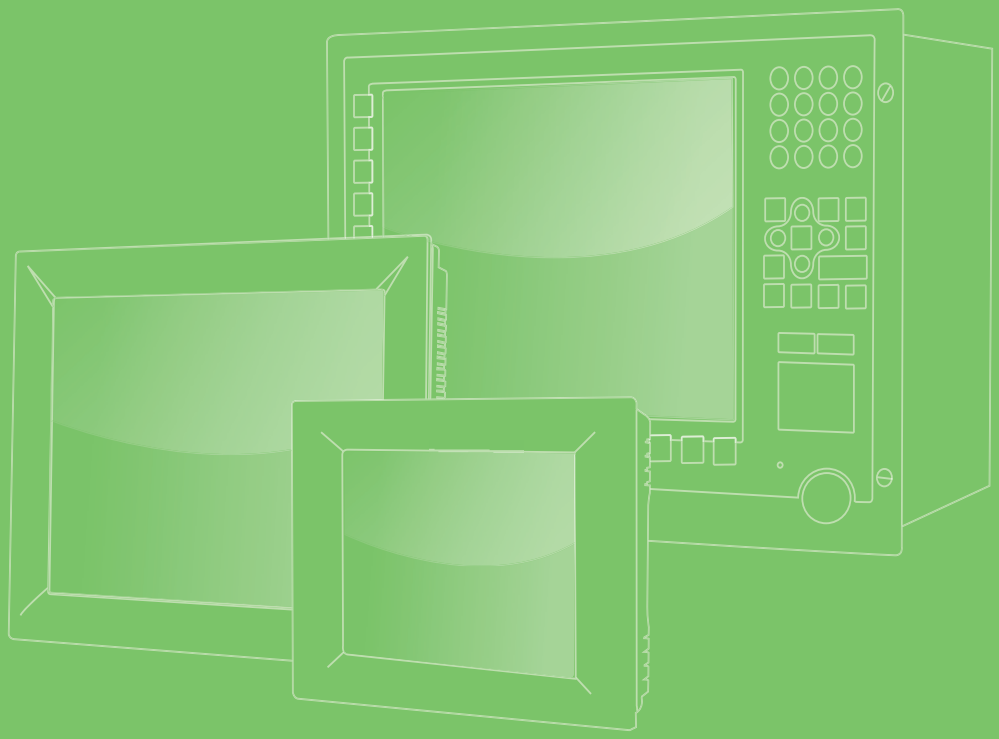

User Manual

# PPC-615W/618W/621W

## 15.6"/18.5"/21.5" Configurable Panel PC Chassis with Selectable Mini-ITX Motherboard

ADVANTECH

*Enabling an Intelligent Planet*

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# Product Warranty (2 years)

Advantech warrants the original purchaser that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products that have been repaired or altered by persons other than repair personnel authorized by Advantech, or products that have been subject to misuse, abuse, accident, or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, customers will be billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details.

If you think you have a defective product, follow the steps outline below:

1. Collect all the information about the problem encountered (for example, CPU speed, Advantech products used, other hardware and software used, etc.). Note anything abnormal and list any onscreen messages received when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any relevant information readily available.
3. If your product is diagnosed as defective, obtain an return merchandise authorization (RMA) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a completed Repair and Replacement Order Card, and a proof of purchase date (such as a photocopy of your sales receipt) into a shippable container. Products returned without a proof of purchase date are not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package, then ship the package prepaid to your dealer.

Part No. 2004615W00 Edition 1

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# Declaration of Conformity

### CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. To protect the product from damage due to electrostatic discharge (ESD) or EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

### FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users are required to correct the interference at their own expense.

# Technical Support and Assistance

1. Visit the Advantech website at http://support.advantech.com to obtain the latest product information.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information to hand before calling:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - Comprehensive description of the problem
   - The exact wording of any error messages

# Safety Instructions

1. Read these safety instructions carefully.
   Veuillez lire attentivement ce manuel d'instructions de sécurité.
2. Keep this startup manual for future reference.
   Veuillez conserver ce manuel d'instructions pour référence ultérieure.
3. Disconnect the equipment from all power outlets before cleaning. Use only a damp cloth for cleaning. Do not use liquid or spray detergents.
   Débranchez l'appareil de toutes les prises de courant avant le nettoyage. Nettoyez-le uniquement à l'aide d'un chiffon humide. Ne pas utiliser de détergents liquides ou pulvérisateurs.
4. For pluggable equipment, the power outlet socket must be located near the equipment and easily accessible. Ensure to connect the power cord to a socket-outlet with earthing connection.
   Pour les appareils enfichables, la prise de courant doit être placée près de l'appareil et facilement accessible. Veillez à cordon d'alimentation connecté à un socle de prises de courant avec connexion à la terre.
5. Protect the equipment from humidity.
   Protégez l'appareil contre l'humidité.
6. Place the equipment on a reliable surface during installation. Dropping or letting the equipment fall may cause damage.
   Placez l'appareil sur une surface fiable pendant l'installation. L'abandon ou la chute de l'appareil pourrait causer des dommages.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
   Les ouvertures du boîtier sont pour la convection d'air. Protégez l'appareil contre la surchauffe. Ne couvrez pas les ouvertures.
8. Ensure that the voltage of the power source is correct before connecting the equipment to a power outlet. The power outlet socket should have grounded connection.
   Assurez-vous que la tension de la source d'alimentation est correcte avant de connecter l'appareil à une prise de courant. La prise de courant doit avoir une bonne connexion mise à la terre.
9. Position the power cord away from high-traffic areas. Do not place anything over the power cord.
   Placez le cordon d'alimentation à l'écart des zones à fort trafic. Ne placez rien sur le cordon d'alimentation.
10. All cautions and warnings on the equipment should be noted.
    Attention à toutes les précautions et avertissements indiqués sur l'appareil.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage from transient over-voltage.
    Si l'appareil n'est pas utilisé pendant une longue période, déconnectez-le de la source d'alimentation pour éviter les dommages causés par une surtension transitoire.
12. Never pour liquid into an opening. This may cause fire or electrical shock.
    Ne versez jamais de liquide dans une ouverture. Sinon, cela pourrait provoquer un incendie ou un choc électrique.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified skilled person.
    N'ouvrez jamais l'appareil. Pour des raisons de sécurité, l'appareil ne doit être ouvert que par un technicien qualifié.
14. If one of the following occurs, have the equipment checked by service personnel:
    Si l'un des cas suivants se produit, demandez aide à un technicien qualifié:

- The power cord or plug is damaged.
  Le cordon d'alimentation ou la fiche est endommagé.
- Liquid has penetrated the equipment.
  Le liquide a pénétré dans l'appareil.
- The equipment has been exposed to moisture.
  L'appareil a été exposé à l'humidité.
- The equipment is malfunctioning or does not function according to the user manual.
  L'appareil est défectueux ou ne fonctionne pas conformément aux instru tions.
- The equipment has been dropped and damaged.
  L'appareil a été aba donné et endommagé.
- The equipment shows obvious signs of breakage.
  L'appareil montre des signes évidents de rupture.

15. Do not leave the equipment in an environment with a storage temperature of below -20° C (-4° F) or above 60° C (140° F) as this may cause damage. The equipment should be kept in a controlled environment.
    Ne laissez pas cet appareil dans un environnement dont la température de stockage est inférieure à -20° C (-4° F) ou supérieure à 60° C (140° F), car cela pourrait causer des dommages. L'appareil doit être surveillé dans l'environnement.
16. CAUTION: Batteries are at risk of exploding if incorrectly replaced. Replace only with the same or equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
    ATTENTION: Il y a danger d'explosion s'il y a remplacement incorrect de la pile. Remplacer uniquement avec une pile du même type ou d'un type équivalent recommandé par le constructeur.
17. In accordance with the IEC 704-1:1982 specifications, the sound pressure level at the operator's postion does not exceed 70 dB (A).
    Conformément aux spécifications de l'IEC 704-1:1982, le niveau de pression acoustique à la position de l'opérateur ne dépasse pas 70 dB (A).
18. DISCLAIMER: These instructions are provided in accordance with IEC 704-1 standards. Advantech disclaims all responsibility for the accuracy of any statements contained herein.
    AVERTISSEMENT: ces instructions sont fournies conformément aux normes IEC 704-1. Advantech décline toute responsabilité quant à la précision de toute déclaration contenue dans le présent document.
19. Warning message for using product in ITE environment
    Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.
    Peut être installé dans des salles de matériel de traitement de l'information conformément à l'article 645 du National Electrical Code et à la NFPA 75.
20. This product is intended to be supplied by an UL certified power supply or Dc source with mating connector suitable for use at minimum Tma 45 degree C whose output meets ES1 and rated 24Vdc, 12A min. If need further assistance, please contact Advantech for further information.
    Ce produit est destiné à être fourni par une alimentation certifiée UL ou une alimentation CC, et son connecteur de support convient à au moins Tma45° C, la sortie répond à ES1 et est nominale 24Vdc, 12Amin. Si vous avez besoin d'aide, contactez Edwan Technology pour plus d'informations
21. This product is not intent for use by children. This product is not suitable for use in locations where children are likely to be present.
    Ce produit n'est pas destiné à être utilisé par les enfants. Ce produit ne convient pas à une utilisation où les enfants peuvent être présents.

22. Do not modify the construcyion of equipment or expand any hardware board/ devices. Please return to the authorized dealer for any installation, replacement, repair, update or service.
Ne modifiez pas la structure du périphérique ou n'étendez aucune carte matérielle/périphérique. Pour toute installation, remplacement, réparation, mise à jour ou service, veuillez retourner à votre revendeur agréé.

## Safety Precautions - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage:

- To avoid electrical shock, always disconnect the power from the PC chassis before manual handling. Do not touch any components on the CPU card or other cards while the PC is switched on.
- Disconnect all power before making any configuration changes. A sudden rush of power when connecting a jumper or installing a card may damage sensitive electronic components.

## Battery Information

Batteries, battery packs, and accumulators should not be disposed of in unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with your local regulations.

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# Chapter 1

## Introduction

- Overview
- Features
- Chassis Comparison
- Specifications
- External View
- System View
- Dimensions

# 1.1 Overview

The PPC-615W/618W/621W is a panel PC chassis developed for Mini-ITX motherboards. These chassis are equipped with a 15.6"/18.5"/21.5" TFT LED panel. PPC-615W/618W/621W supports a selection of Mini-iTX motherboards to satisfy diverse customer requirements regarding price and functionality.

PPC-615W/618W/621W also features a true flat bezel to meet market demands for a stylish design, as well as an additional reservation port and expansion slot to accommodate various applications. The PPC-615W/618W/621W series devices were developed using two design concepts — optimization and compatibility.

Features:

- PPC-615W/618W/621W true-flat PPC with project capacitive multi-touch
- Supports certified Mini-ITX motherboards, up to 65 W TDP processor
- Supports two PCI/PCIe expansion slots
- Front-facing LED indicators for power status
- Front panel is IP66 compliant
- Optional VESA mount available upon request

# 1.2 Specifications

## 1.2.1 Specifications Comparison

| **Product** | **PPC-615W** | **PPC-618W** | **PPC-621W** |
|---|---|---|---|
| LCD | 15.6" | 18.5" | 21.5" |
| Display Type | 15.6" TFT LCD<br>(with LED backlight) | 18.5" TFT LCD<br>(with LED backlight) | 21.5" TFT LCD<br>(with LED backlight) |
| Max. Resolution | 1920 x 1080 | 1366 x 768 | 1920 x 1080 |
| Pixel Pitch | 0.18 x 0.18 mm | 0.3 x 0.3 mm | 0.25 x 0.25 mm |
| Viewing Angle | 85 (left), 85 (right)<br>85 (top), 85 (bottom) | 85 (left), 85 (right)<br>80 (top), 80 (bottom) | 89 (left), 89 (right)<br>89 (top), 89 (bottom) |
| Brightness | 450 cd/$m^2$ | 450 cd/$m^2$ | 250 cd/$m^2$ |
| Contrast | 800 | 1000 | 1000 |
| Weight | 6.1kg | 7.6kg | 8.4kg |
| Dimensions | 419 x 269 x 108.2mm<br>(16.5" x 10.6" x 4.2") | 488 x 309 x 108.2mm<br>(19.2" x 12.1" x 4.2") | 558 x 349.8 x 108.2mm<br>(21.9" x 13.7" x 4.26") |

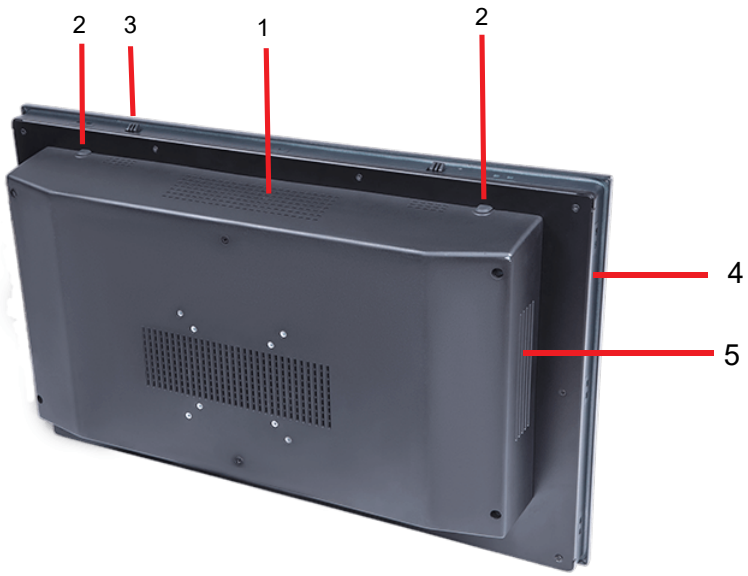
### 1.2.2 General Specifications

| | | |
|---|---|---|
| Chassis Features | | **PPC-615W/618W/621W** |
| | Storage | 1 x 2.5" SATA HDD bay (PPC-615W)<br>2 x 2.5" SATA HDD bay (PPC-618W/621W) |
| | I/O | 2x WLAN antenna ports |
| | | 1 x DC-IN<br>1 x Power switch<br>1 x Reserved ports<br>1 x PPC-MB-XXXX I/O port<br>2 x Expansion slots |
| | Expansion | 1 x PCIe x4 or 2 x PCI (in the accessory box)<br>2 x PCIe x1 (optional)<br>1 x PCIe x1 + 1 x PCI (optional)<br>2 x PCIe x8 (optional, only for PPC-MB-6X0)<br>1 x PCIe x16 (optional, only for PPC-MB-6X0) |
| | Speaker | 2 x 1W |
| | Fan | 2 x 12 V (60 x 60 x 15 mm) |
| OS Support | OS Support | Based on motherboard specifications |
| Power Consumption | Input Voltage | $24V_{DC}$ ±20%, 12A |
| LCD | Backlight Lifetime | 50,000 hours minimum |
| Touchscreen | Touch Type | Projected capacitive multi-touch |
| | Light Transmission | 80+/-5% |
| | Controller | USB interface |
| | Durability | 35 million touches |
| Environment | Operating Temperature | 0 ~ 50 °C (32 ~ 122 °F) (With 35W CPU)<br>0~ 45 °C (32 ~ 113 °F) (With 65W CPU) |
| | Storage Temperature | -20 ~ 60 °C (-4 ~ 140 °F) |
| | Relative Humidity | 10 ~ 95% @ 40 °C (non-condensing) |
| | Shock | Operating 10 G peak acceleration (11 ms duration), follows IEC 60068-2-27 |
| | Vibration | PPC-615W: Operating random vibration test 5 ~ 500Hz, 1Grms @with HDD,follows IEC 60068-2-64<br>PPC-618W/621W: Operating random vibration test 5 ~ 500Hz, 1Grms @with SSD, follows IEC 60068-2-64 |
| | EMC | CE, FCC Class A |
| | Front Panel Protection | IP66 compliant |

## 1.3 External View

The front of PPC-615W/618W/621W is a flat panel LCD screen enclosed in an aluminum frame. (When placed upright on a desk, the PPC-615W/618W/621W front panel appears as shown below.)

