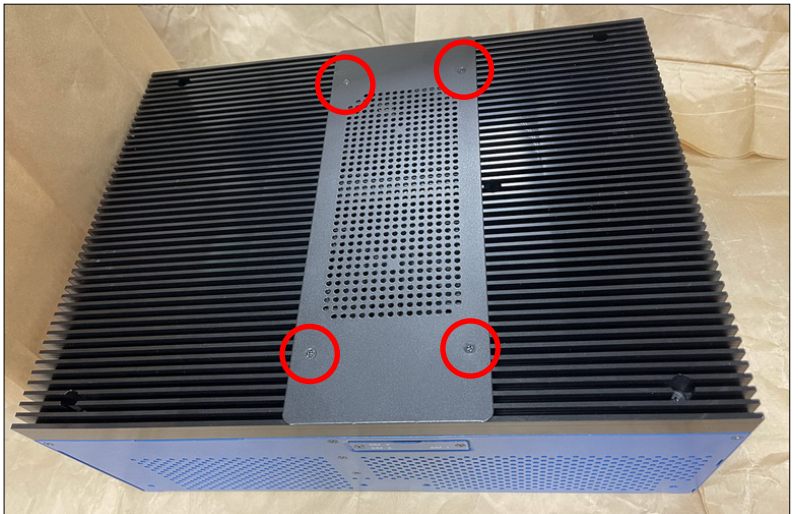
2.3.   DDR Module Installation

Step 1:   Remove all the fastening screws on the bottom. Open the bottom chassis. Be careful not to pull the SATA cable.
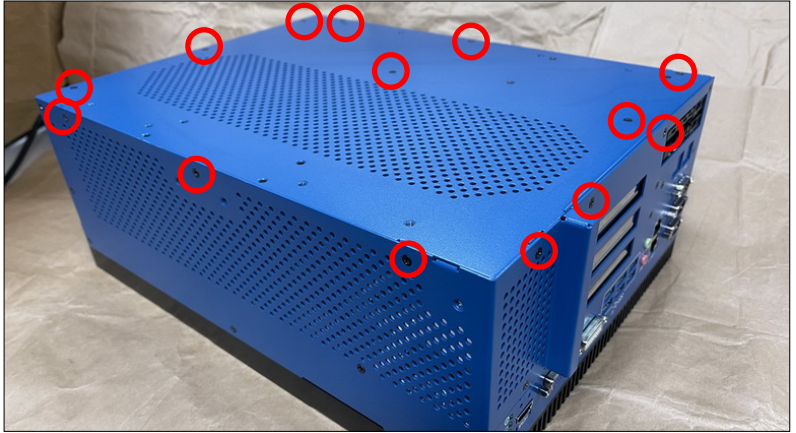
Step 2:   Remove the screws that fastened the memory bracket and fixed with chassis.
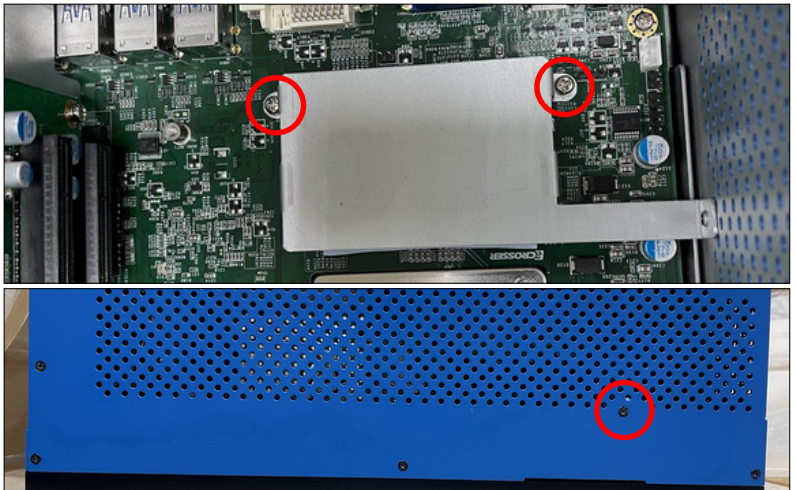
Note: *When only one memory is installed, there is no need to install the thermal pad, you may leave it in the accessory package.*

Step 2:   Check the condition of the thermal pad. Tear off its protective film.

Step 3:   Install the DDR modules. Fasten the memory bracket and fix it to chassis. Close the bottom chassis.
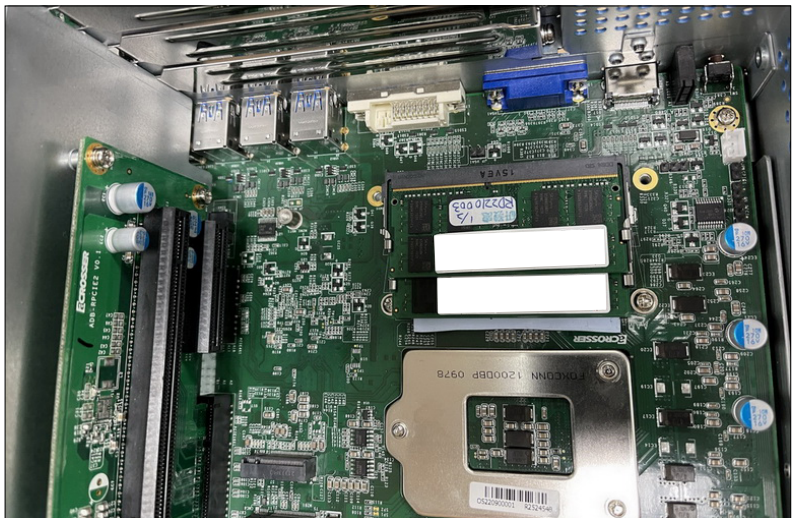
2.4. SSD Installation

Step 1:   As shown in the red circle, slide the door buckle to the right to take out the SSD tray.
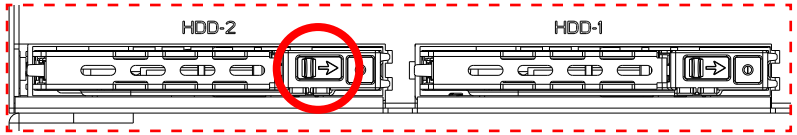
Step 2:   Follow the deployment direction to insert the SSD. Please pay attention to the insertion direction. The red circle chown is a hollow hole.

Step 3: Place the SSD firmly into position. The 2 screws provided in the accessories package is used for spare only.

Step 4: Insert the SSD tray into the system and press the part shown with red circle to attach with the system.
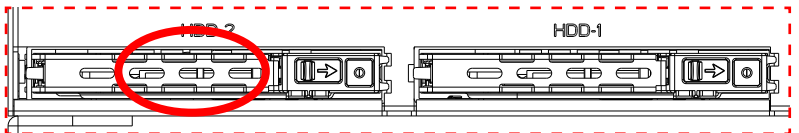
2.5. USB Dongle Installation

Step 1: Remove all the fastening screws on the bottom. Open the bottom chassis. Be careful not to pull the SATA cable.
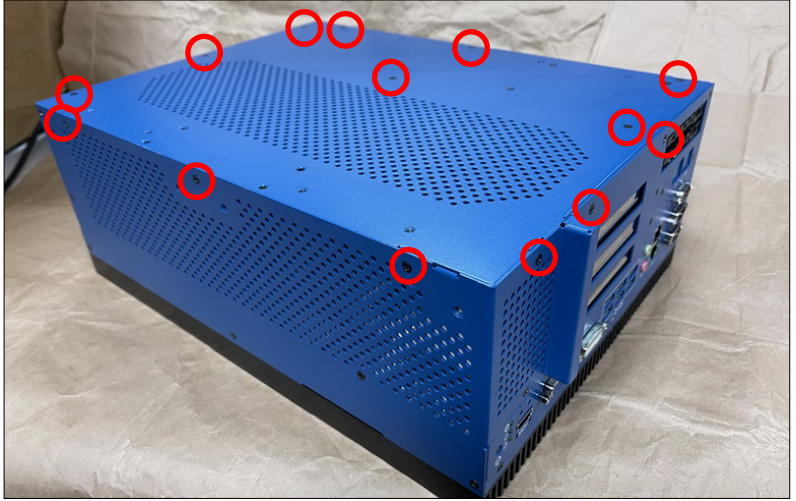
Step 2: Lock your USB dongle by adjusting the screws to fasten with the L-shaped bracket to avoid loosening from system vibration.
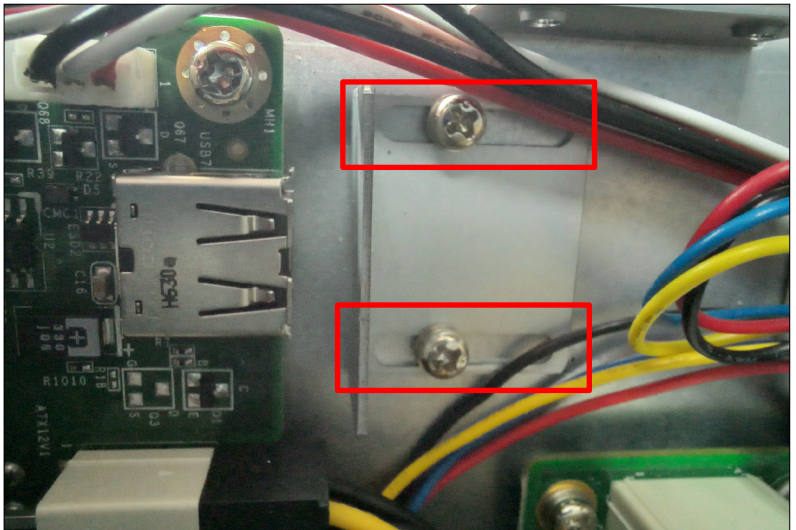
2.6. Module Installation