PPC-615W/618W/621W Off (S3, S4, S5): orange; On (S0): blue




1. Air outlets
2. Antenna holes
3. Quick installation clip (1)
4. Panel mount bracket holes (10 for PPC-615W/618W and 12 for PPC-621W)
5. Air inlets

# 1.4 Dimensions

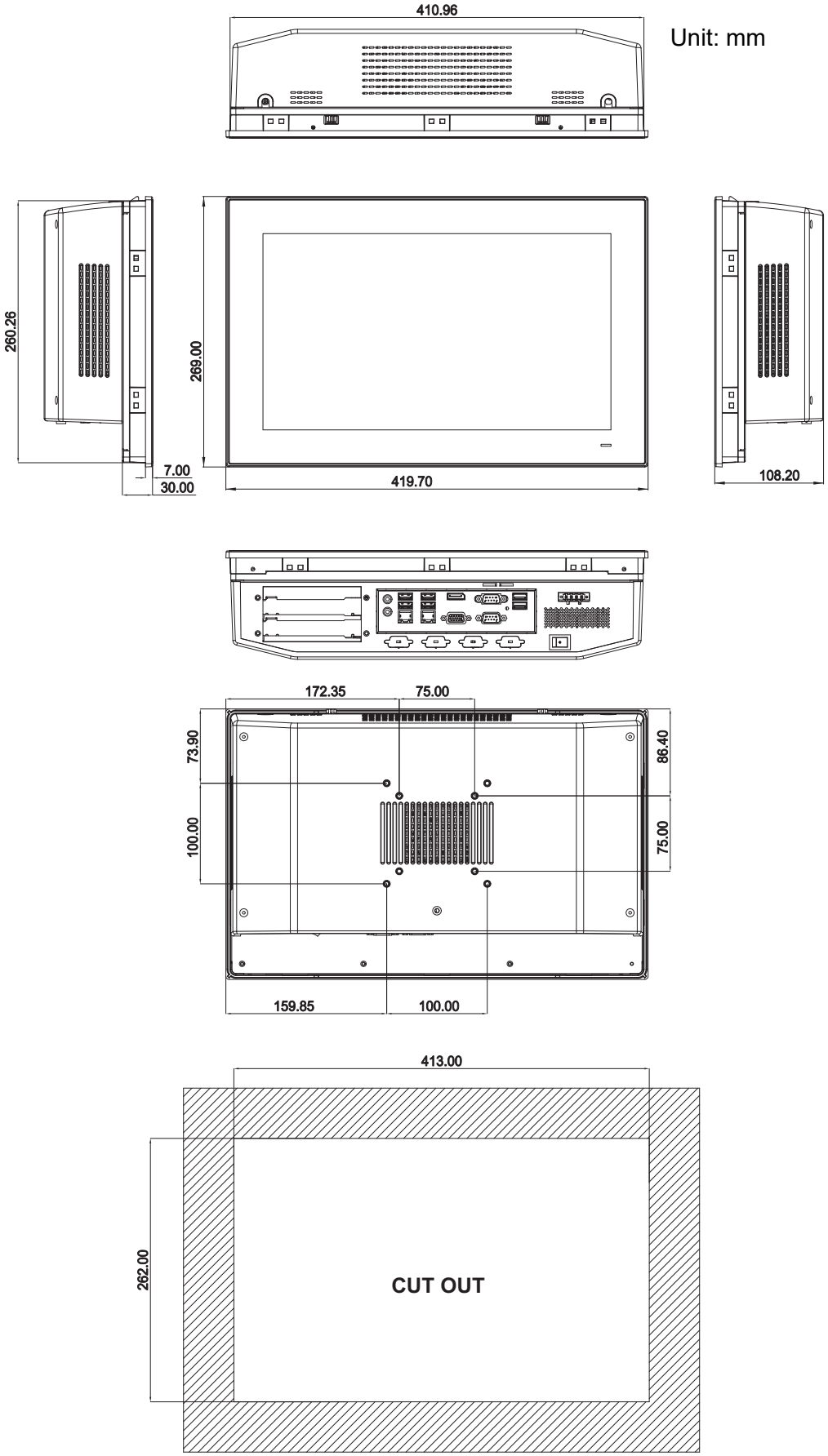



**Figure 1.1 PPC-615W Dimensions**

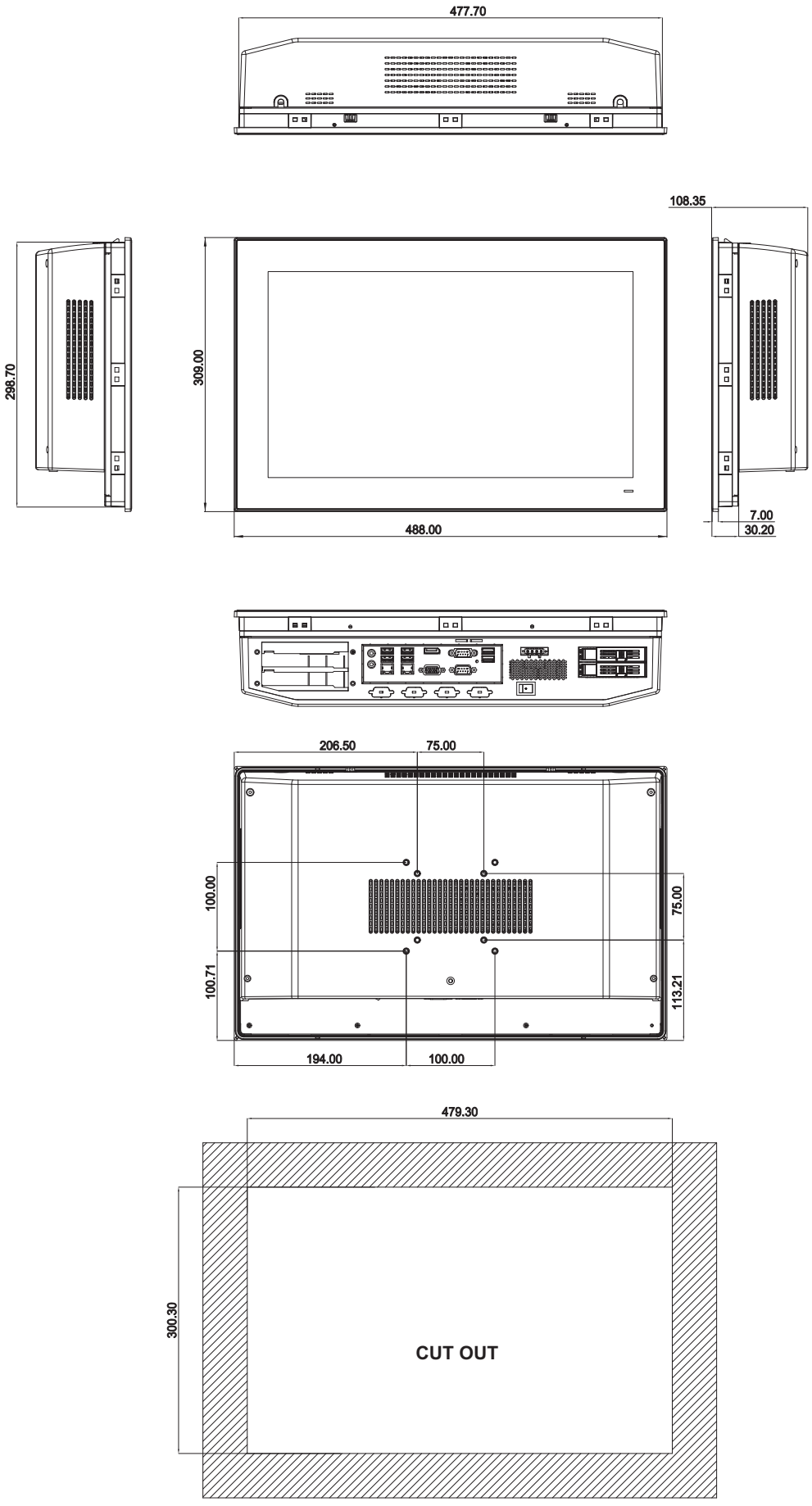



**Figure 1.2 PPC-618W Dimensions**

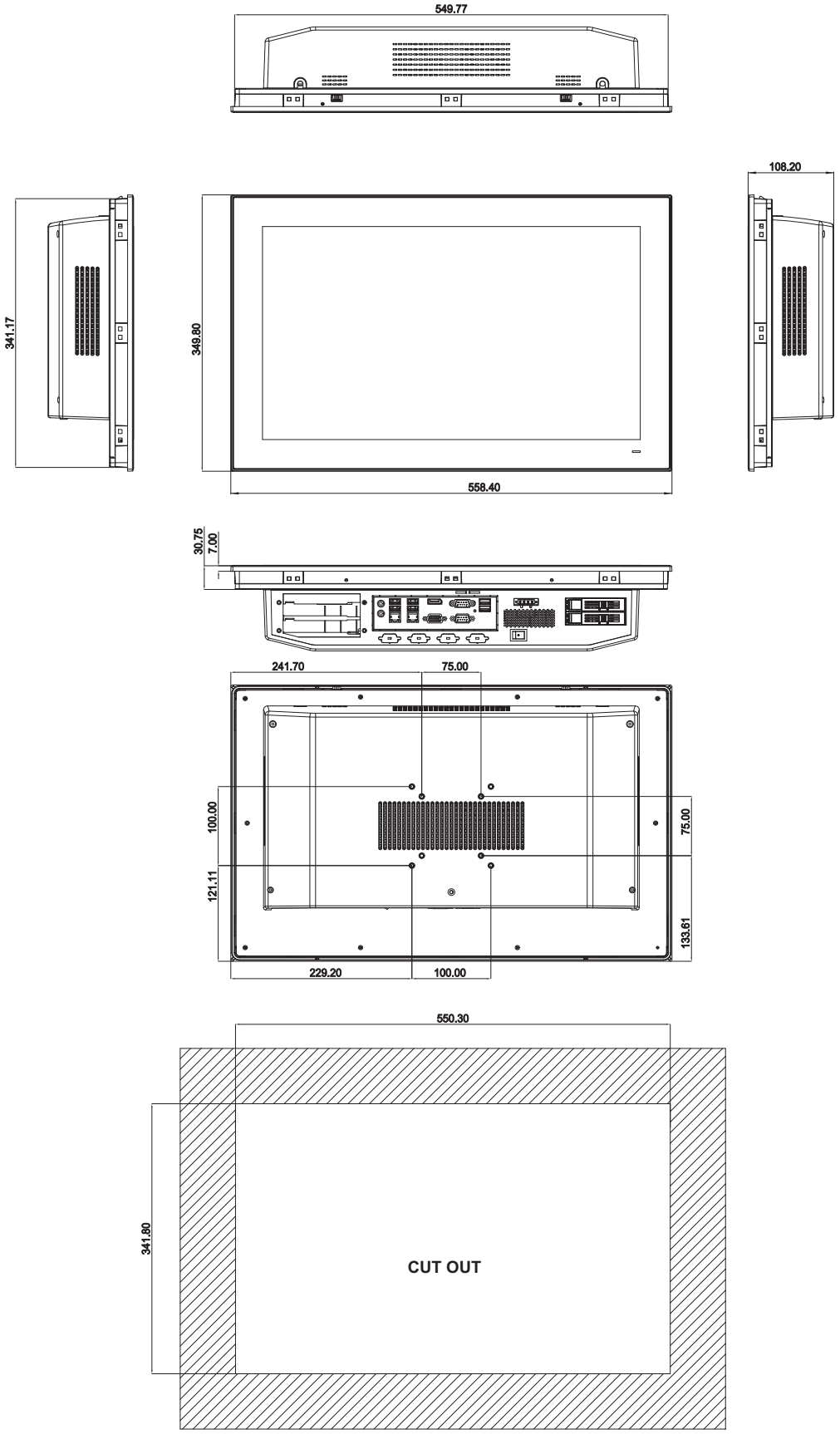



**Figure 1.3 PPC-621W Dimensions**

Fixed VESA screw specification: M4; screw depth: 8 mm/0.31 in (Max)

***Warning!*** *Use suitable mounting apparatus to avoid risk of injury.*

# Chapter 2

## System Installation and Setup

- Anti-Static Precautions
- Installation Procedures
- PPC-615W/618W/621W Motherboard Installation
- PPC-615W/618W/621W Motherboard Installation
- Component Setup
- Mount Installation
- Quick Installation

## 2.1 Anti-Static Precautions

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the PPC model. ESD is especially common in dry climates. Therefore, when manually handling or accessing any of the PPC model's internal components, anti-static precautions should be strictly followed.

Always wear an anti-static wristband when handling the PPC model. This will prevent ESD from damaging the board or causing personal injury.

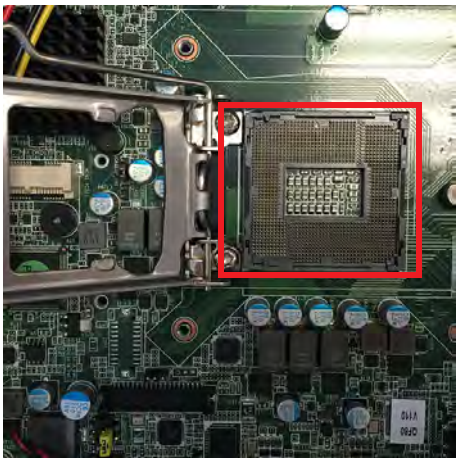
***Note!*** *Refer to Chapter 1.3 (Chassis Comparison) to determine the chassis type, then refer to Chapters 2.3 and 2.4 (for PPC-615W/618W/621W) for the installation guidelines.*

***Warning!*** *Failure to take appropriate ESD precautions during maintenance may result in permanent damage to the PPC and severe injury to the user.*

# 2.2 Component Setup

## 2.2.1 CPU Installation

Remove the CPU socket cover and install the CPU.

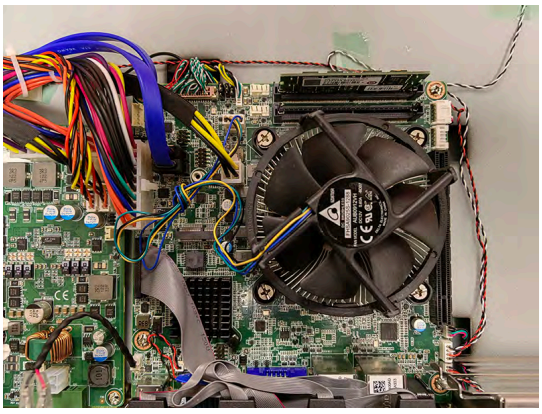


***Note!*** *Exercise caution when handling the motherboard CPU pins. Refer to the datasheet when selecting the motherboard CPU.*

***Note!*** *After CPU installation, ensure the CPU surface is covered in thermal grease. (Thermal grease is included in the PPC-MB series motherboard accessory box.)*

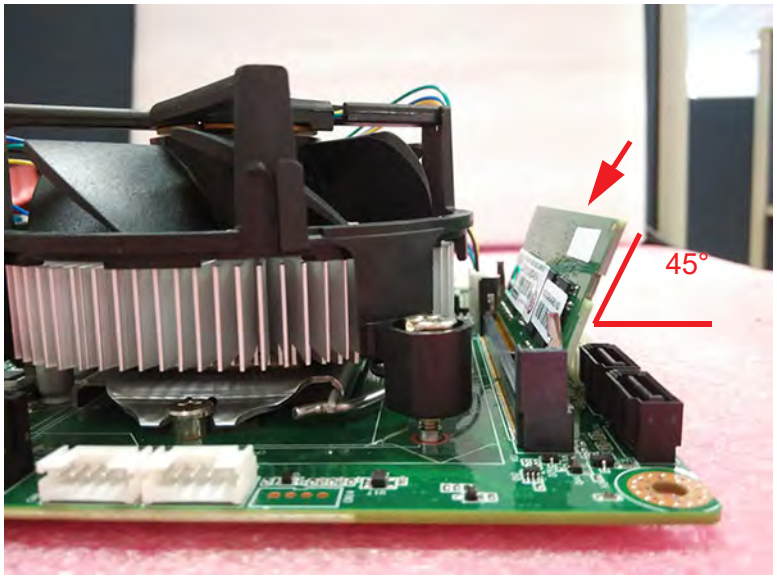
## 2.2.2 CPU Cooler Installation

Using four screws, affix the cooler onto the motherboard. Then connect the cable to the motherboard. (Refer to the datasheet when selecting the CPU cooler. The cooler must be purchased separately.)

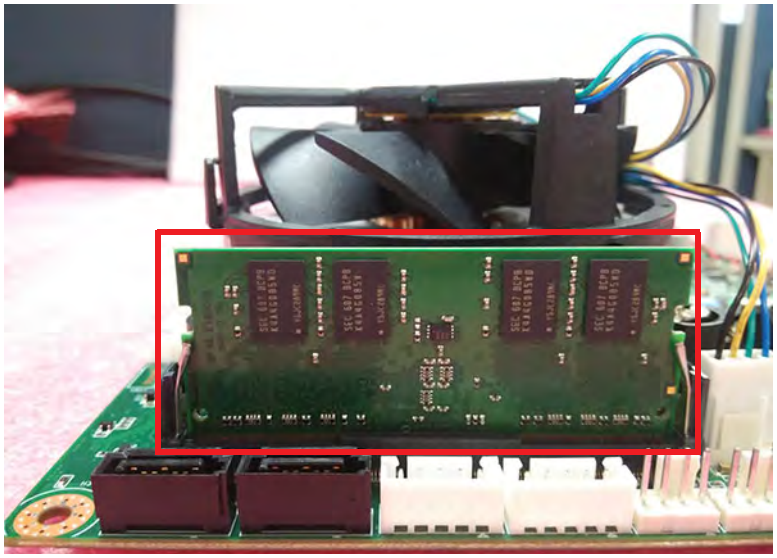


### 2.2.3 Memory Installation

1. Insert the memory card into the slot at a 45-degree angle. The gold fingers on the edge of the card must be completely inserted into the slot to ensure a secure connection.

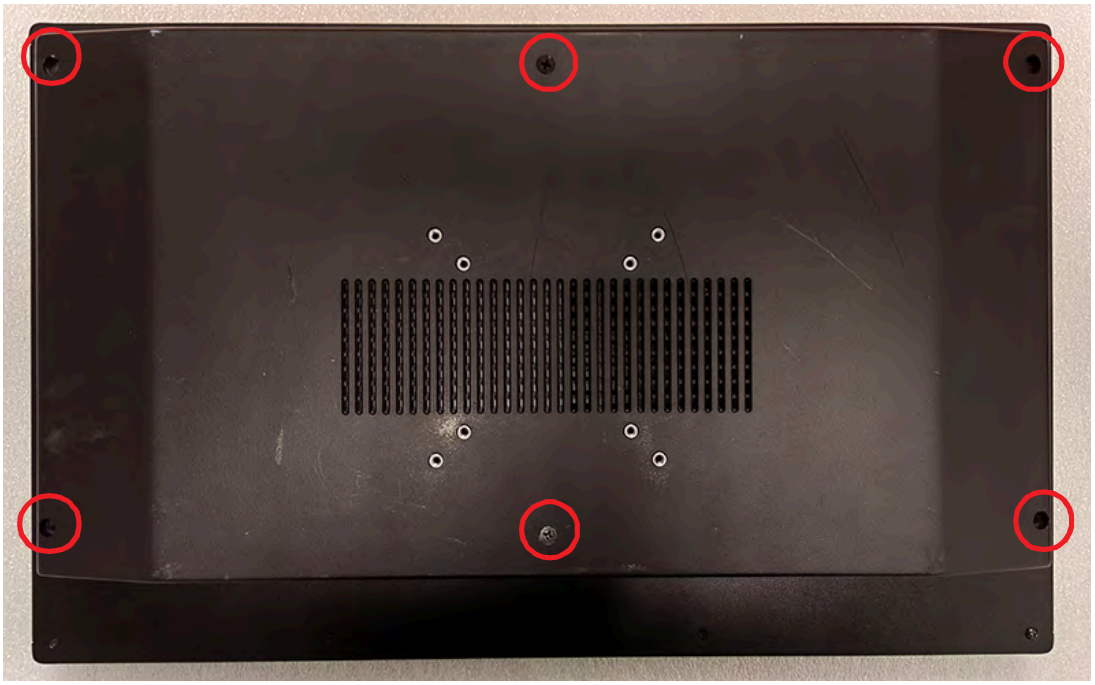



2. When the card is in the slot, apply firm pressure to the card until the clamps on the side click and lock the card into place.

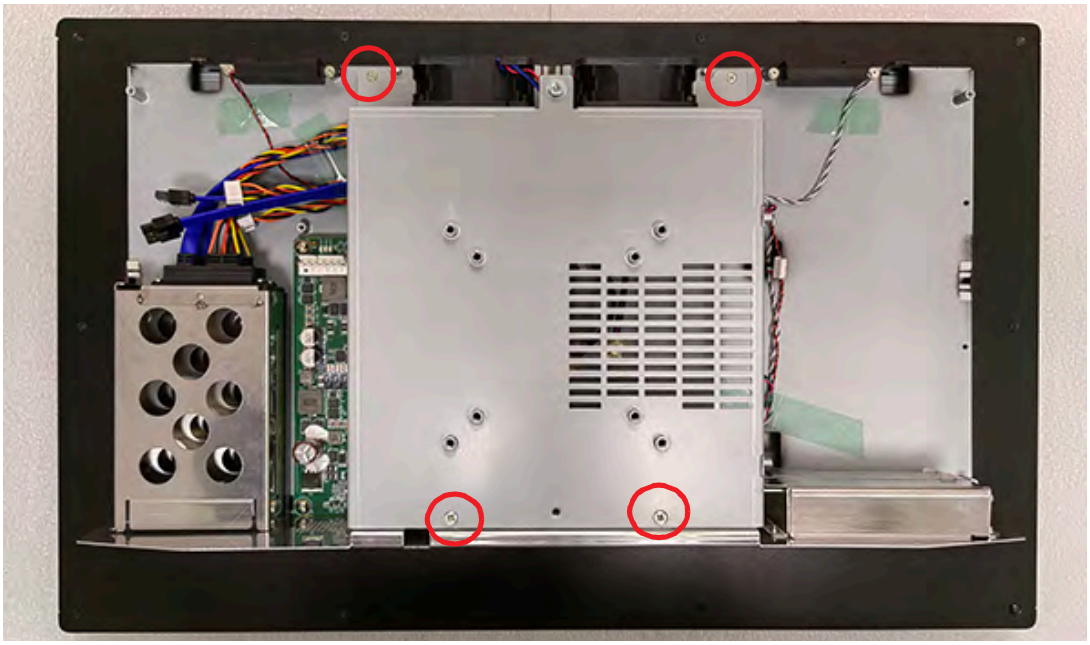


### 2.2.4 Motherboard Installation

1. Remove the screw from the back cover to open it.



2. Remove the screws to open the reinforcing plate.

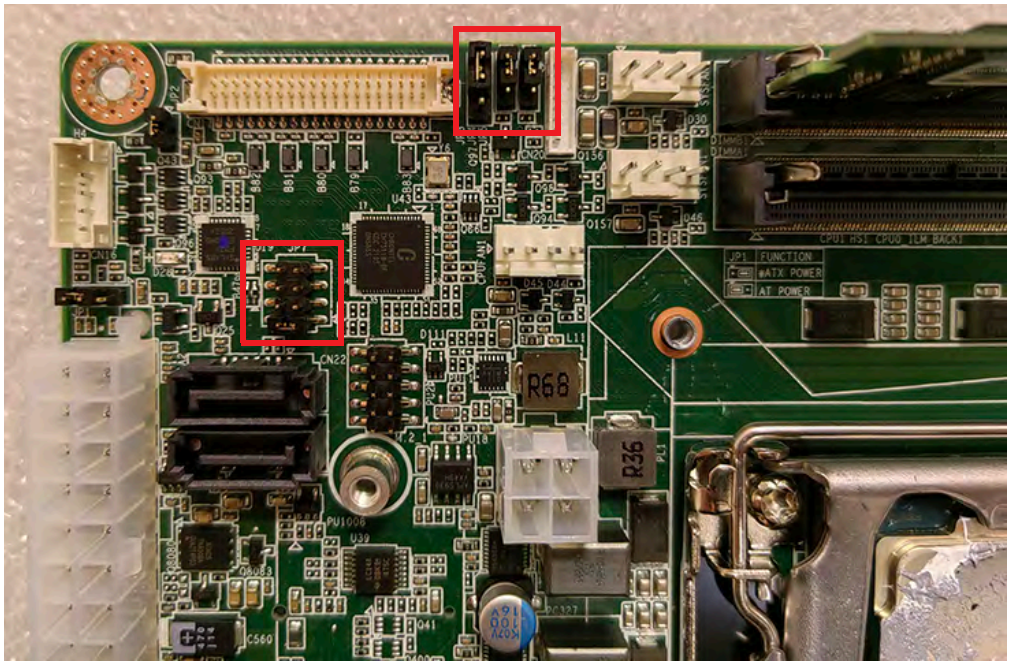


3. Install the motherboard IO, and disassemble the DB9 port as required.

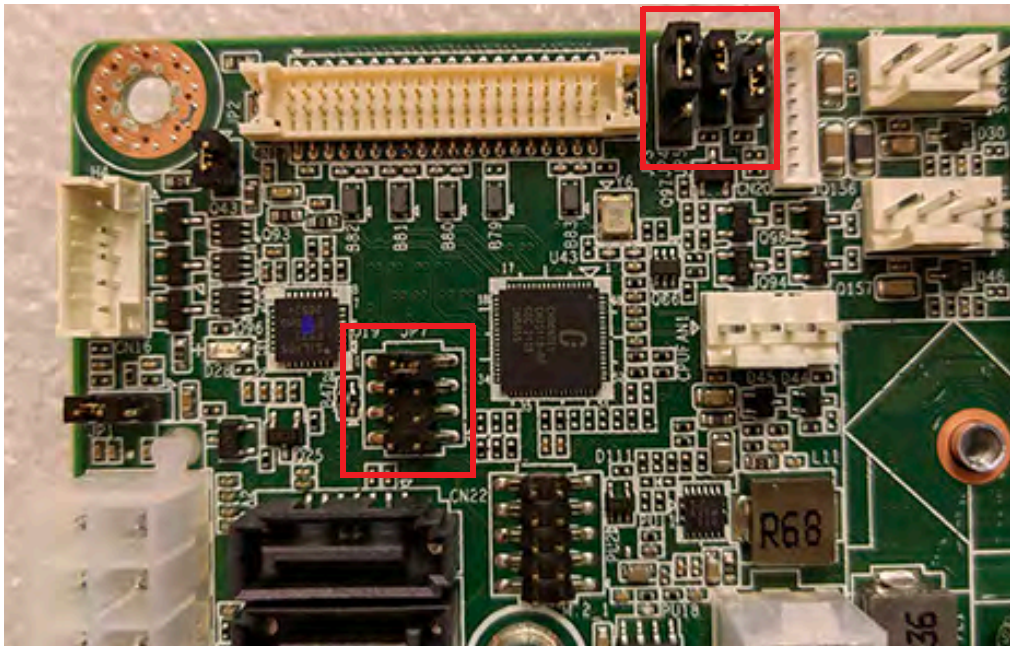
4. Adjust the motherboard's jumper settings.

M/B1: PPC-MB-610

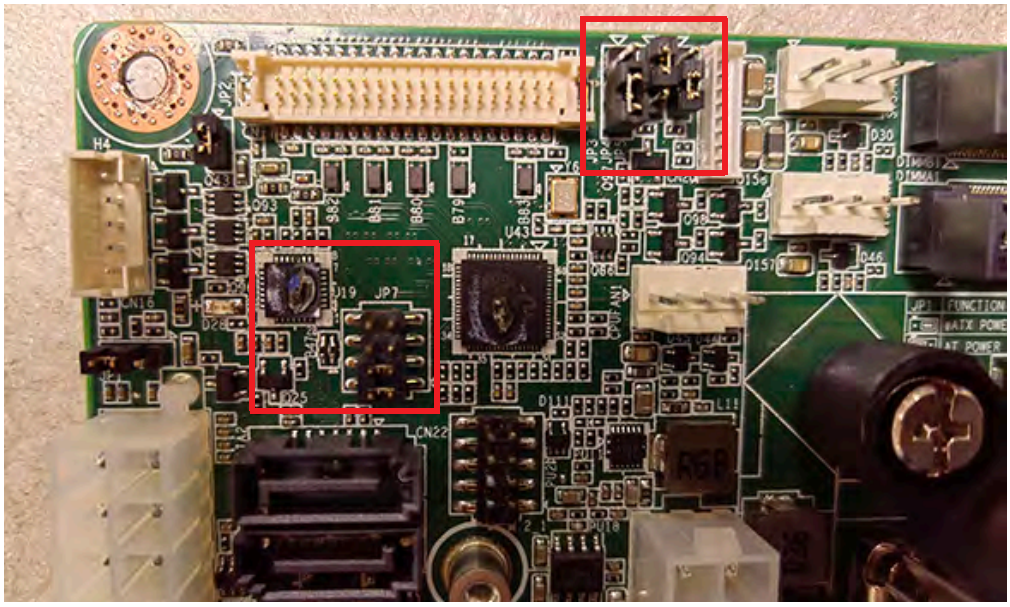
| PPC-621W+PPC-MB-610 | Setting |
|---|---|
| JP7 | JP(1-2) |
| JP3 | JP(1-2) |
| JP4 | JP(1-2) |
| JP5 | JP(1-2) |



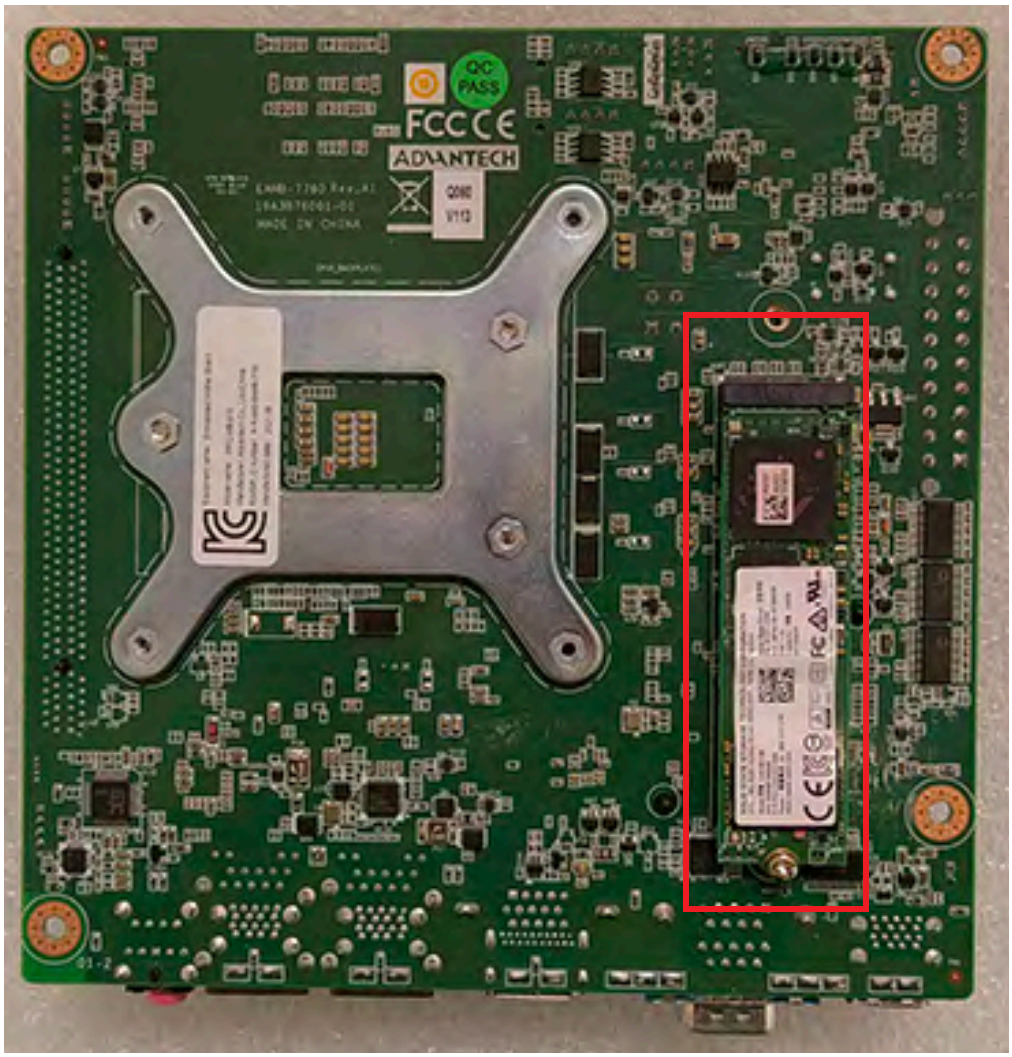
| PPC-618W+PPC-MB-610 | Setting |
|---|---|
| JP7 | JP(7-8) |
| JP3 | JP(1-2) |
| JP4 | JP(1-2) |
| JP5 | JP(2-3) |



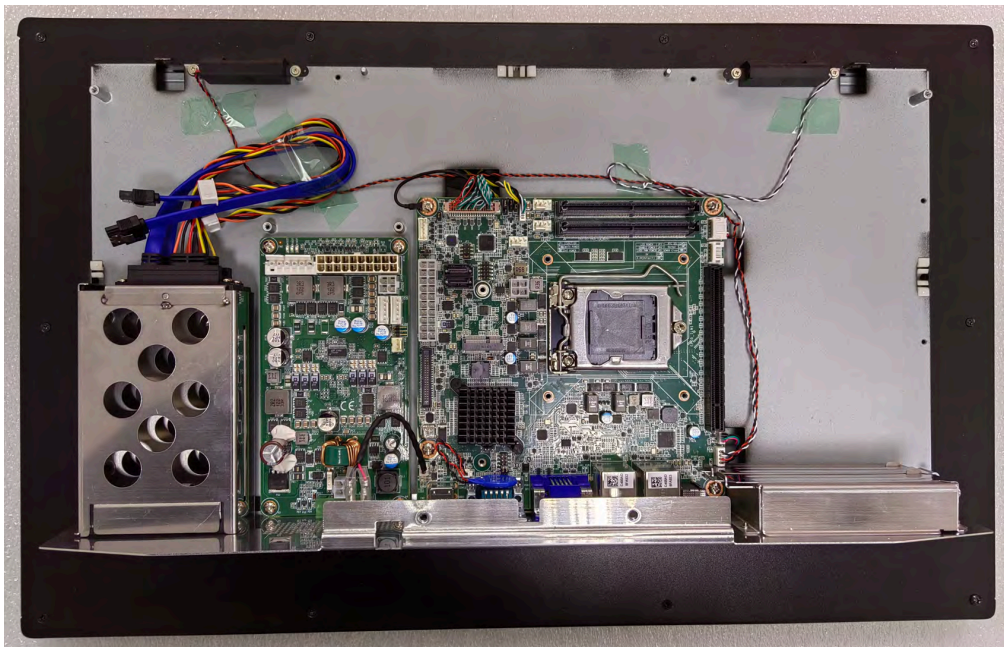

| PPC-615W+PPC-MB-610 | Setting |
|---|---|
| JP7 | JP(1-2), JP(3-4) |
| JP3 | JP(2-3) |
| JP4 | JP(1-2) |
| JP5 | JP(2-3) |