Step 1: Slopingly insert the module into the connector. (Do the same way for M.2 and mPCIE.)

Step 2: Use screws to lock the module to the nut position on the board.
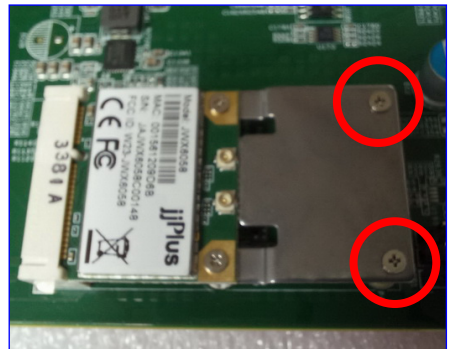
Notes:

- As there are fifferent module interfaces, like M.2 B key, M.2 E key, or mPCIE, please comply with the one the system specification specified.

- As there are fifferent module specifications, like Half size, Full size, 3042, or 3052, please comply with the one the system specification specified.

2.7. RF Cable Installation

Step 1:   Connect the RF plug to the module connector.

Notes:

- Wi-Fi: Support 2 RF cables at least.

- 4G LTE: Support 1 RF cable at least, up to 3 RF cables.

- 5G: Support 2 RF cables at least.

Step 2:   The foolproof position and shape of the joint should correspond with the opening of the system panel.
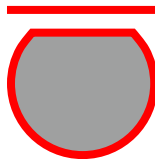
Step 3:   Assemble the SMA end of the RF Cable and lock it with gasket and nut.
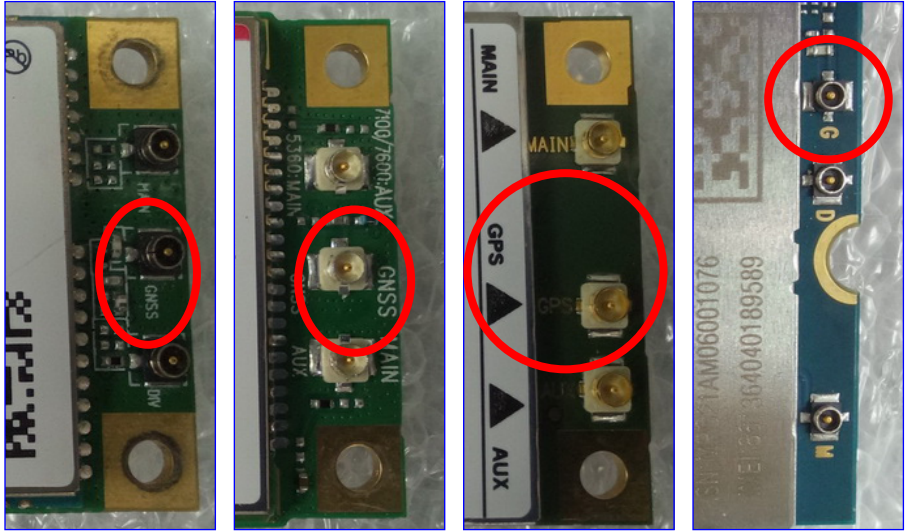
Notes:

- For the connector marked as GNSS or GPS, please install it on the system panel where the GPS antenna is located.

- The connector marked as MAIN or AUX is a 4G connector, please install it on the system panel marked 4G or 5G antenna. Use the MAIN connector first.

2.8. Graphics Card & Interface Installation

To avoid repeated disassembly and assembly prpcedures, install the DDR, Module, and USB dongle first before this Grphics Card & Interface installation.

Step 1:   Remove all the screws on the side. Open the right side chassis panel.
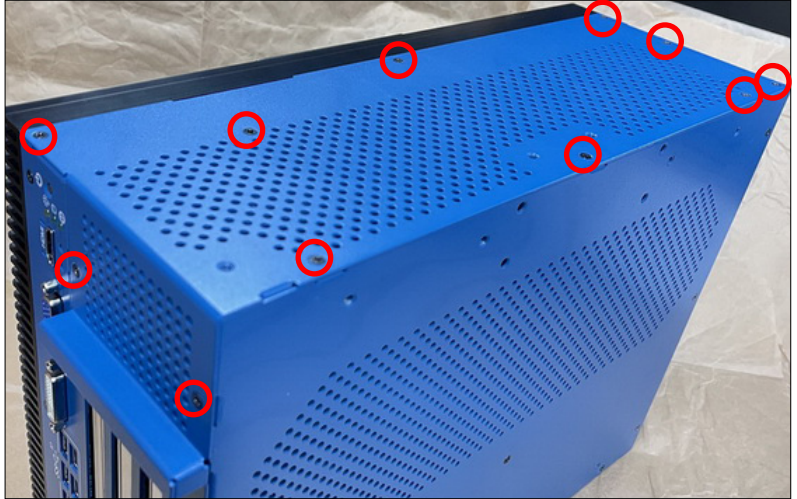
Step 2:   Select the slot for installing card. Unscrew and take off the baffle. Keep the screw for later use.
NOTE: Install the DDR module first before installing the card, as it might affect the DDR installation.

Step 3: To install the graphics card, you have to cut off the cable tie and drag out the power wires for later use.
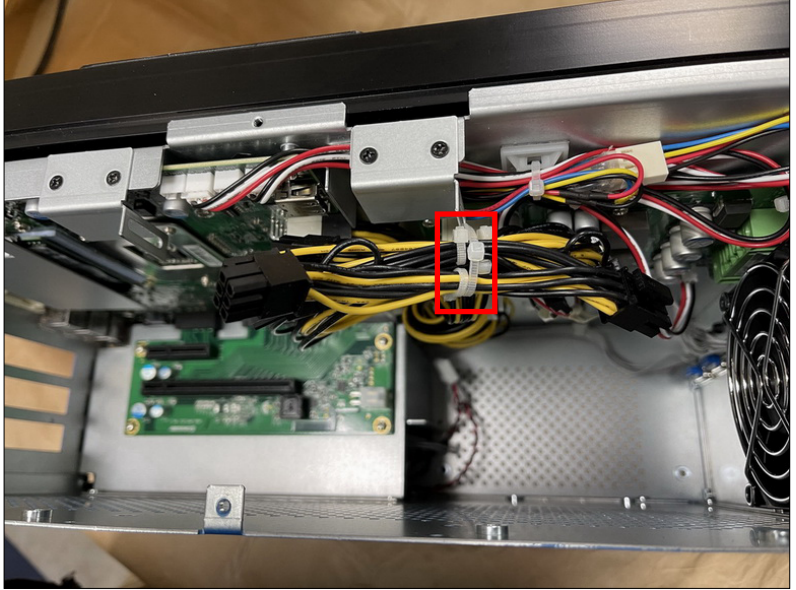
Step 4: Insert the graphics or interface card in place. Lock the retention bracket with the screw taken from the baffle.
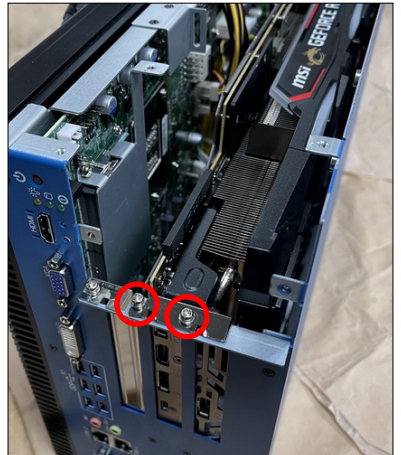
Step 5:   Attach the two graphics card retention brackets as shown. Loose the screw a bit for adjusting the gap to hold the graphics card in place.