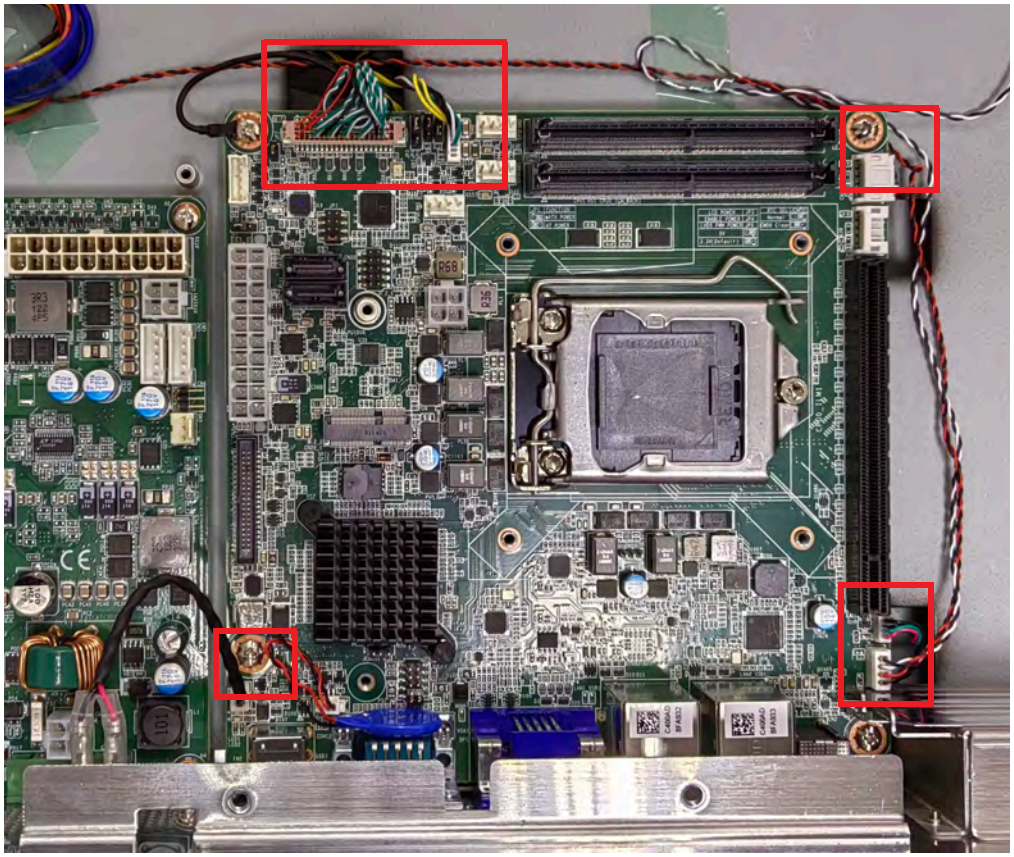


5. Install M.2.

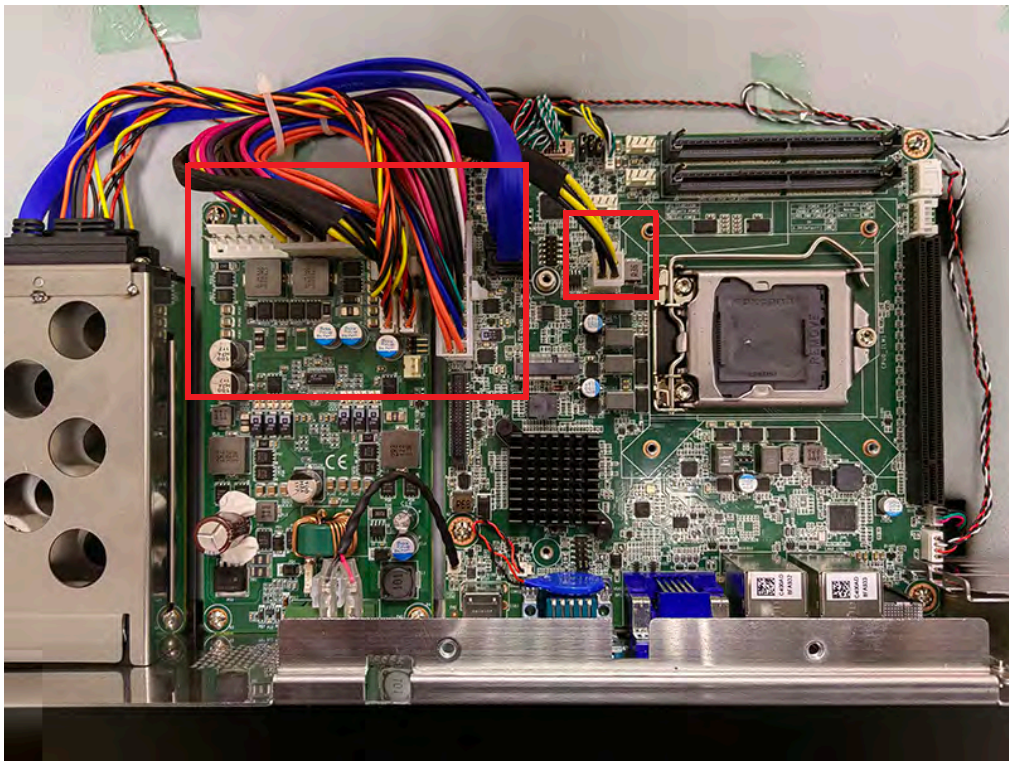


6. Install the motherboard and insert the cable into the motherboard.

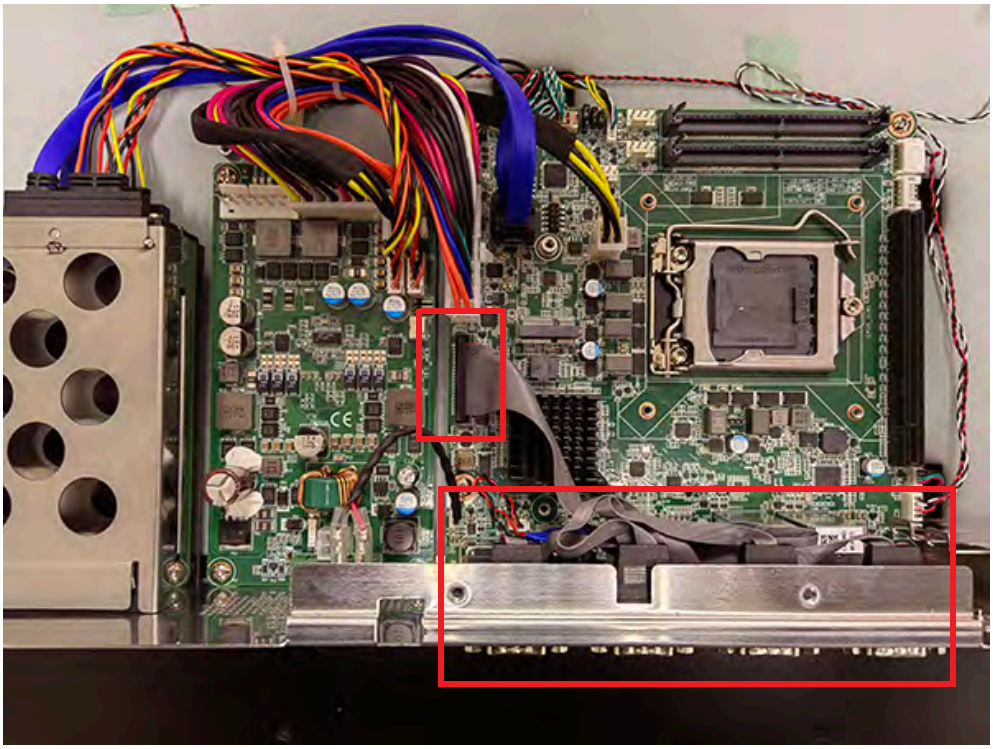




7. Install the power cable (SATA cable will not be installed for PPC-615W temporarily).

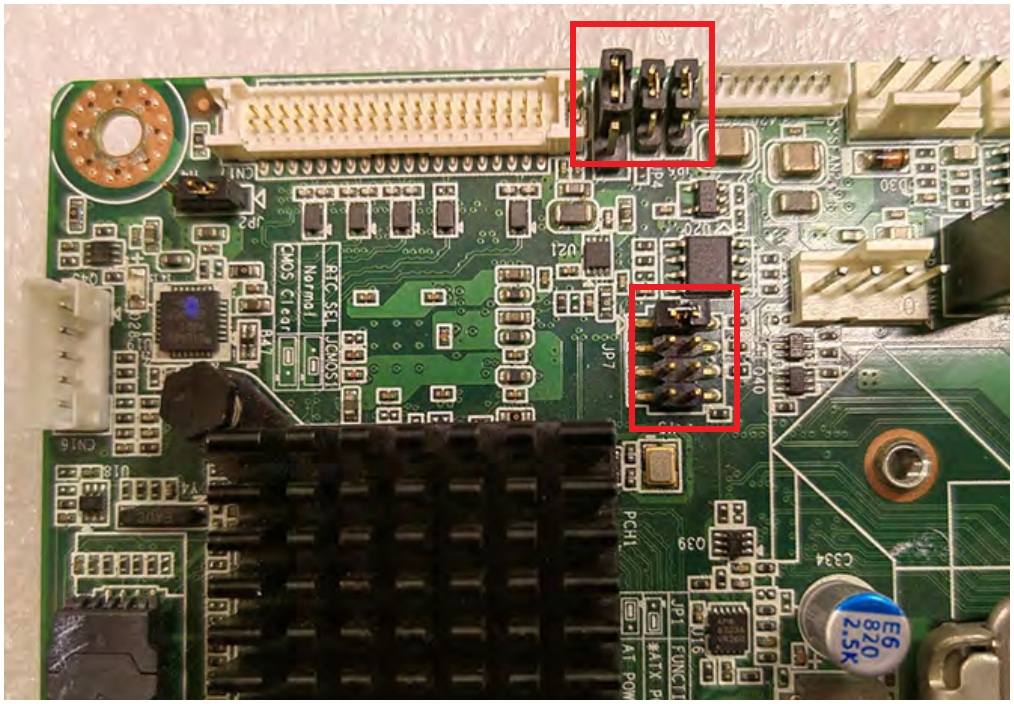


8. Install the COM wire and attach the hexagon screws at the IO.

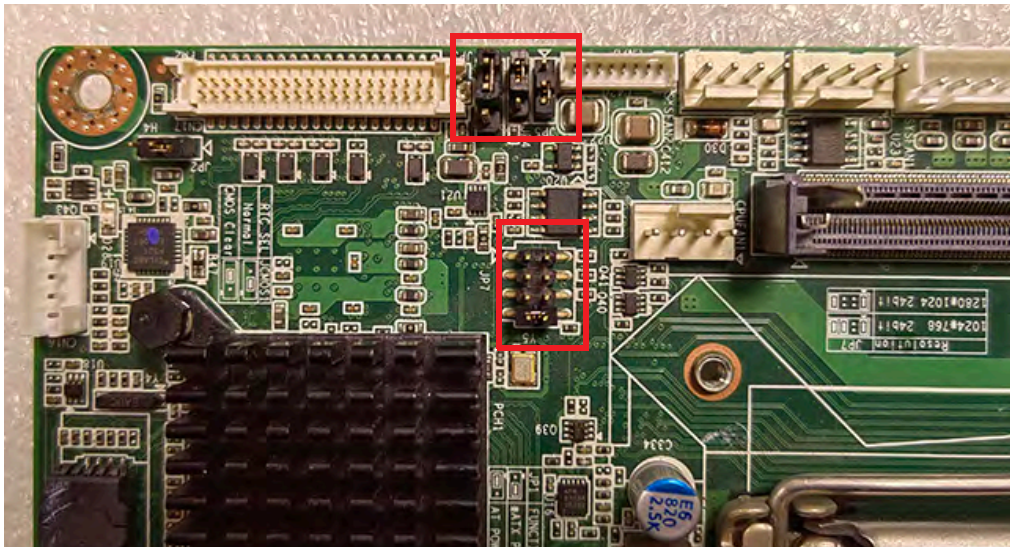


PPC-MB-8260:

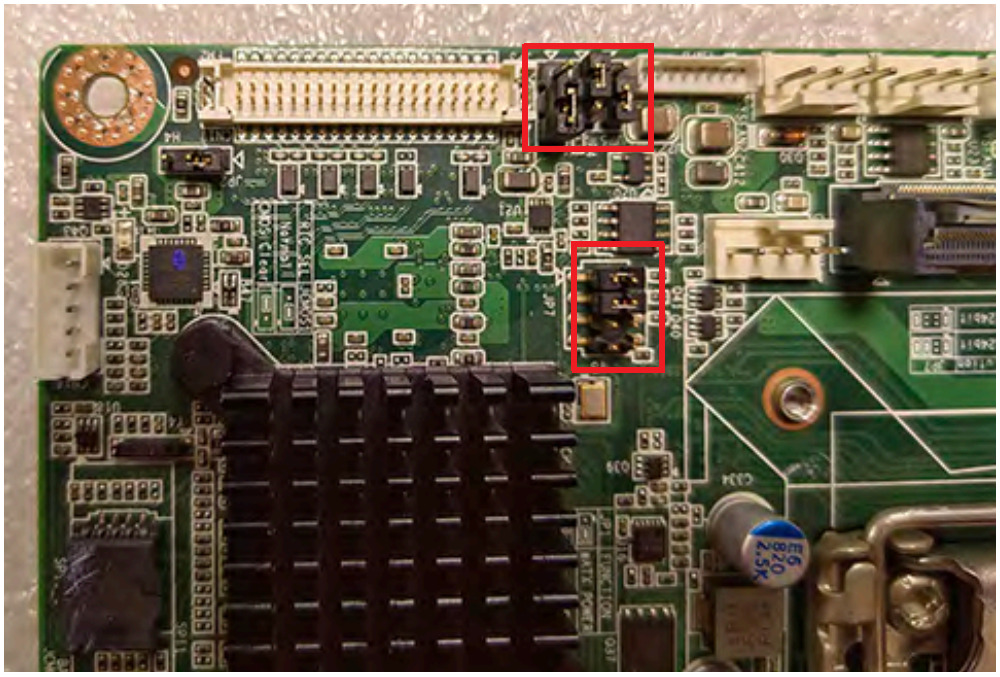
| PPC-621W+PPC-MB-8260 | Setting |
|---|---|
| JP7 | JP(1-2) |
| JP3 | JP(1-2) |
| JP4 | JP(1-2) |
| JP5 | JP(1-2) |



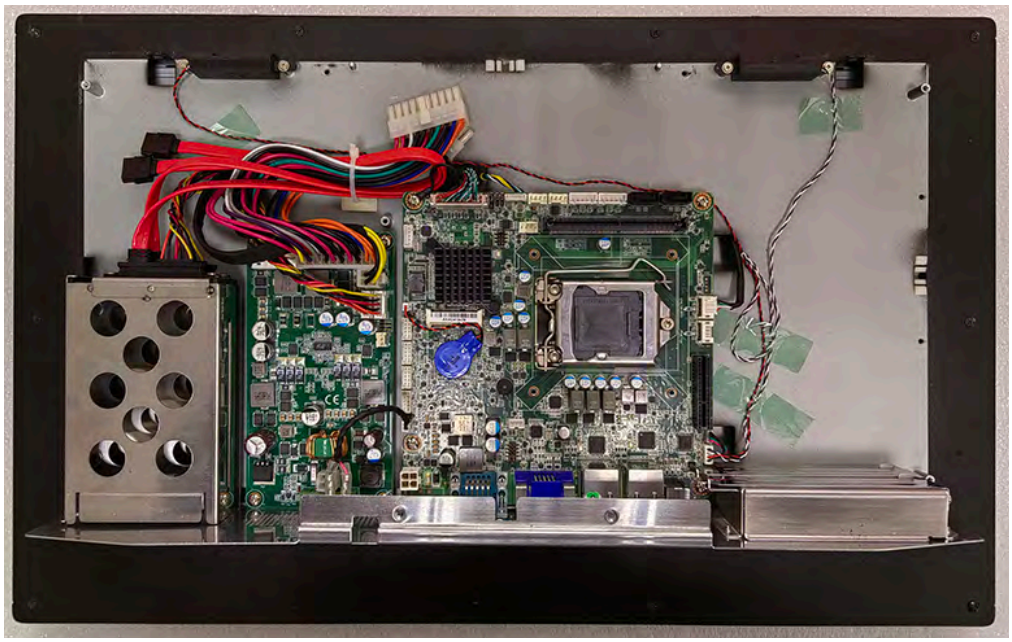

| PPC-618W+PPC-MB-8260 | Setting |
|---|---|
| JP7 | JP(7-8) |
| JP3 | JP(1-2) |
| JP4 | JP(1-2) |
| JP5 | JP(2-3) |



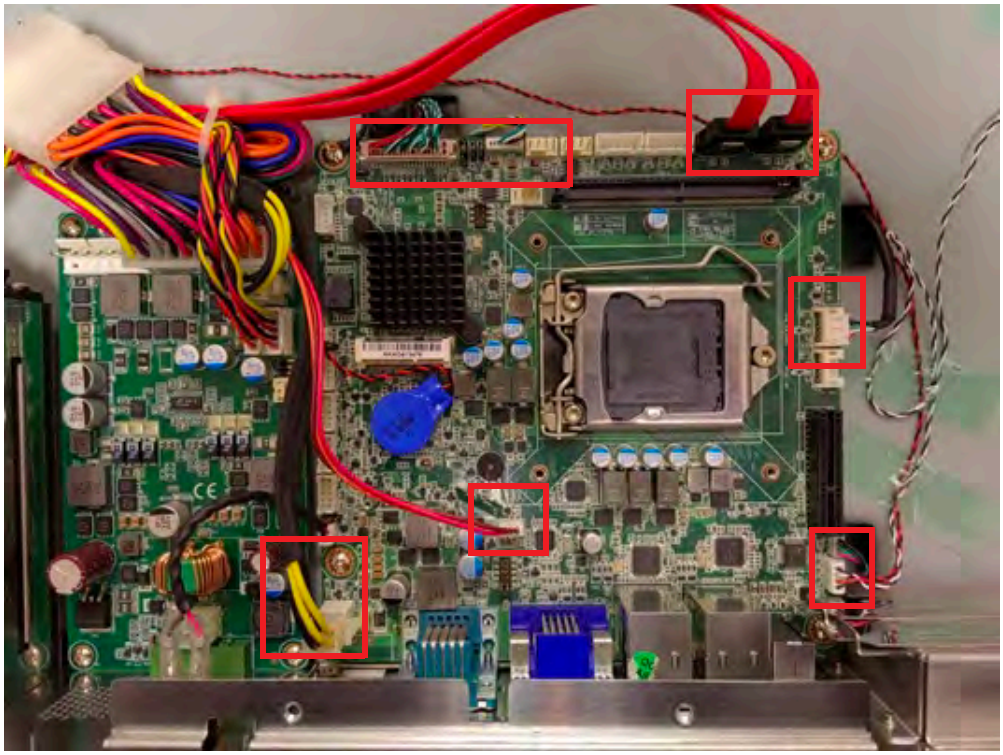
| PPC-615W+PPC-MB-8260 | Setting |
|---|---|
| JP7 | JP(1-2), JP(3-4) |
| JP3 | JP(2-3) |
| JP4 | JP(1-2) |
| JP5 | JP(2-3) |



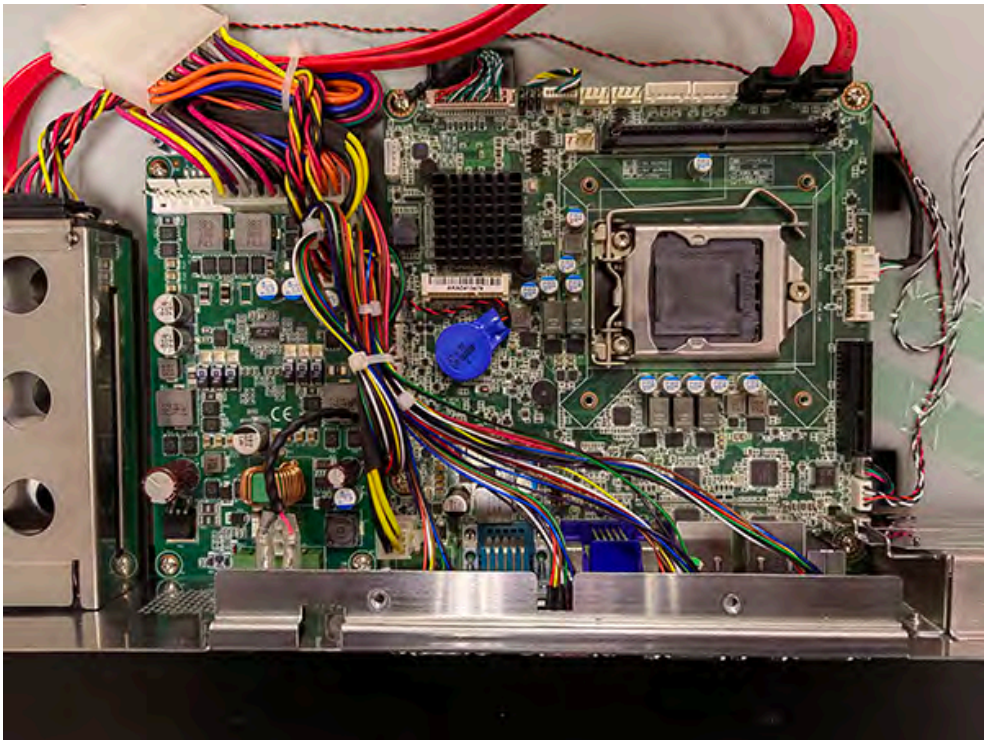
1. Install the motherboard and plug in the cable.



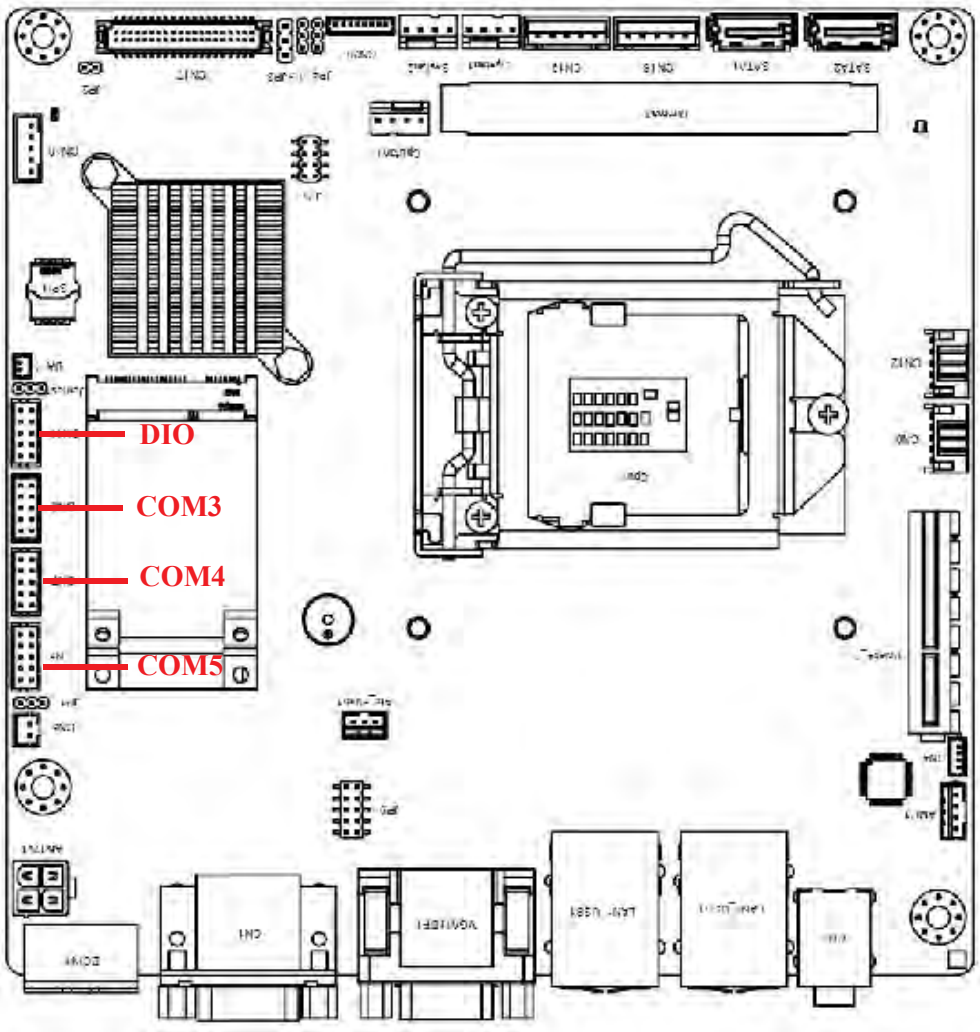
2. Plug in the power cable.



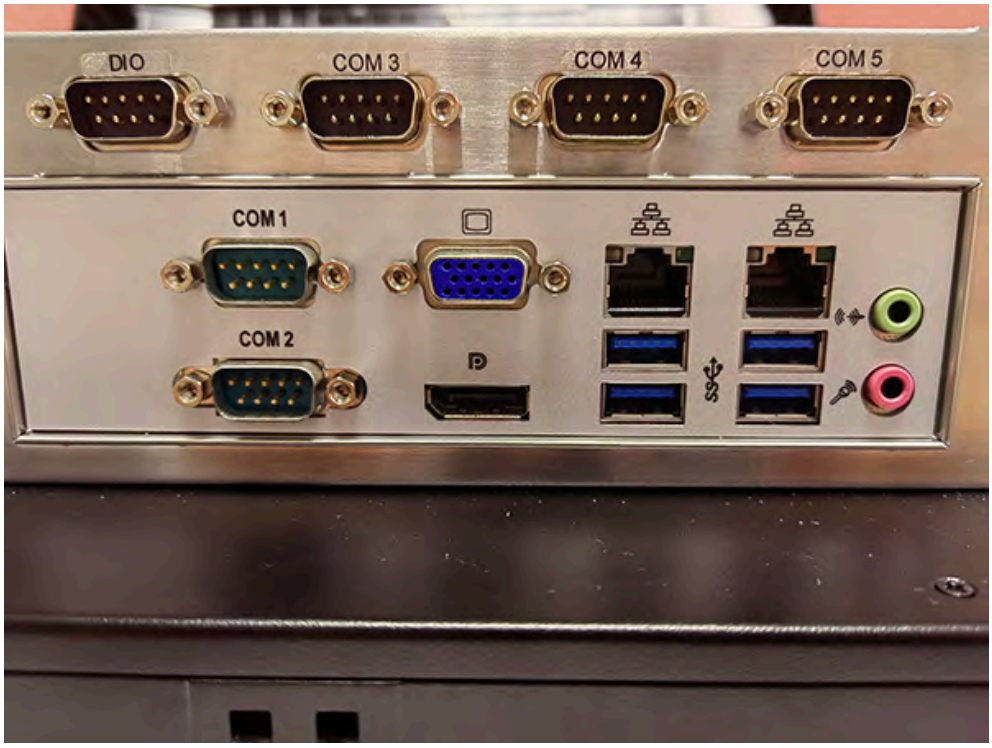
3. Plug in the DB9 cable.



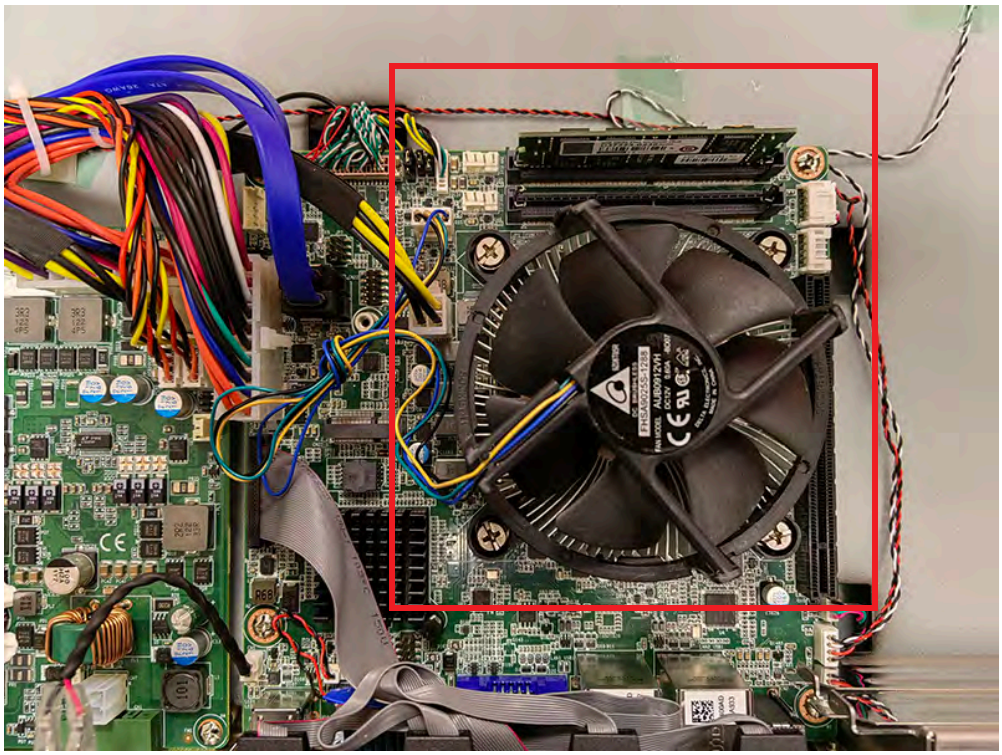
4. The pin definition of PPC-MB-8260 is as follows.



5. Paste a sticker on the I/O port according to the wiring.

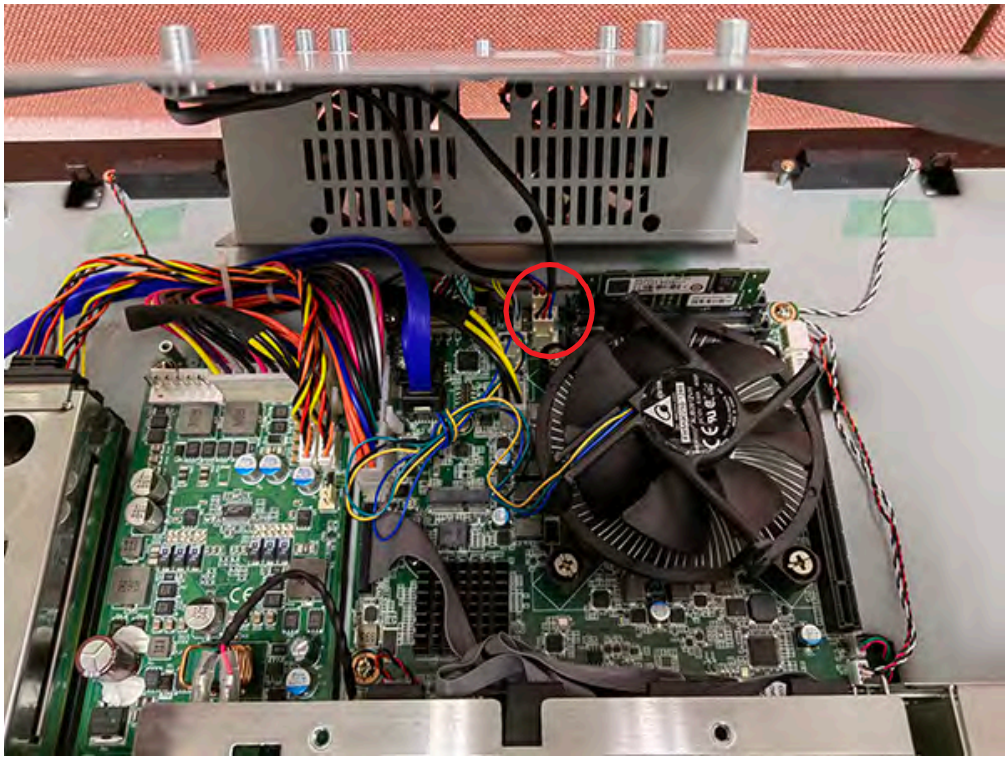



1. Install CPU and memory (use PPC-MB-610).

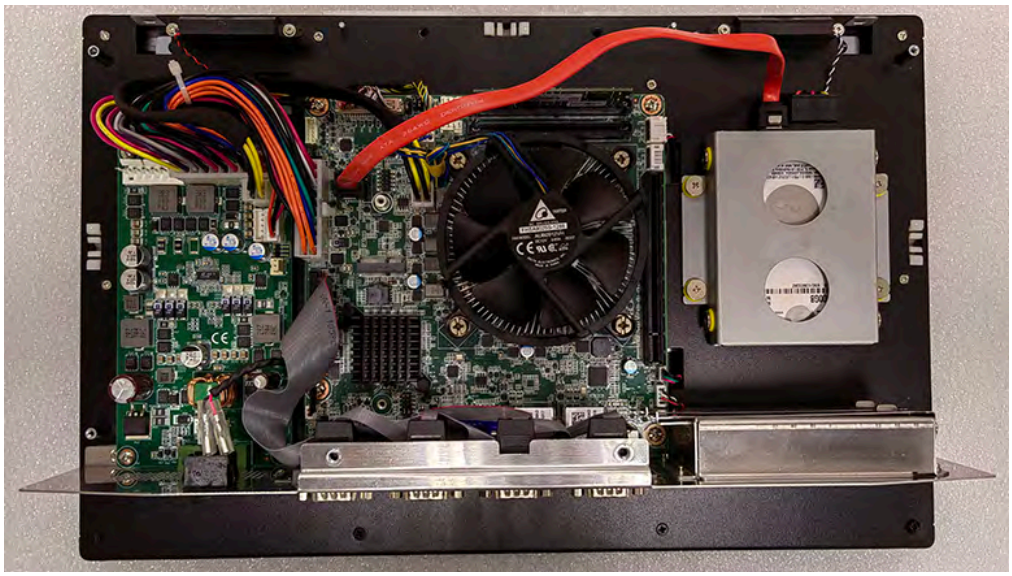


2. Connect the system fan to the motherboard (use PPC-MB-610).

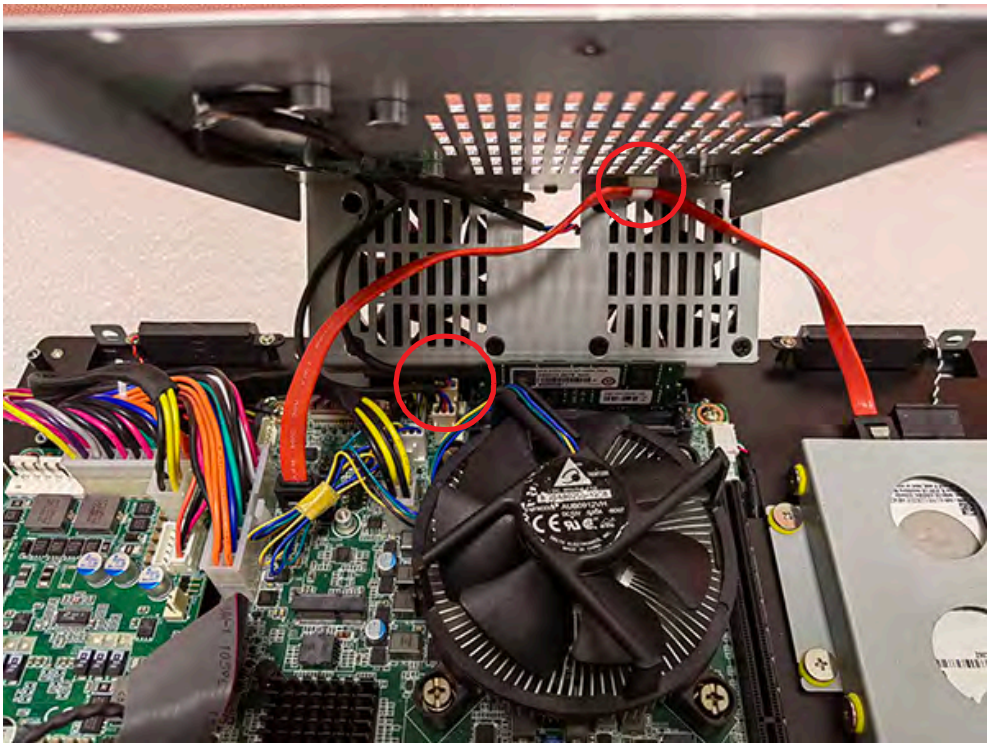
**PPC-618W/621W**



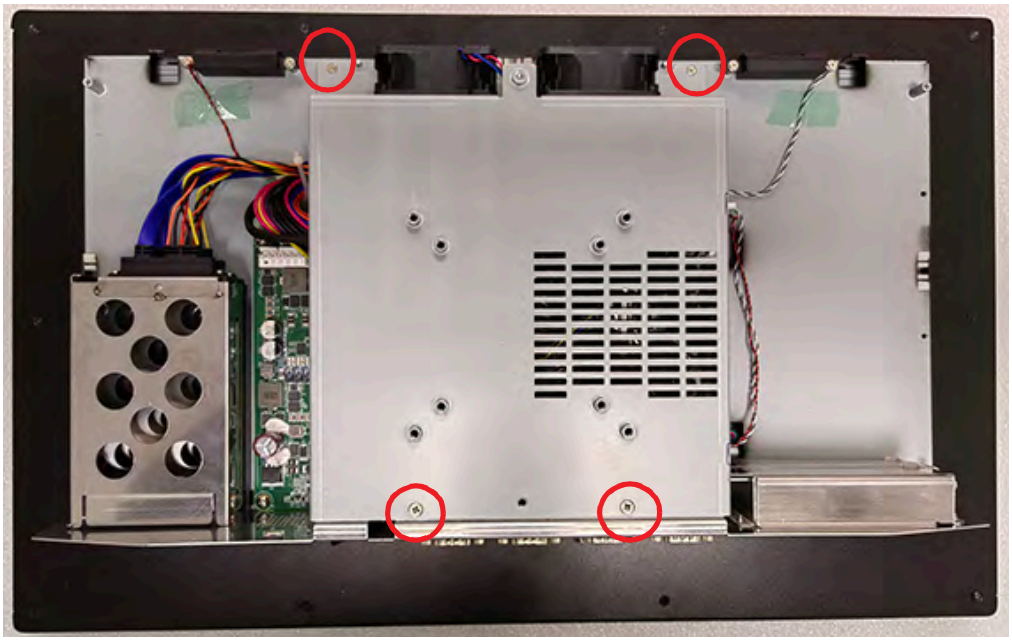
PPC-615W Installs SATA cable first (use PPC-MB-610).