Step 6:   Lock the brackets to the chassis.
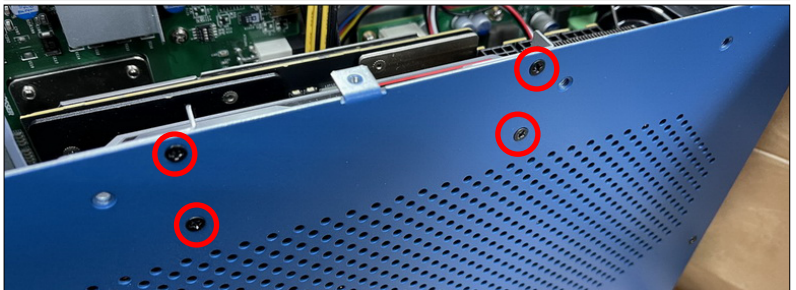
Step 7:   Install the graphics card retention brackets as shown. Adjust the gap to hold the graphics card in place. Tighten the screws.
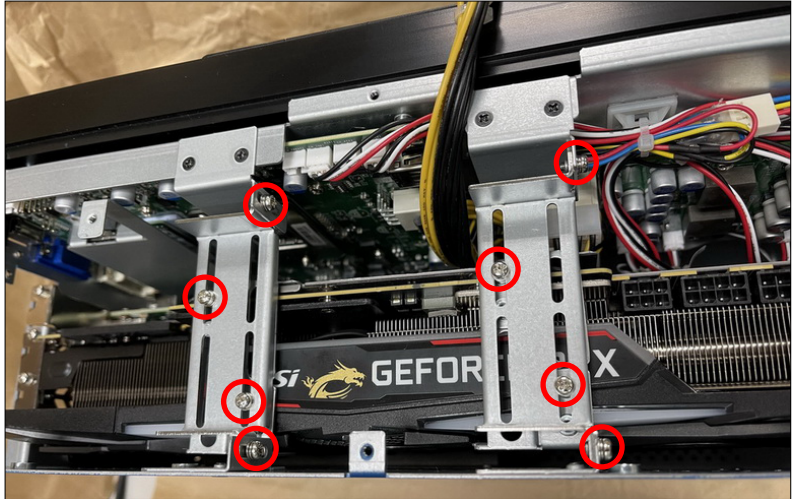
Step 8:   Plug the power cable. Close the right side chassis panel.
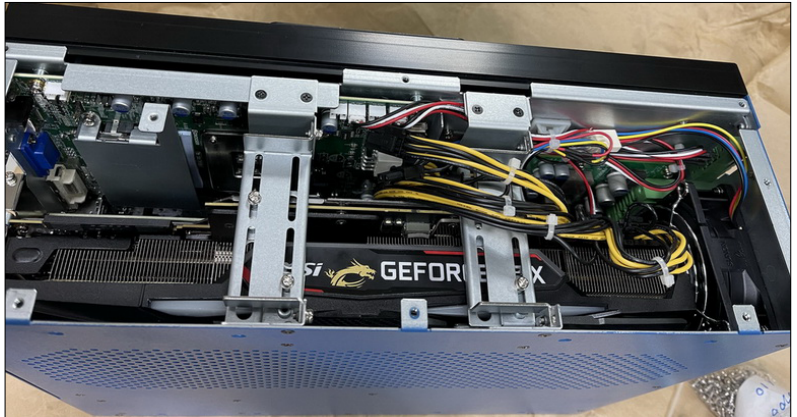
Note 1:   The graphics card installation only applies to model AAD-W480A2-000 and AAD-W480A2-P20

*Note 2:   The graphics card size limitations: ≤ 323*140*56mm*

2.9. Antenna Installation

Connect your antennas according to your system configuration.
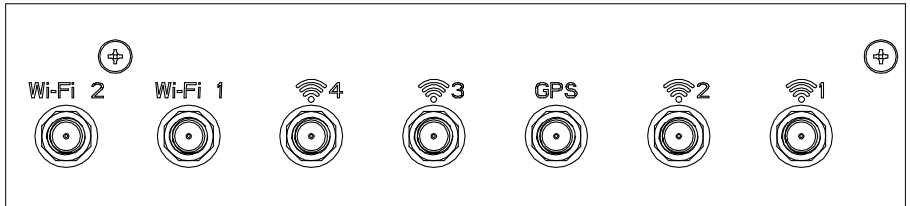
Wi-Fi:

Connect female type antenna to the male type socket **Wi-Fi 2** or **Wi-Fi 1**.

GPS:

Connect male type antenna tail cable to the female type socket **GPS**.

4G/5G:

Connect male type antenna to the female type socket marked with 📶.

Notes:

•   If there is no antenna wording on system panel, please use the male and female connector docking method to judge when connecting with antenna.

2.10. HDMI Cable Connection

You can find in the package an HDMI locking-bracket set. This gaget is designed to secure your HDMI cable connection.

Step 1: As shown below, insert the locking-bracket by aligning its hooks with holes on the chassis.

Step 2: Lock the HDMI locking-bracket with the two black screws that came with the package.

Step 3:   Plug your HDMI cable head into the HDMI socket. Firmly push the HDMI
            cable all the way into the socket.

Step 4:   Fasten the HDMI cable-end with a cable-holder. Lock the cable-end to
            the bracket with this cable-holder by two white screws that came with the
            package. (There are two types of cable-holder provided: 4mm and 7mm.
            Use the type 4mm for HDMI cable of thinner than 6mm in diameter. Use
            the type 7mm for HDMI cable of thicker than 6mm in diameter.)

Step 5: Choose the holes that allows the screw to lock the cable-end with cable-holder.

Step 6: Fasten the cable-end with cable-holder. The HDMI locking-bracket is now held into position tightly.

2.11.   Foot-stand Installation

Step 1:   Insert the foot pad through the fixing hole from the bottom of the foot-stand, and insert the ring gasket from the top.
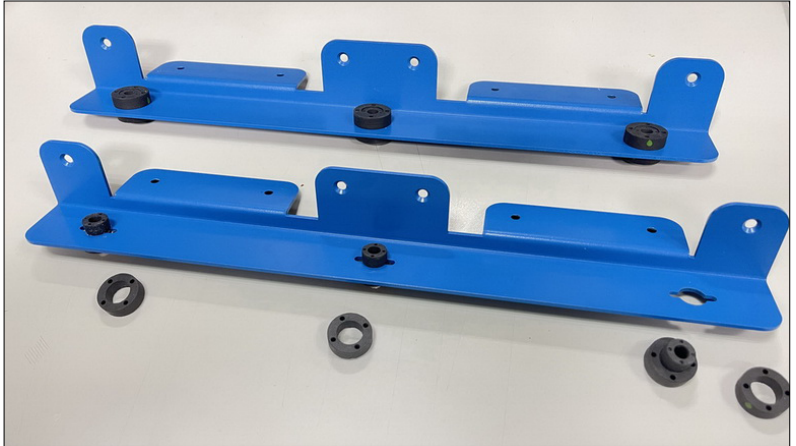
Step 2:   Place the system upside down. Put the foot-stand on each side of the system. Lock with screws.

Step 3:   Lock the side screws.
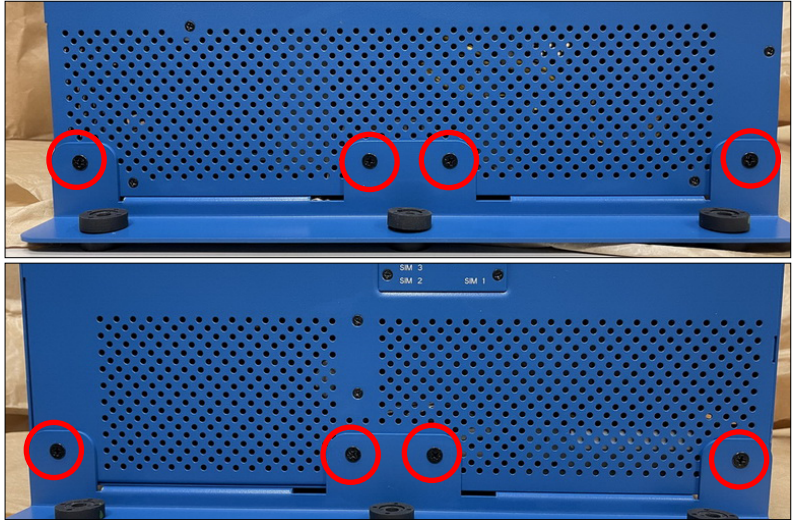
Step 4:   Install the system to the designated position according to the size marked.
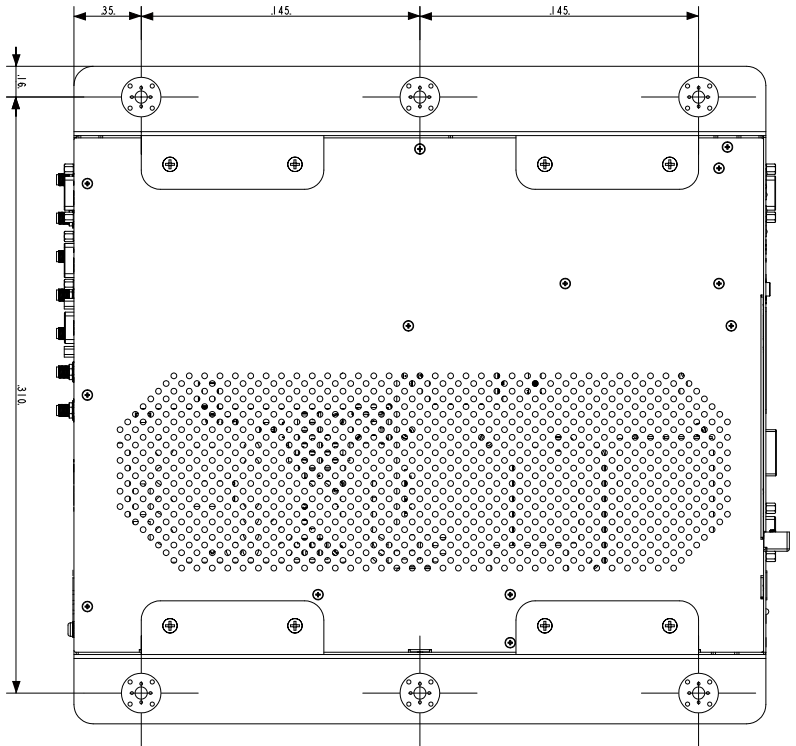
3.   BIOS Settings

This chapter describes the BIOS menu displays and explains how to perform common tasks needed to get the system up and running. It also gives detailed explanation of the elements found in each of the BIOS menus. The following topics are covered:

- Main Setup
- Advanced Setup
- IntelRC Setup
- Processor Setup
- Security Setup
- Boot Setup
- Save & Exit Setup

Once you enter the Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. Use the arrow keys to highlight the item and then use the <Pg Up> <Pg Dn> keys to select the value you want in each item.

3.1.   Main Setup

The BIOS setup main menu includes some options. Use the [Up/Down] arrow key to highlight the option, and then press the <**Enter**> key to select the item and configure the functions.

```
                              Aptio Setup - AMI
     Main  Advanced  Chipset  Security  Boot  Save & Exit

  BIOS Information                                     Set the Date. Use Tab to
  BIOS Vendor                  American Megatrends     switch between Date elements.
  Core Version                 5.17                    Default Ranges:
  Compliancy                   UEFI 2.7; PI 1.6        Year: 1998-9999
  Project Name                 AAM-W480A1              Months: 1-12
  Project Version              V1.0                    Days: Dependent on month
  Build Date and Time          01/01/2022 00:00:01     Range of Years may vary.

  Processor Information
  Name                         CometLake DT
  Type                         Intel(R) Xeon(R)
                               W-1250E CPU @ 3.50GHz

  Total Memory                 4096 MB                 →←: Select Screen
  Memory Frequency             2133 MHz                ↑↓: Select Item
                                                       Enter: Select
  System Date                  [Wed 01/01/2022]        +/-: Change Opt.
  System Time                  [00:00:01]              F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit



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```

Note: *Listed at the bottom of the menu are the control keys. If you need any help with the item fields, you can press <**F1**> key, and it will display the relevant information.*

- **Total Memory**
  This item displays the total size of memory available in the system.

- **System Date/System Time**
  Use this option to change the system date and time. Highlight System Date or System Time using the arrow keys. Enter new values using the keyboard. Press the key or the arrow keys to move between fields. The date must be entered in MM/DD/YYYY format. The time is entered in HH:MM:SS format.

3.2. Advanced Setup

```
                        Aptio Setup - AMI
     Main   Advanced  Chipset  Security  Boot  Save & Exit

▶ CPU Configuration                                    CPU Configuration Parameters
▶ Trusted Computing
▶ Serial Port Mode Select
▶ Power Sub System
  OnBoard VGA Dummy Function          [Enabled]
▶ W83627DHG Super IO Configuration
▶ W83627DHG HW Monitor
▶ F81216SEC Super IO Configuration
▶ USB Configuration
▶ CSM Configuration
▶ NVMe Configuration

                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

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```

3.2.1. CPU Configuration

```
                        Aptio Setup - AMI
      Advanced

Intel (VMX) Virtualization         [Enabled]           When enabled, a VMM can
Technology                                             utilize the additional
Hyper-Threading                    [Enabled]           hardware capabilities provided
                                                       by Vanderpool Technology.

                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

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```

- **Intel (VMX) Virtualization Technology**
  "Enables or disables Intel® Virtualization Technology, which will allow a platform
  to run multiple operating systems and applications in independent partitions. With
  virtualization, one computer system can function as multiple virtual systems."

- **Hyper Threading**
"The Hyper Threading Technology allows a single processor to execute two or more separate threads concurrently. When hyper-threading is enabled, multi-threaded software applications can execute their threads, thereby improving performance."

3.2.2. Trusted Computing

Set trusted computing settings

```
                            Aptio Setup - AMI
      Advanced

   TPM 2.0 Device Found                              Enables or Disables BIOS
   Firmware Version:            500.14               support for security device.
   Vendor:                      INTC                 O.S. will not show Security
                                                     Device. TCG EFI protocol and
   Security Device Support      [Enable]             INT1A interface will not be
   Active PCR banks             SHA256               available.
   Available PCR banks          SHA-1,SHA256

   SHA-1 PCR Bank               [Disabled]
   SHA256 PCR Bank              [Enabled]

   Pending operation            [None]
   Platform Hierarchy           [Enabled]
   Storage Hierarchy            [Enabled]            →←: Select Screen
   Endorsement Hierarchy        [Enabled]            ↑↓: Select Item
   TPM 2.0 UEFI Spec Version    [TCG_2]              Enter: Select
   Physical Presence Spec Version [1.3]              +/-: Change Opt.
   TPM 2.0 InterfaceType        [CRB]                F1: General Help
   Device Select                [Auto]               F2: Previous Values
                                                     F3: Optimized Defaults
                                                     F4: Save & Exit
                                                     ESC: Exit


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```

- **Security Device Support**
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**
Enables or Disables SHA-1 PCR Bank.

- **SHA256 PCR Bank**
Enables or Disables SHA256 PCR Bank.

3.2.3. Serial Port Mode Select

```
                              Aptio Setup - AMI
          Advanced

    Model Name                    AAM-W480Ax              Set Serial Port Work Mode
    Firmware Version              V0.3

    Serial Port 1 Mode            [RS-232]
    Serial Port 2 Mode            [RS-232]
    Serial Port 3 Mode            [RS-232]
    Serial Port 4 Mode            [RS-232]
    Serial Port 5 Mode            [RS-232]
    Serial Port 6 Mode            [RS-232]


                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit



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```

- **Serial Port Mode**
  Set serial port work mode.

3.2.4. Power Sub System

```
                              Aptio Setup - AMI
          Advanced

    Model Name                    AAM-W480Ax              2 second to 60 seconds with 1
    Firmware Version              V0.2                    second increment

    Power On Delay (Sec.)         2
    Power Off Delay (Sec.)        5

    Battery Low Monitor           [Disabled]
    Battery Voltage               0.00 V
    Battery Low Delta             [3.0 V]



                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit



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```

- **Power On Delay**
  Switch On -> VCC On period, set 2 seconds to 60 seconds with 1 second increment.