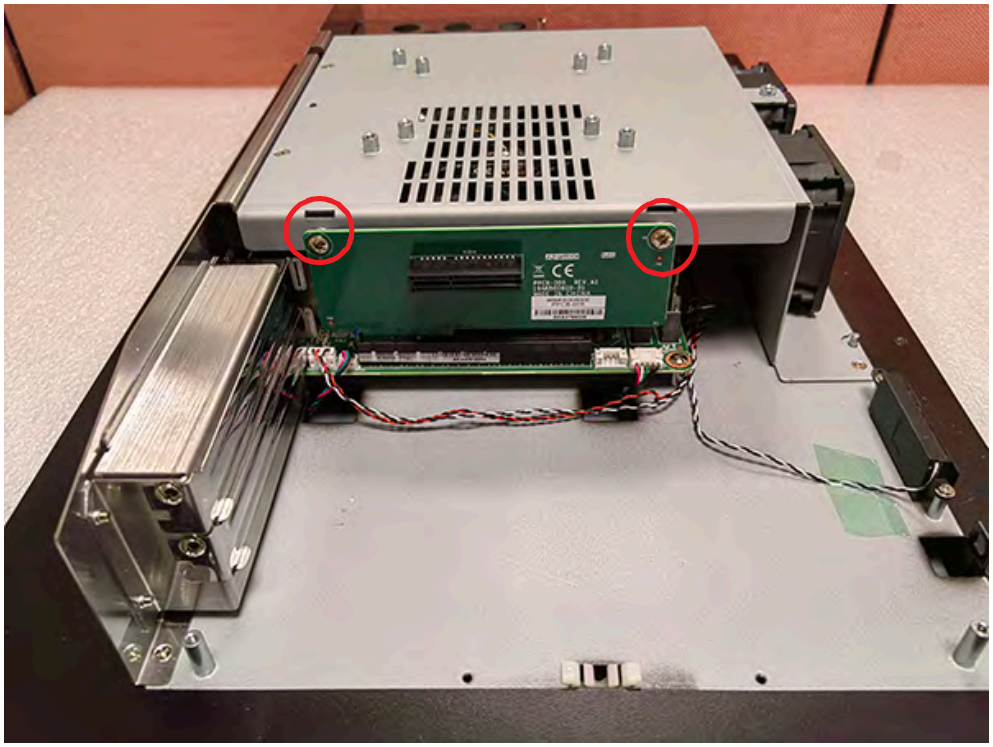
PPC-615W Installs the system fan and plug the SATA cable into the cable clip.



3. Fix the reinforcing plate.



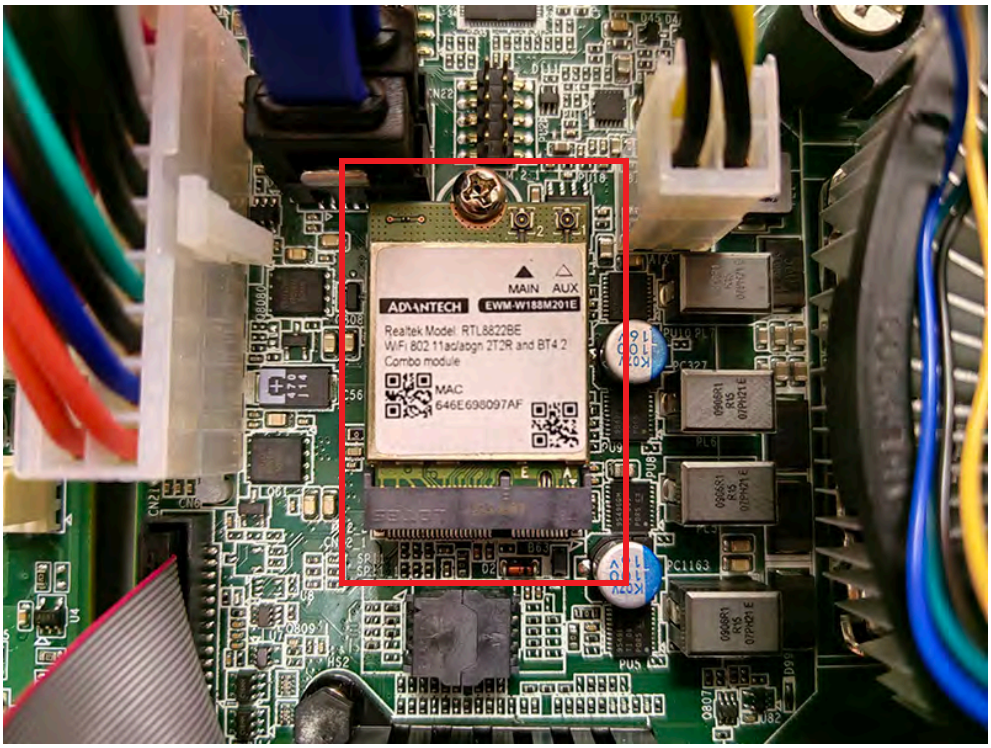
4. Install the expansion card.



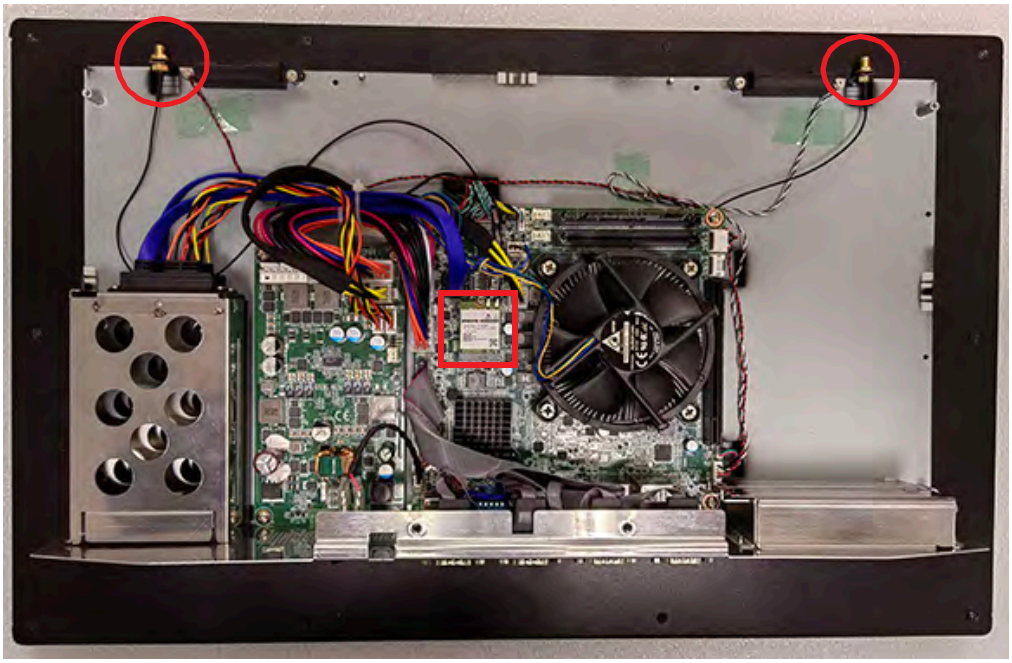
5. Put back the back cover.

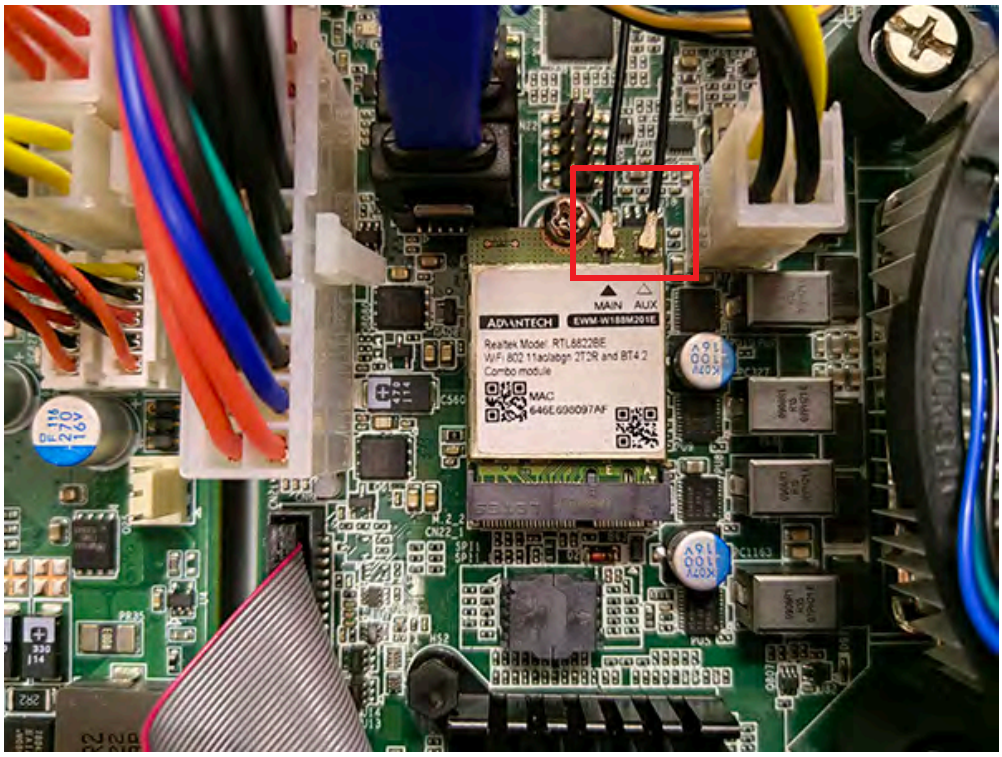
**Install the wireless network card**

1. Install the wireless network card on the motherboard.

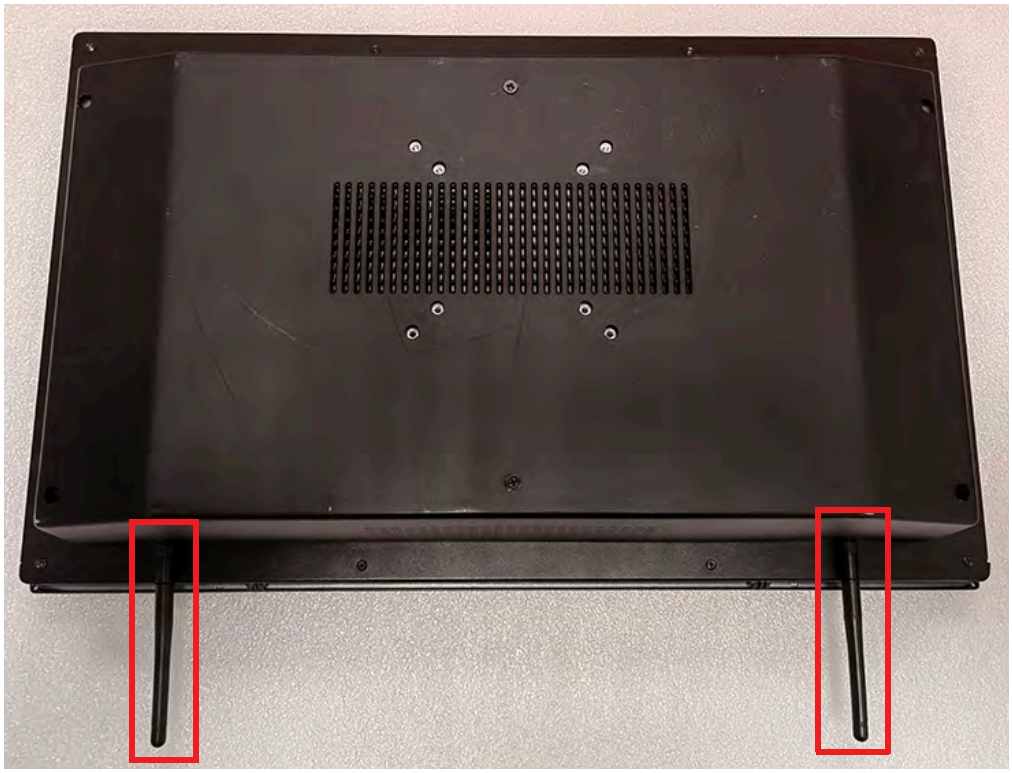


2. Install the antenna adapter cable on the bracket, and then install the bracket on the wireless network card.





3. After installing the reinforcing plate, remove the antenna hole plug, and install the back cover and the attached antenna.

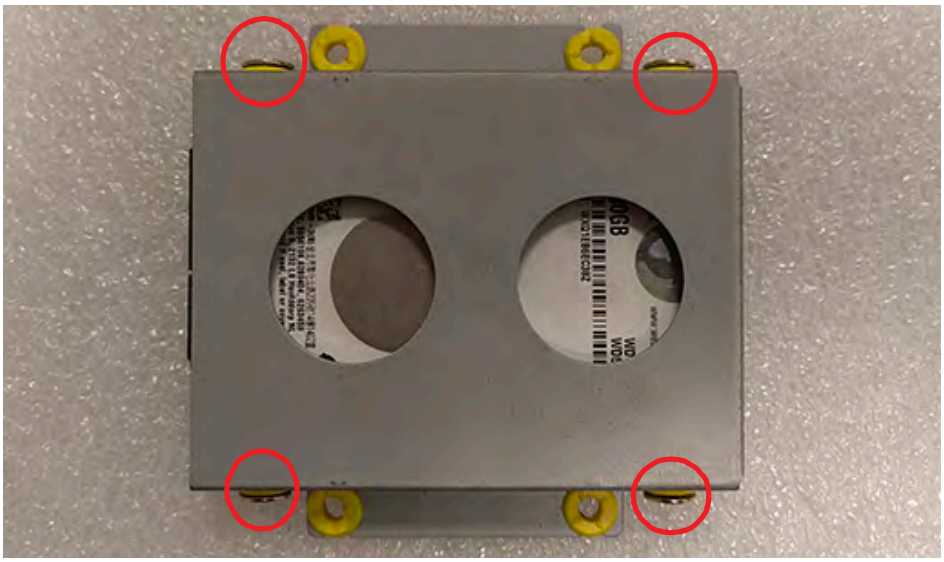


### 2.2.5 HDD Installation

**PPC-615W**

1. Remove the HDD bracket.

2. Place the HDD into the HDD bracket and affix it into place.



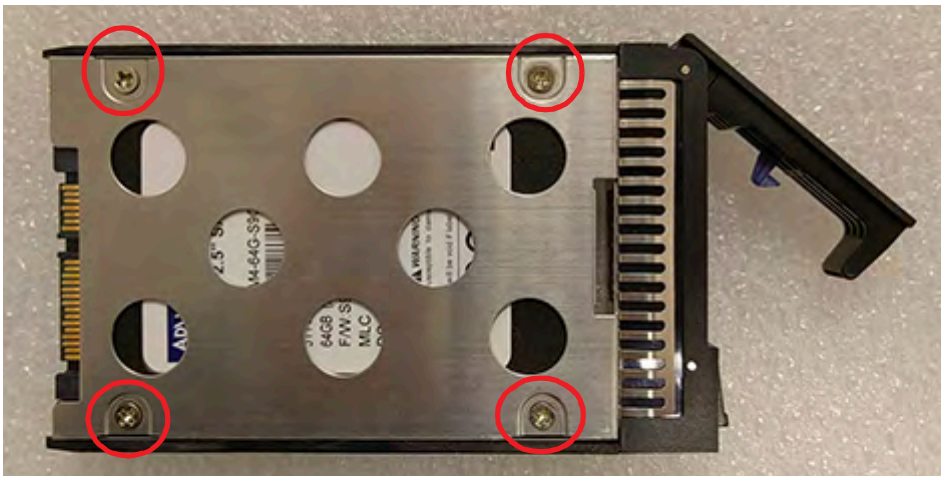
3. Lock the HDD bracket into the machine and connect the cable.

4. Refer to the previous section to install the reinforcing plate and rear cover.

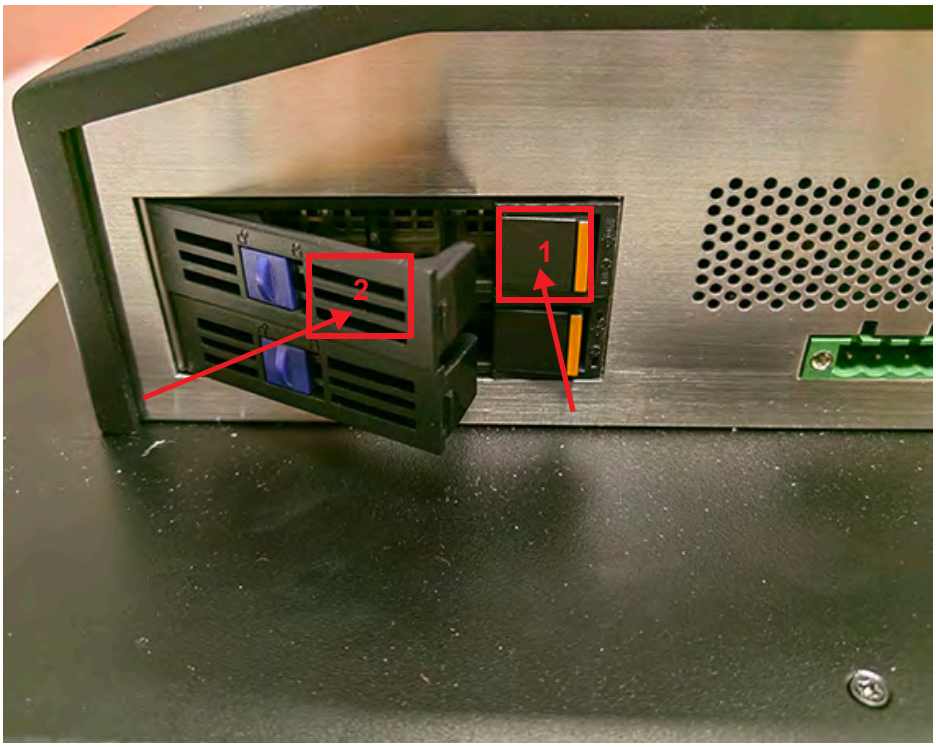
**PPC-618W/621W**

1. Take out the HDD extraction box and put the HDD into it.

2. Fix the HDD on the extraction box with screws.



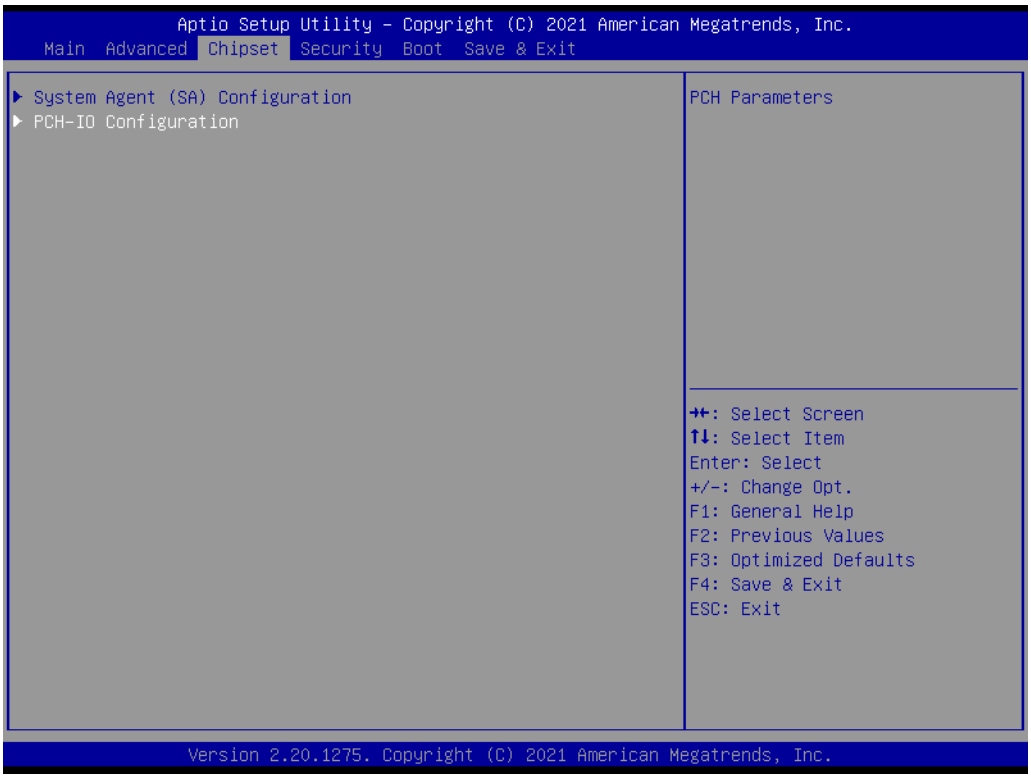
3. Press the position in the red box to push in the HDD, and then close the clip.