- **Power Off Delay**
  Switch Off -> System off Signal period, set 1 second to 3600 seconds with 1 second increment.

- **Battery Low Monitor**
  Enabled / Disabled battery input voltage monitor function.

  Battery low delta is a number in unit of volt to determine the battery low voltage.

- **Onboard VGA Dummy Function**
  Enables or disables onboard VGA dummy functiond.

3.2.5. **W83627DHG Super IO Configuration**
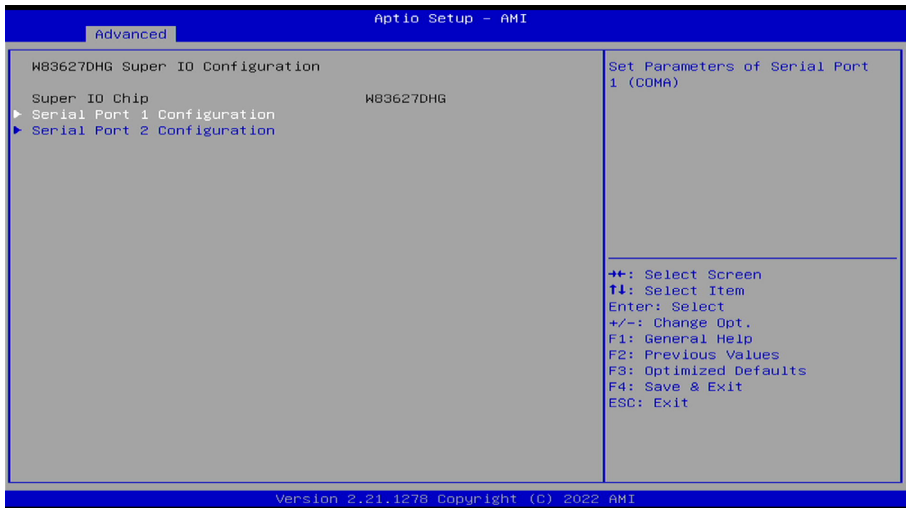
- **Serial Port 1~2 Configuration**
  Set parameters of serial port 1~2.

```
                             Aptio Setup - AMI
      Advanced

  Serial Port 1 Configuration                         Enable or Disable Serial Port
                                                      (COM)
  Serial Port                    [Enabled]
  Device Settings                IO=3F8h; IRQ=4;

  Change Settings                [Auto]




                                                      →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit


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```
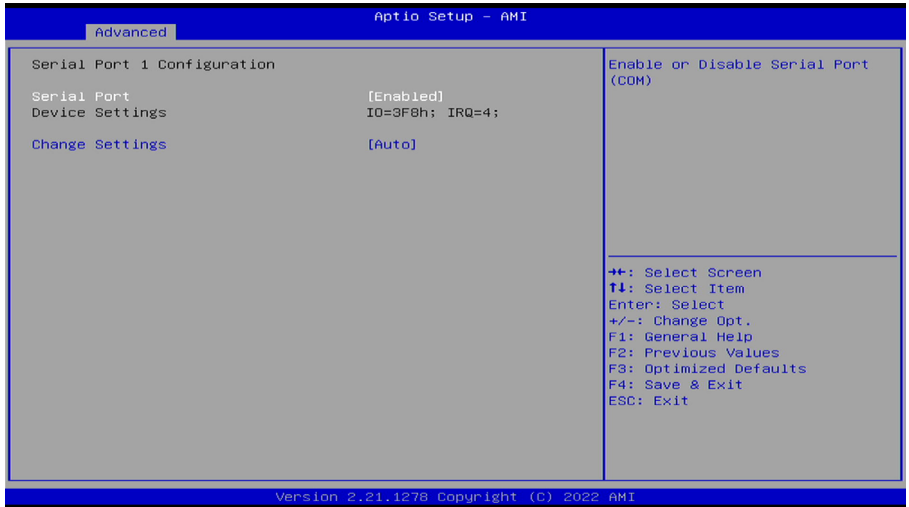
- **Serial Port**
  Enable or Disable Serial Port."

- **Change Settings**
  This option specifies the base I/O port address and the interrupt Request address of Serial Port.

  Select [Auto] to let the BIOS automatically assign the base I/O and IRQ address.

3.2.6. **W83627DHG HW Monitor**

```
                             Aptio Setup - AMI
      Advanced

▶ Smart Fan Function           [Enabled]             Enable or Disable Smart Fan
▶ Smart Fan Mode Configuration
  CPU temperature              : +57'C
  System temperature1          : +35'C
  System temperature2          : +46'C
  System Fan1 Speed            : N/A
  System Fan2 Speed            : N/A
  System Fan3 Speed            : 3668 RPM
  System Fan4 Speed            : N/A
  +5V                          : +5.043 V
  +12V                         : +12.144 V
  VCORE                        : +1.000 V

                                                      →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit


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```

• **Smart Fan Mode Configuration**

Smart Fan Mode selection.

```
                        Aptio Setup - AMI
   Advanced

Smart Fan Mode Configuration                         Smart Fan Mode Select

Smart Fan Mode                 [Thermal Cruise Mode]
CPU Target Temperature         70
FAN Tolerance                  2




                                                     →←: Select Screen
                                                     ↑↓: Select Item
                                                     Enter: Select
                                                     +/-: Change Opt.
                                                     F1: General Help
                                                     F2: Previous Values
                                                     F3: Optimized Defaults
                                                     F4: Save & Exit
                                                     ESC: Exit


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```

• **Smart Fan Mode**
[Thermal Cruise Mode]: You can adjust FAN Target Temperatur and FAN Tolerance manually. If CPU temp is lower than target temp-tolerance, the fan will run at low fan speed. If CPU temp ishigherer than target temp+tolerance, the fan will run at full fan speed.

[Manual Mode] : You can set fixed fan speed.

• **CPU Target Temperature**
Input a target temperature between 0 ~ 127°C.

• **FAN Tolerance**
Input a target temperature tolerance.

3.2.7. F81216SEC Super IO Configuration

```
                              Aptio Setup - AMI
        Advanced

     F81216SEC Super IO Configuration                      Set Parameters of Serial Port
                                                           3 (COMC)
     Super IO Chip                    F81216SEC
  ▶ Serial Port 3 Configuration
  ▶ Serial Port 4 Configuration
  ▶ Serial Port 5 Configuration
  ▶ Serial Port 6 Configuration


                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit


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```

- **Serial Port 3~6 Configuration**

  Set parameters of serial port 3~6.

3.2.8. USB Configuration

```
                              Aptio Setup - AMI
        Advanced

     USB Configuration                                     Enables Legacy USB support.
                                                           AUTO option disables legacy
     USB Module Version               24                   support if no USB devices are
                                                           connected. DISABLE option will
     USB Controllers:                                      keep USB devices available
         1 XHCI                                            only for EFI applications.
     USB Devices:
         1 Keyboard, 1 Hub

     Legacy USB Support               [Enabled]
     XHCI Hand-off                    [Enabled]
     USB Mass Storage Driver Support  [Enabled]
                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit


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```

- **Legacy USB Support**

  Select Enabled to support onboard legacy USB devices. Select Auto to disable
  legacy support if there are no legacy USB devices present. Select Disable to have all
  USB devices available for EFI applications only.

- **XHCI Hand-off**
  This is a work-around solution for operating systems that do not support XHCI (Extensible Host Controller Interface) hand-off. The XHCI ownership change should be claimed by the XHCI driver.

- **USB Mass Storage Driv**
  Select Enabled for USB Mass Storage Driver support.

3.2.9. CSM Configuration

```
                              Aptio Setup - AMI
        Advanced

   Compatibility Support Module Configuration            Enable/Disable CSM Support.

   CSM Support                      [Enabled]

   Option ROM execution

   Network                         [Do not launch]
   Storage                         [UEFI]
   Video                           [UEFI]
   Other PCI devices               [Do not launch]


                                                         →←: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit



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```

- **CSM Support**
  Use this feature to set the compatibility Option ROM. The options are Enabled, and Disabled. Disabled is the default option.

- **Network**
  This item provides control of the operation UEFI and regular PXE/Storage/Video, randomly read memory (OpROM). Options are: [UEFI], [Legacy], [Do not Launch].

- **Storage**
  This option controls the execution of UEFI and Legacy Storage OpROM.