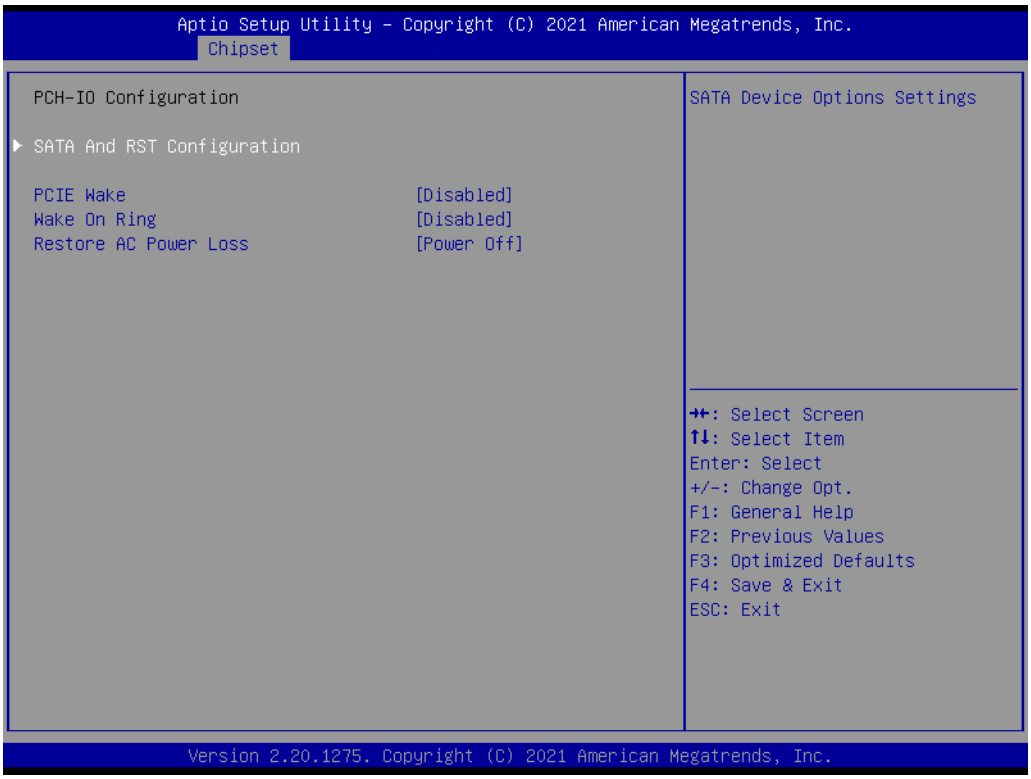
**PPC-618W/621W**

It is recommended to use SSD to support hot-swapping. The BIOS settings are as follows:

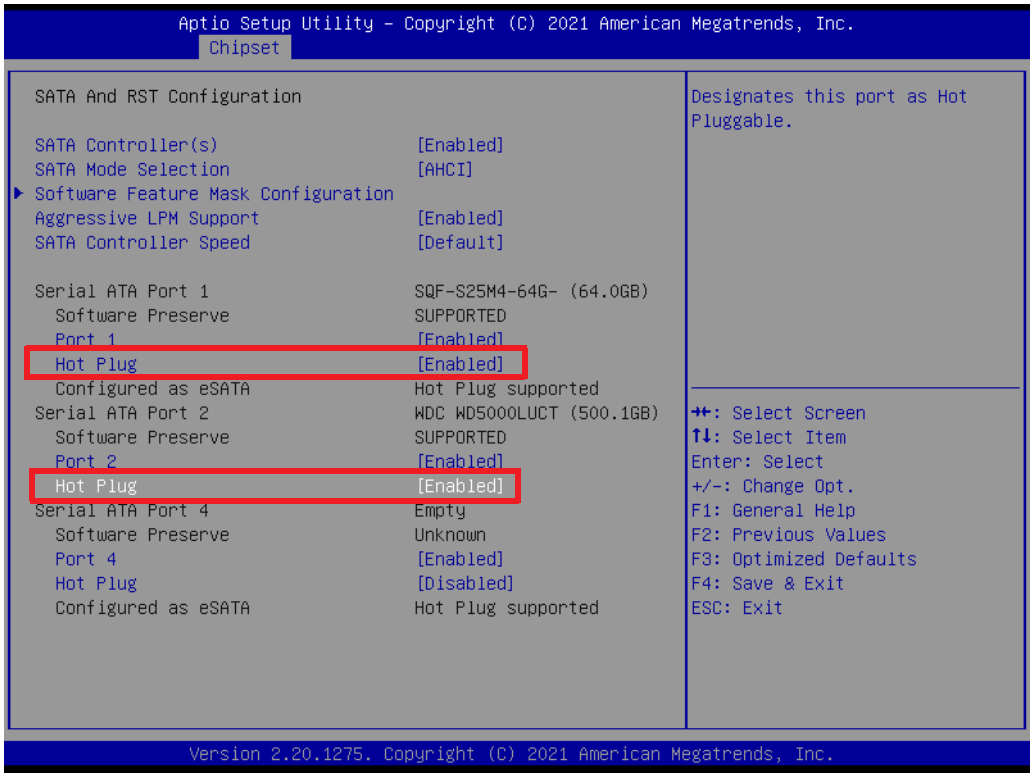
1. Go to **PCH-IO Configuration** in **Chipset**.



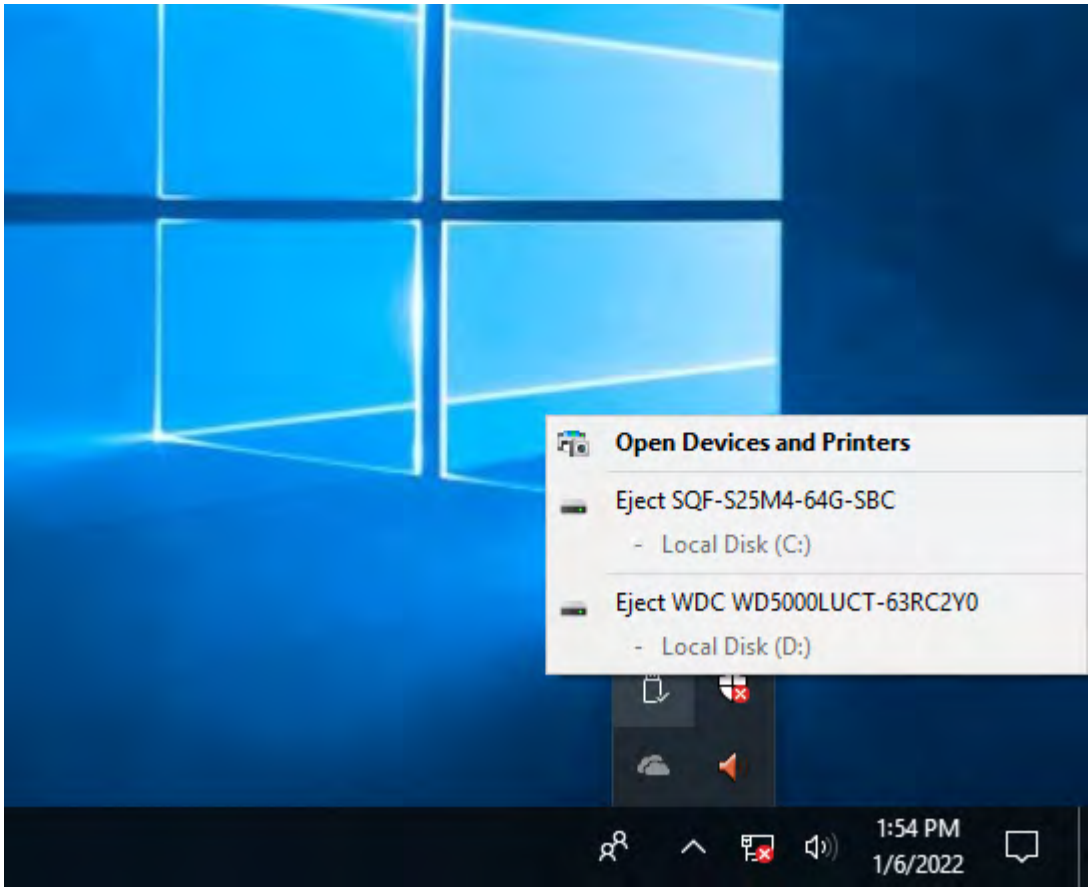

2. Go to **SATA And RST Configuration** under PCH-IO Configuration.



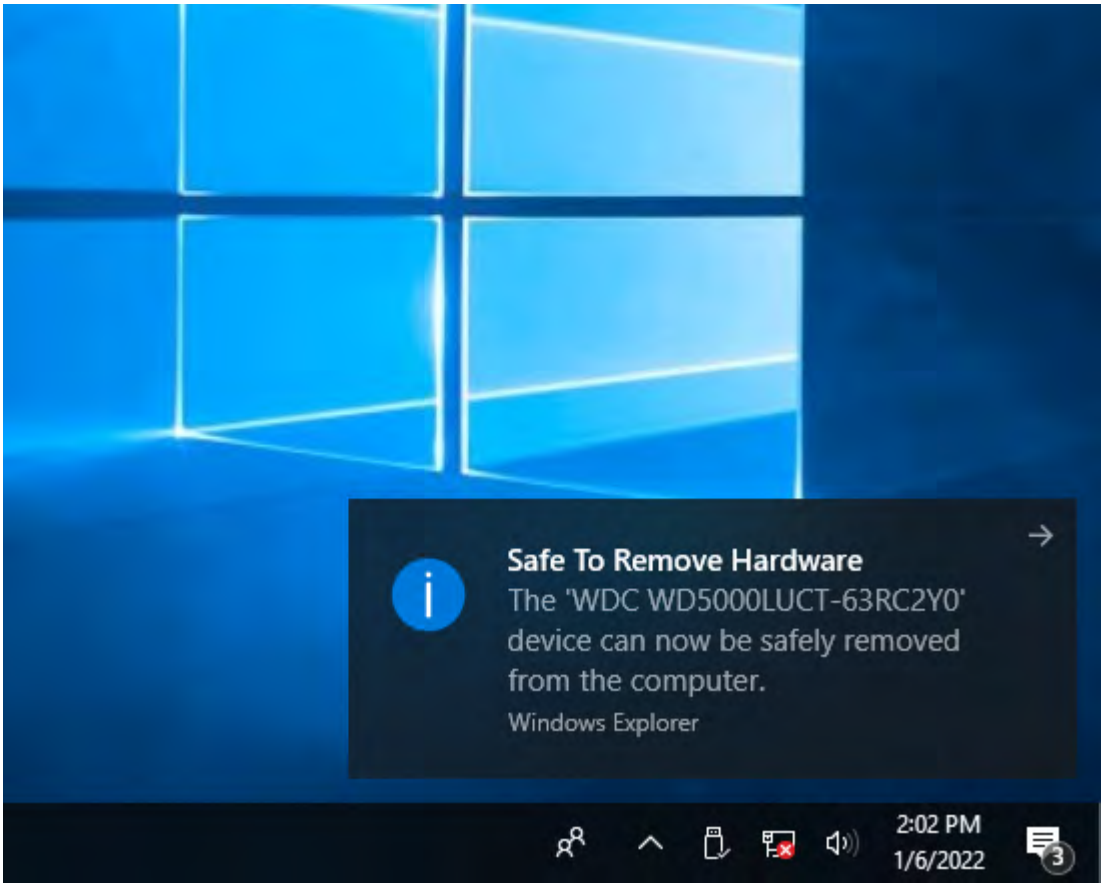
3. Set the **Hot Plug** to "Enabled".




4. Press F4 to save and exit.
5. After logging into the operating system, you can select the HDD to be removed in the lower right corner.

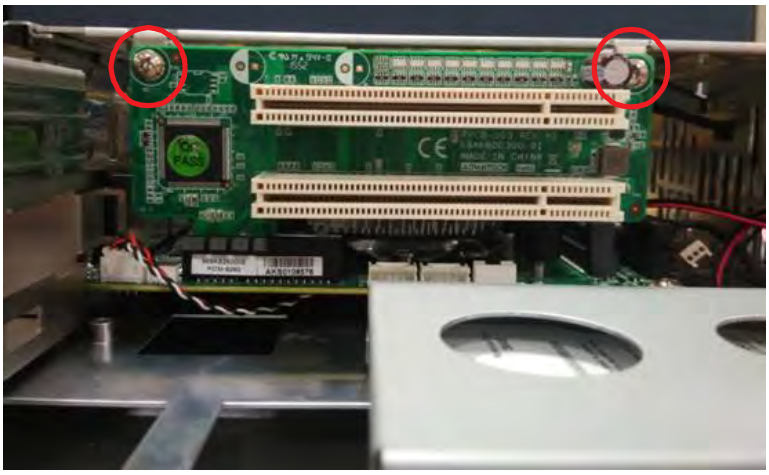


6. You can remove the HDD after seeing the following prompt.



### 2.2.6 Expansion Card Installation

1. Insert the PCI riser card (included in the PPC-615W/618W/621W accessory box) into the slot and affix it in place using two screws. One PCIe x 4 and two PCI riser cards are provided in the PPC-615W/618W/621W accessory box, allowing users to customize the system according to their requirements.

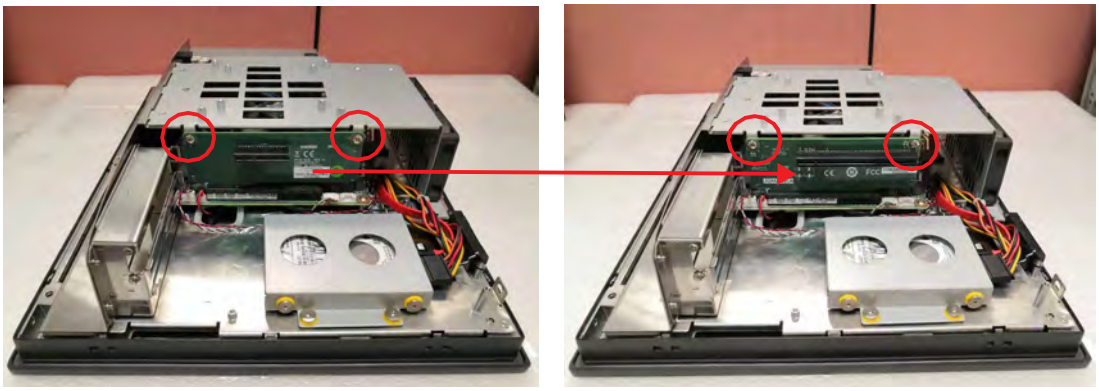


2. To change the PCI riser card to a PCIe x 4 riser card, first remove the PCI riser card. Then insert the PCIe x 4 riser card and affix it in place using two screws.

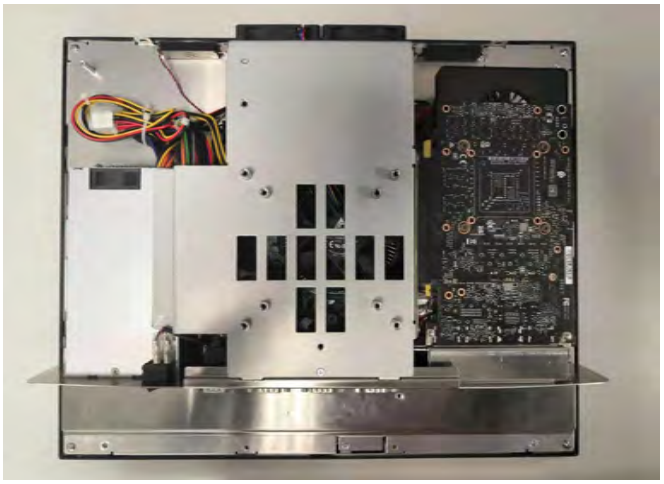
## 2.2.7 Graphic card Installation (Only for PPC-MB-6X0(U))

The following uses PPC-615W + PPC-MB-610 + SKY-QUAD-P2200-BLK for demonstration.