- **Video**
  This option controls the execution of UEFI and Legacy Video OpROM.

- **Other PCI devices**
  This option determines OpRom execution policy for devices other than Network, Storage, or Video.

3.3. Chipset

```
                              Aptio Setup — AMI
        Main   Advanced   Chipset   Security   Boot   Save & Exit
    ┌──────────────────────────────────────────────┬──────────────────────────────┐
    │ ▶ Graphics Configuration                     │ Graphics Configuration       │
    │ ▶ SATA And RST Configuration                 │                              │
    │   HD Audio                      [Enabled]    │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │ ←→: Select Screen            │
    │                                              │ ↑↓: Select Item              │
    │                                              │ Enter: Select                │
    │                                              │ +/-: Change Opt.             │
    │                                              │ F1: General Help             │
    │                                              │ F2: Previous Values          │
    │                                              │ F3: Optimized Defaults       │
    │                                              │ F4: Save & Exit              │
    │                                              │ ESC: Exit                    │
    │                                              │                              │
    └──────────────────────────────────────────────┴──────────────────────────────┘
                  Version 2.21.1278 Copyright (C) 2022 AMI
```

3.3.1. Graphics Configuration

```
                              Aptio Setup — AMI
             Chipset
    ┌──────────────────────────────────────────────┬──────────────────────────────┐
    │   Primary Display             [Auto]         │ Select which of IGFX/PEG/PCI │
    │   Internal Graphics           [Auto]         │ Graphics device should be    │
    │                                              │ Primary Display Or select SG │
    │                                              │ for Switchable Gfx.          │
    │                                              │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │                              │
    │                                              │ ←→: Select Screen            │
    │                                              │ ↑↓: Select Item              │
    │                                              │ Enter: Select                │
    │                                              │ +/-: Change Opt.             │
    │                                              │ F1: General Help             │
    │                                              │ F2: Previous Values          │
    │                                              │ F3: Optimized Defaults       │
    │                                              │ F4: Save & Exit              │
    │                                              │ ESC: Exit                    │
    └──────────────────────────────────────────────┴──────────────────────────────┘
                  Version 2.21.1278 Copyright (C) 2022 AMI
```

- **Primary Display**
  Select Primary display [Auto] [PEG] [IGFX].

- **Internal Graphics**
  Select IGFX device enabled base on the options [Auto] [enabled] [disabled].

3.3.2. SATA And RST Configuration

```
                            Aptio Setup – AMI
          Chipset

   SATA And RST Configuration                              Enable/Disable SATA Device.

   SATA Controller(s)               [Enabled]
   SATA Mode Selection              [AHCI]

   Serial ATA Port 1
   [Not Installed]
     Port Function                  [Enabled]
     Hot Plug                       [Disabled]
     SATA Device Type               [Hard Disk Drive]
   Serial ATA Port 2
   [Not Installed]
     Port Function                  [Enabled]
     Hot Plug                       [Disabled]                ↔: Select Screen
     SATA Device Type               [Hard Disk Drive]         ↑↓: Select Item
   Serial ATA Port 3                                          Enter: Select
   [Not Installed]                                            +/–: Change Opt.
     Port Function                  [Enabled]                 F1: General Help
     Hot Plug                       [Disabled]                F2: Previous Values
     SATA Device Type               [Hard Disk Drive]         F3: Optimized Defaults
   Serial ATA Port 4                                          F4: Save & Exit
   [Not Installed]                                            ESC: Exit
     Port Function                  [Enabled]
     Hot Plug                       [Disabled]
     SATA Device Type               [Hard Disk Drive]

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```
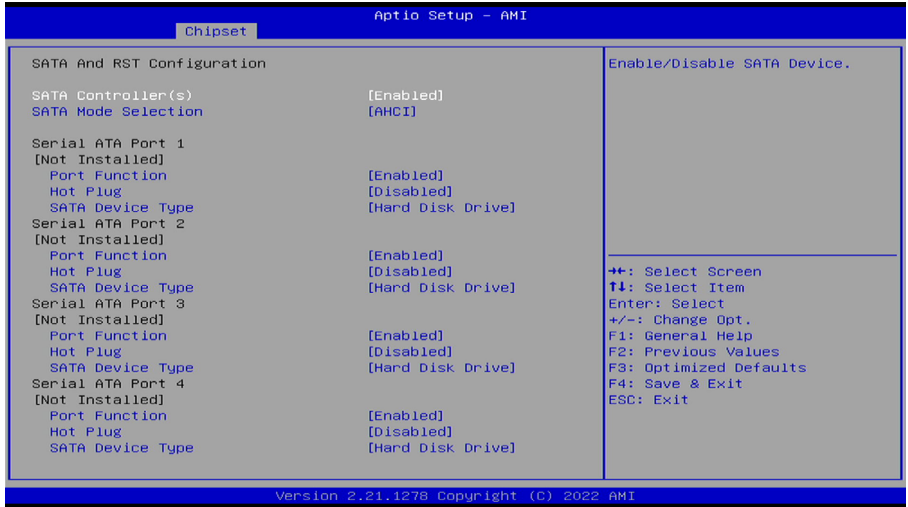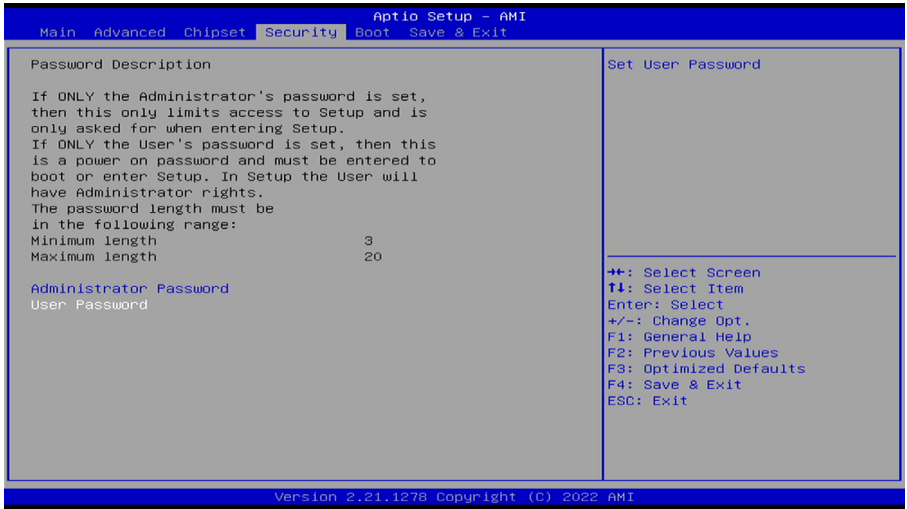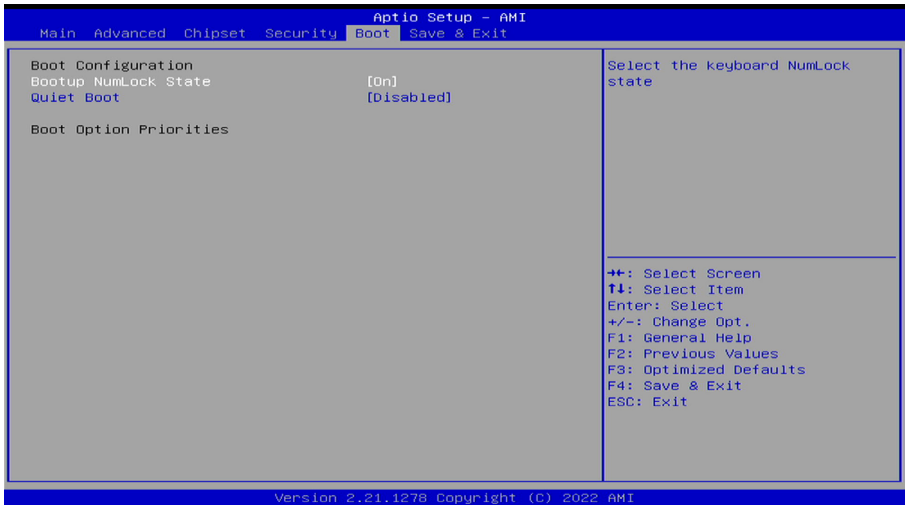
- **SATA Controller**
  Enabled/Disabled SATA Controller.

- **SATA Mode Selection**
  Select SATA Mode AHCI/RAID.

- **Port Function**
  Enable/Disable SATA Port device.

- **Hot Plug**
  Enable/Disable HDD Hot-Plug function.

- **SATA Device Type**
  Select SATA Device Type HDD/SSD.

3.4.   Security Setup

```
                             Aptio Setup — AMI
        Main  Advanced  Chipset  Security  Boot  Save & Exit

  Password Description                               Set User Password

  If ONLY the Administrator's password is set,
  then this only limits access to Setup and is
  only asked for when entering Setup.
  If ONLY the User's password is set, then this
  is a power on password and must be entered to
  boot or enter Setup. In Setup the User will
  have Administrator rights.
  The password length must be
  in the following range:
  Minimum length              3
  Maximum length              20
                                                    →←: Select Screen
  Administrator Password                             ↑↓: Select Item
  User Password                                      Enter: Select
                                                     +/−: Change Opt.
                                                     F1: General Help
                                                     F2: Previous Values
                                                     F3: Optimized Defaults
                                                     F4: Save & Exit
                                                     ESC: Exit


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```
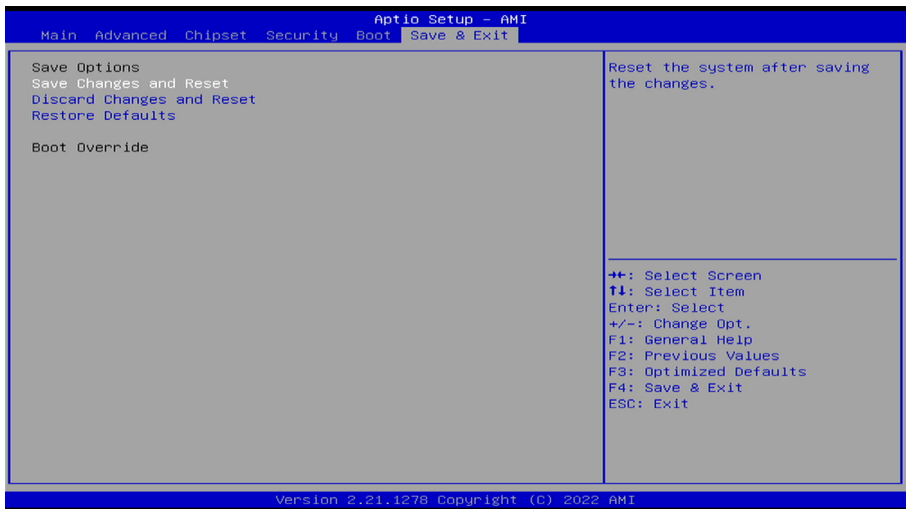
- **Administrator Password**
  Press Enter to create a new, or change an existing Administrator password.

- **User Password**
  Press Enter to create a new, or change an existing User password.

3.5.   Boot Setup

```
                             Aptio Setup — AMI
        Main  Advanced  Chipset  Security  Boot  Save & Exit

  Boot Configuration                                 Select the keyboard NumLock
  Bootup NumLock State              [On]             state
  Quiet Boot                        [Disabled]

  Boot Option Priorities




                                                    →←: Select Screen
                                                     ↑↓: Select Item
                                                     Enter: Select
                                                     +/−: Change Opt.
                                                     F1: General Help
                                                     F2: Previous Values
                                                     F3: Optimized Defaults
                                                     F4: Save & Exit
                                                     ESC: Exit


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```

• **Bootup NumLock State**
This feature selects the Power-on state for the Numlock key.

• **Quiet Boot**
Use this feature to select the screen display between POST messages or the OEM logo at bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages.

• **Boot Option Priorities**
This feature allows the user to specify which devices are boot devices and the order of priority from which the systems boots from during startup.

3.6.   Save & Exit Setup

```
                          Aptio Setup – AMI
    Main   Advanced   Chipset   Security   Boot   Save & Exit

 Save Options                                    Reset the system after saving
 Save Changes and Reset                          the changes.
 Discard Changes and Reset
 Restore Defaults

 Boot Override


                                                 →←: Select Screen
                                                 ↑↓: Select Item
                                                 Enter: Select
                                                 +/-: Change Opt.
                                                 F1: General Help
                                                 F2: Previous Values
                                                 F3: Optimized Defaults
                                                 F4: Save & Exit
                                                 ESC: Exit

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```

• **Save Changes and Reset**
When you have completed the system configuration changes, select this option to save all changes made and reset the system.

• **Discard Changes and Reset**
Select this option to quit the BIOS Setup without making any permanent changes to the system configuration and reboot the computer. Select Discard Changes and Exit from the Exit menu and press <Enter>.

• **Restore Defaults**
To set this feature, select Restore Optimized Defaults and press <Enter>. These are factory settings designed for maximum system performance but not for maximum stability.

• **Boot Override**
This feature allows the user to override the Boot Option Priorities sequence in the Boot menu and immediately boot the system with another device specified by the user. This is a onetime override.

4. Software Installation and Programming Guide

4.1. Introduction

4.1.1. Environment

This test utility develop based on Ubuntu 20.04 Desktop.

4.1.2. GPIO

AAD-W480Ax provides GPIO interface. Users can use the GPIO APIs to control GPO Pin.

4.1.3. Watchdog

AAD-W480Ax provides a Watchdog timer. Users can use the Watchdog APIs to configure and to access the Watchdog timer. The Watchdog timer can be set to 1~255 seconds. Setting the timer to zero disables the timer. The remaining seconds of the timer to reboot can be read from the timer.

4.1.4. Power Subsystem

The Power Subsystem APIs can be used to get and set the configuration of power subsystem. By invoking the Power Subsystem APIs, users can:

1. Get the firmware version number of the Power Subsystem.
2. Set all the settings of the Power Subsystem to the default values.
3. Get/Set the status of the remote switch (ENABLE or DISABLE).
4. Get the battery voltage.an voltage type.
5. Get/set the status of the battery monitor (ON or OFF).
6. Get/set the delta value which identifies how much the battery voltage can be lower than the nominal voltage. When the voltage is lower than the tolerable voltage, the power subsystem turns off the system.
7. Get/set the Power On deley.
8. Get/set the Power Off delay.

The power subsystem connects to the main system via the i2c protocol on the Linux platform.

4.2. File Descriptions

4.2.1. GPIO/Watchdog/Power Subsystem Module

1. TestUtility

The Watchdog, Power Supply, GPIO. Console bin binary.

2. acrosserlib.h

This file includes the declarations of the APIs and macro definitions.

3. libacrosser.a

The static library for linux.

4. libacrosser.so

The dynamic library for linux.

5. Install_driver

This file is linux shell script file. Run this file can help you install environment and modprobe driver on linux.

6. readme

Use this utility first. Please read the readme file first.

4.3. API List and Descriptions

4.3.1. GPIO

Syntax:	Get_gpi_status(int pin)
Description:	Get the status of GPIO input pins status.
Parameters:	This function fills in an integer variable as the parameter.
	The pin0 ~ pin3 is the status of the output pins
Return Value:	1:HIGH, 0:LOW.

Syntax:	Get_gpo_status(int pin)
Description:	Get the status of GPIO output pins status.
Parameters:	This function fills in an integer variable as the parameter.
	The pin0 ~ pin3 is the status of the output pins
Return Value:	1:HIGH, 0:LOW.

Syntax:	Set_gpo(int pin, int value)
Description:	Set the status of GPIO Output value.
Parameters:	Set value 0 is Low, 1 is High
Return Value:	If the function sets the values successfully, it returns 0 or -1, any other returned value stands for error.

4.3.2. Watchdog

Syntax:	void wdt_start(int timevalue)
Description:	This function gets the watchdog timer register to the time value and starts to count down.
Parameters:	The parameter 'val' is the value to set to watchdog timer register. The range is 1 ~ 255.
Return Value:	This function returns the value of the time counter and return it to the caller as an unsigned integer.

Syntax:	Int get_wdt_count(void)
Description:	This function reads the value of the watchdog time counter.
Parameters:	None.
Return Value:	This function returns the value of the time counter.

Syntax:	Void wdt_stop(void)
Description:	This function sets the watchdog timer stop.
Parameters:	None.
Return Value:	None.

4.3.3. Power Subsystem

Syntax:	int getPwrFwVer(char *ver)
Description:	This function gets the version information of the firmware of the Power Subsystem.
Parameters:	The definition of char ver[17]="\0";
	This API returns the version information and stores the information in the memory which is pointed at by the pointer 'ver'.

Syntax:	i32 getIgnitionSwitch(u8 *val)
Description:	The function gets the status of the Remote Switch.
Parameters:	This function takes a pointer to an unsigned char variable as the parameter. After calling this function, the status of the Remote Switch will be put at the memory which is pointed by the parameter 'val'. If the Remote Switch is enabled, '*val' is 0x5A. If the Remote Switch is disabled, the '*val' is 0xA5. Users can use the macros 'ENABLED' (0x5A) and 'DISABLED'(0xA5) to test the status value '*val'.

```
For example:
u8 val;
i32 result;


result = getIgnitionSwitch(&val);
if(result == 0) {
if(val == ENABLED)
printf("Remote Switch is enabled.\n");
else if( val == DISABLED )
printf("Remote Switch is disabled.\
n");
}
```

Return Value:	If this function works successfully, it returns 0, any other value stands for error.

Syntax:	i32 getBattVolt(float *val)
Description:	This function gets the battery voltage ant put it in the memory which is pointed at by the pointer 'val'.
Parameters:	This function takes a pointer to a 'float' variable as the parameter. The reading of the battery voltage is put at the memory which is pointed at by the parameter 'val'.
Return Value:	If this function works successfully, it returns 0, any other value stands for error.

Syntax:	i32 getBattMonitor(u8 *val)
Description:	The function gets the status of the Battery Monitor.
Parameters:	This function takes a pointer to an unsigned char variable as the parameter. After calling this function, the status of the Battery Monitor will be put at the memory which is pointed by the parameter 'val'. If the Battery Monitor is enabled, '*val' is 0x5A. If the Battery Monitor is disabled, the '*val' is 0xA5. Users can use the macros 'ENABLED' (0x5A) and 'DISABLED'(0xA5) to test the status value '*val'.
Return Value:	If this function works successfully, it returns 0, any other value stands for error.

Syntax:	i32 setBattMonitor(u8 val)
Description:	The function sets the status of the Battery Monitor.
Parameters:	This function takes an unsigned char as the parameter. The value of this parameter can be 'ENABLED' (0x5A) or 'DISABLED'(0xA5).
Return Value:	If this function works successfully, it returns 0, any other value stands for error.

Syntax:	i32 getBattDelta(float *val)
Description:	This function gets the delta value. The delta value is the maximum voltage deviation of the power from its nominal voltage. If the function of Battery Monitor is ON, the Power Subsystem shuts the system down when the voltage deviation of the power is larger than the delta value.
Parameters:	This function takes a pointer to a float variable as the parameter. The delta value will be put at the memory which is pointed by the parameter 'val'.
Return Value:	If this function works successfully, it returns 0, any other value stands for error.

Syntax:	i32 setBattDelta(float val)
Description:	This function sets the voltage delta value. The range is 0.5V ~ 3.0V. The granularity is 0.5V.
Parameters:	This function takes a float variable as the parameter.
Return Value:	If this function works successfully, it returns 0, any other value stands for error.

Syntax:	i32 getPowerOnDelay(u32 *val)
Description:	This function gets the Power On delay.
Parameters:	This function takes a pointer to an unsigned long variable as the parameter. The delay time will be put at the memory which is pointed by the 'val'.
Return Value:	If this function works successfully, the function returns 0, any other value stands for error.

Syntax:	i32 setPowerOnDelay(u32 val)
Description:	This function sets the Power On delay.
Parameters:	This function takes an unsigned long variable as the parameter. The range of the Power On delay is 2 ~ 60 seconds.
Return Value:	If this function works successfully, the function returns 0, any other value stands for error.

Syntax:	i32 getPowerOffDelay(u32 *val)
Description:	This function gets the PowerOff delay.
Parameters:	This function takes a pointer to an unsigned long variable as the parameter. The delay time will be put at the memory which is pointed by the parameter 'val'.
Return Value:	If this function works successfully, the function returns 0, any other value stands for error.

Syntax:	i32 setPowerOffDelay(u32 val)
Description:	This function sets the PowerOff delay.
Parameters:	This function takes an unsigned long variable as the parameter. The range of the delay is 1 ~ 3600 seconds.
Return Value:	If this function works successfully, the function returns 0, any other value stands for error.

Syntax:	i32 getPowerIgnitionStatus(u8* val)
Description:	This function gets the Power Ignition Status.
Parameters:	This function takes a pointer to an unsigned char variable as the parameter. The Status will be put at the memory which is pointed by the parameter 'val'.
Return Value:	If this function works successfully, the function returns 0, any other value stands for error.

Syntax:	**Unsigned char getBatterytype(void)**
Description:	This function gets the Battery type.
Parameters:	None.
Return Value:	Battery type.

4.3.4. Notes

Syntax:	**int lib_init(void)**
Description:	use the watchdog, gpio function before, must be call this function first.
Parameters:	None.
Return Value:	0: Successful, -1: Fail

Syntax:	**void lib_close(void)**
Description:	if watchdog, gpio fuction not use on your program, please call this function.
Parameters:	None.
Return Value:	None.

5.   FAQ

Q 1.   Where is the serial number located on my system?

- The serial number (S/N) is an alpha-numeric character located on the bottom or side chassis.

Model: AR-ES5230FLCM15
P/N: 010050144-01
S/N: 5048921   (for reference only)
CPU: Celeron M 370 1.5GHZ
Memory: DDR2 1GB
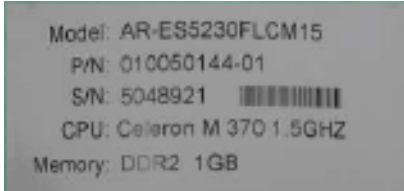
Q 2.   How to use the RAID function after having installed the RST Driver?

- Follow the installation sequence below to complete the installation and to rebuild RAID1
  RST_PV_17.9.1.1009.4_20H1_19H2_19H1

  1. Recommend to connect internet.
  2. Install the VC module: RST_PV_17.9.1.1009.4_20H1_19H2_19H1\HSA\ Dependency\Microsoft.VCLibs.140.00.UWPDesktop_14.0.27810.0_ x64__8wekyb3d8bbwe.appx
  3. Install the RST module: RST_PV_17.9.1.1009.4_20H1_19H2_19H1\HSA\824 9ab27cf1344c184155c7549afd30c.appxbundle
  4. Install: RST AP RST_PV_17.9.1.1009.4_20H1_19H2_19H1\Installer\RST\ SetupRST.exe

Technical Support Form

We deeply appreciate your purchase of Acrosser products. Please find the "**tech_form. doc**" file in our utility CD. If you have any questions or problems about Acrosser products, please fill in the following information. We will answer your questions in the shortest time possible.

Describe Your Info and Acrosser System Info

- Your Company Name: _____
- Your Contact Info: _____ Phone Number: _____
- Your E-Mail Address: _____
- Your Company Address: _____
  _____
- Acrosser Model Name: _____
- Acrosser Serial Number: _____

Describe System Configuration

- CPU Type: _____
- Memory Size: _____
- Storage Device (e.g. HDD, CF, or SSD): _____
- Additional Peripherals (e.g. Graphic Card): _____
- Operating System & Version (e.g. Windows 7 Embedded): _____
- Special API or Driver: _____
  (If yes, please provide it for debug.)
- Running Applications: _____
- Others: _____

Describe Your Problems or Questions:

Send the above information to one of the following Acrosser contacts:

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- Acrosser Authorized Sales Channels
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- Acrosser FAX Number --- 886-2-29992887

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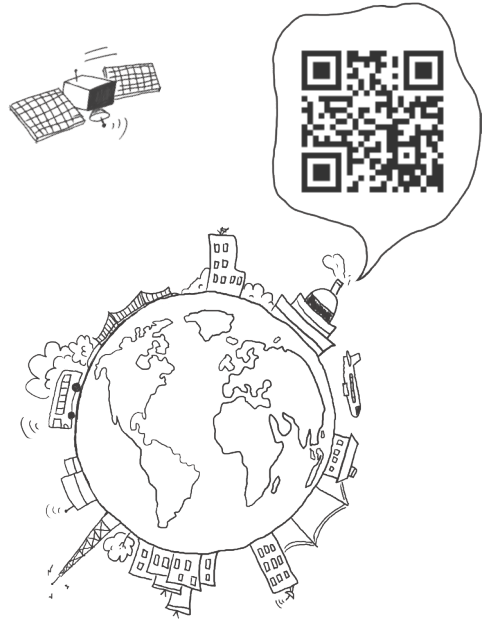
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