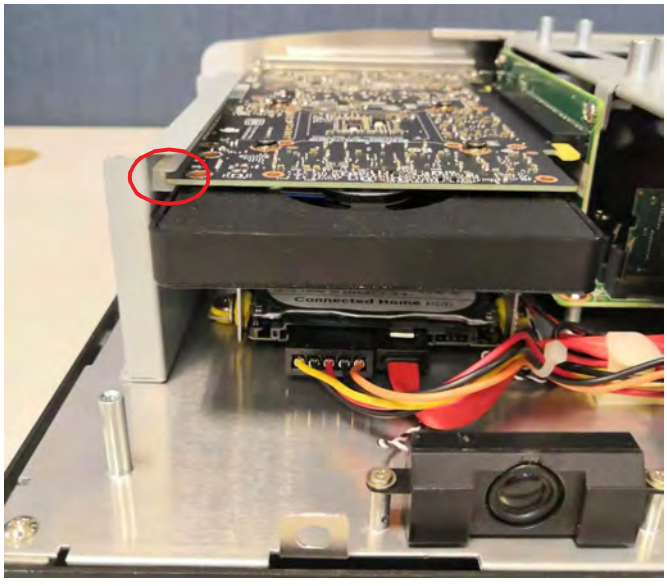
1. Unscrew the riser card screw to replace the riser card (9693BE20000).



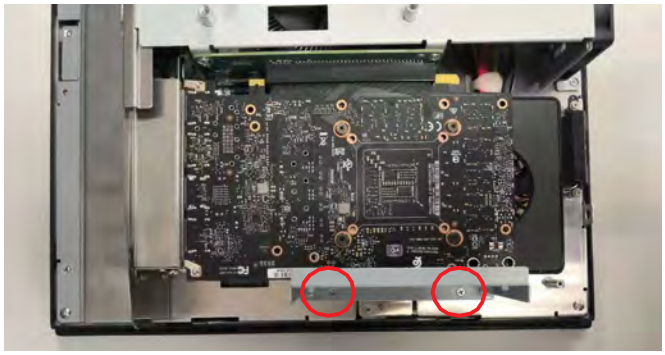
2. Install the graphic card into the PCIe slot and lock the screws.



3. Install support frame (only for PPC-618W/621W).



4. Attach the support frame with screws (only for PPC-618W/621W).

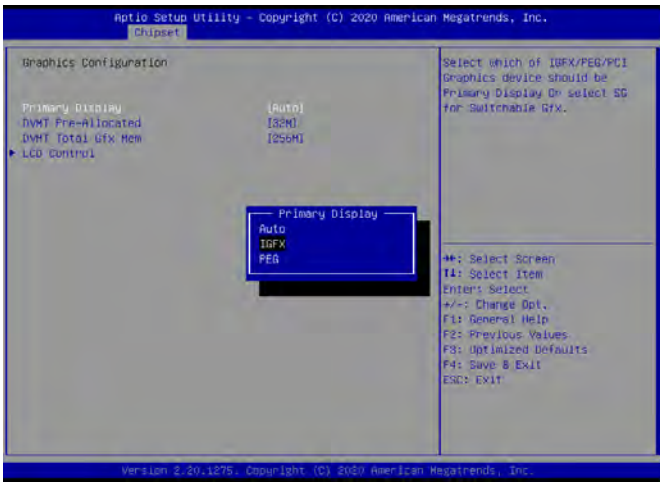


5. Reinstall the back cover to complete the installation.

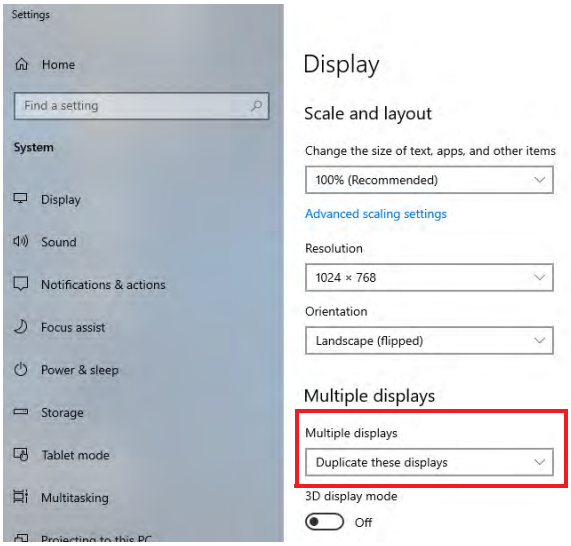
***Note!***

*For PPC-615W/618W/621W, you need to change BIOS setting, otherwise only the external graphic card will be displayed, the integrated graphics card will not be displayed.*

*Power on and press the delete key to enter the BIOS setup. Under Graphics configuration, set the Primary Display to IGFX, press F4 save and exit.*




And also set the Multiple Displays to “Duplicate these displays” to get better performance.




***Note!*** *The supported card sizes are as follows:*

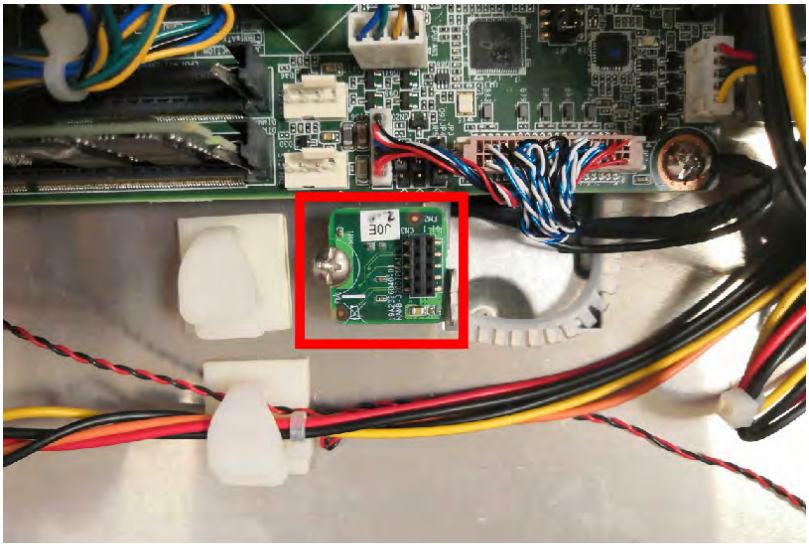
| | Maximum card size (L*W*H) |
|---|---|
| PPC-615W | 178*110*20 mm |
| PPC-618W | 205*110*20 mm |
| PPC-621W | 205*110*20 mm |

### 1. Recommend graphics card list as follows:

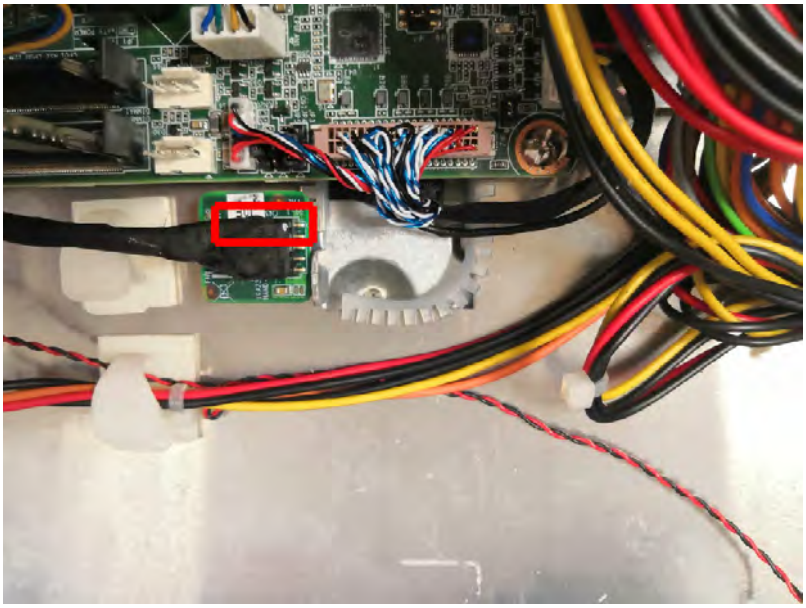
| Graphic card PN | Description | TDP | Size | On PPC-615W | On PPC-618W | On PPC-621W |
|---|---|---|---|---|---|---|
| GFX-NG710L16-3c | GT710 2G | 14W | 145x69x14mm | √ | √ | √ |
| GFX-NG730L16-5C1 | GT730 2G | 32W | 145x69x18mm | √ | √ | √ |
| GFX-AE9171F16-5N | E9171 4G | 40W | 145x111x18mm | √ | √ | √ |
| SKY-QUAD-P2200-BLK | Quadra P2200 5GB | 75W | 111x200mm | X | √ | √ |

### 2.2.8 TPM Module Installation (Only for PPC-MB-6X0(U))

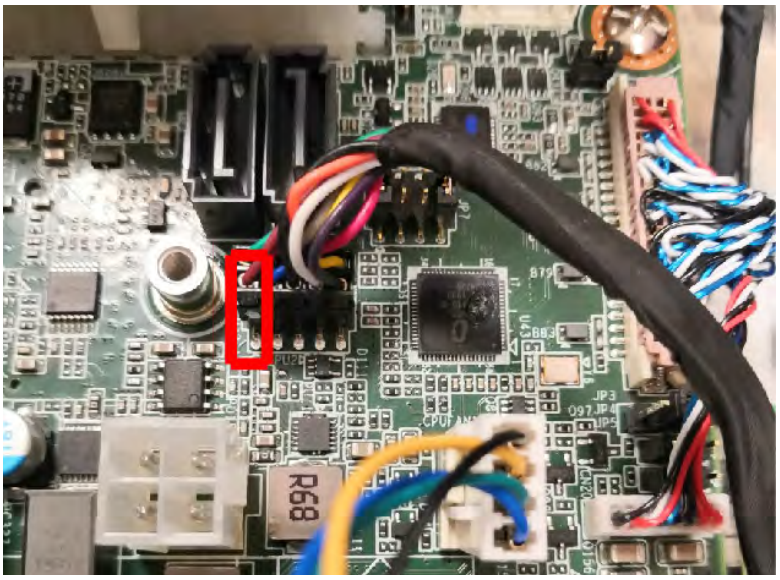
1. Lock the TPM board.



2. Connect the cable to TPM. (Notice the first pin)



3. Connect the cable to TPM. (Notice the first pin)



## 2.3 Mounting the System

***Warning!*** *When mounting the panel PC, more than one person should perform the installation to prevent accidental damage to the panel or personal injury.*

*Le comité constate qu'el-nasr "mounting, Plus d'une personne installation to prevent the cadre accidental damage to the personal injury.*

The panel PC supports various mounting options, as listed below:

- Wall mounting
- Arm mounting
- Stand mounting
- Panel mounting

### 2.3.1 Wall Mounting

To mount the panel PC onto a wall, follow the instructions below.

1. Select the location on the wall for the wall mount plate.
2. Mark the locations of the two plate screws holes on the wall.
3. Drill two pilot holes at the marked locations on the wall.
4. Align the wall mount plate screw holes with the pilot holes.
5. Secure the mount plate to the wall by inserting screws into the two pilot holes and tightening them.

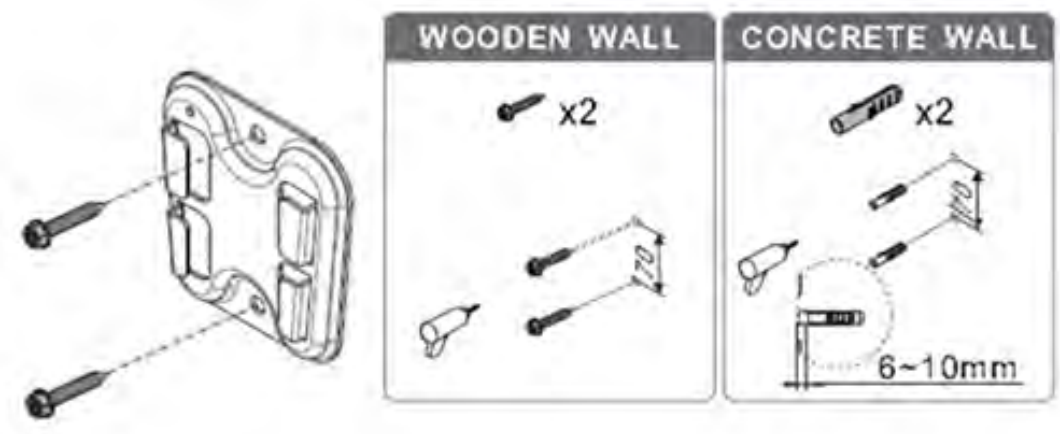



**Figure 2.1 Wall Mount Plate**

6. Insert four M4 screws into the holes on the panel PC and tighten them to secure the bracket to the rear panel.

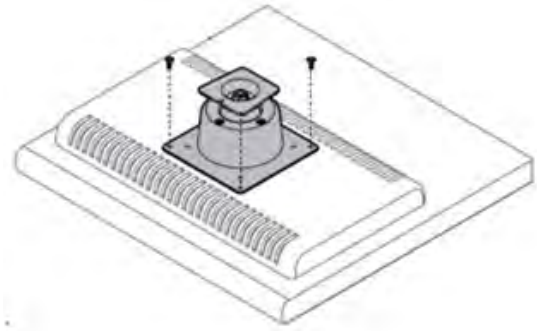
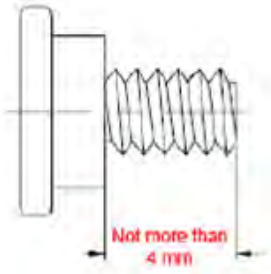


**Figure 2.2 Screw Locations on the Rear Panel**

***Warning!*** *Ensure that the thread depth of the screws on the rear panel does not exceed 4 mm (.15 in).*

*Assurez-vous que la profondeur du filetage des vis sur le panneau arrière ne dépasse pas 4 mm (.15 in).*



7. To mount the panel PC on the wall, align the wall mount bracket attached to the panel PC with the wall mount plate on the wall and slide the panel PC downwards to hang the bracket on the mount plate.

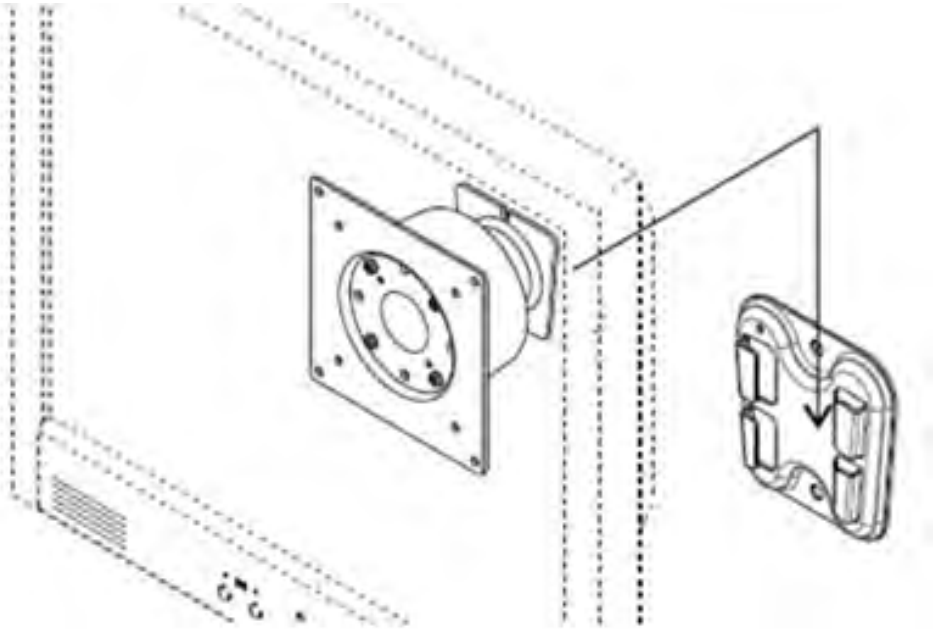


**Figure 2.3 Mounting the Panel PC on a Wall**

8. Secure the panel PC in place by tightening screws in the wall mount bracket.

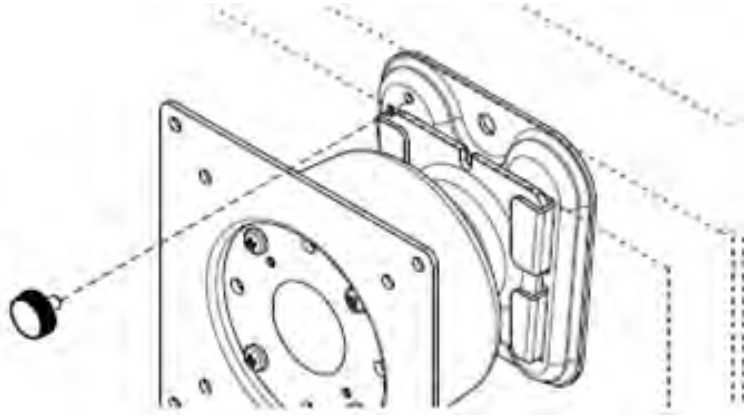


**Figure 2.4 Securing the Panel PC**

### 2.3.2 Arm Mounting

PPC-615W/618W/621W can be mounted on a VESA-compliant arm mount with a 100 mm (3.93 in) interface pad. To affix the panel PC to an arm mount, follow the steps below.

1. Refer to the mounting arm installation instructions to correctly mount the arm onto the surface as a base.
2. Align the retention screw holes on the mounting arm interface with VESA holes in the panel PC, and secure the panel PC with the four M4 retention screws.

**Figure 2.5 Arm Mounts for Panel PCs**

***Warning!*** *Ensure that the thread depth of the screws on the rear panel does not exceed 4 mm (0.15 in).*

*Assurez-vous que la profondeur de filetage des vis sur le panneau arrière ne dépasse pas 4 mm.*

### 2.3.3 Stand Mounting

Before stand mounting, check that the product was shipped with the following items:

**Packing List**

| No. | Name | Qty. | Pic. | No. | Name | Qty. | Pic. |
|---|---|---|---|---|---|---|---|
| A | Screw (M4x8L) | 12 (4 x spare) | | B | Screw (M4x6L) | 6 (2 x spare) | |
| C | Screw (M4x5L) | 2 (1 x spare) | | 1 | Hinge | 1 | |
| 2 | VESA Bracket | 1 | | 3 | Hinge Cover | 1 | |
| 4 | Base Plate | 1 | | | | | |

To mount the panel PC onto the stand, follow the steps below:

1. Use four M4 x 8L screws to affix the VESA bracket to the panel PC. Users can choose between a 75 x 75 mm (2.95 x 2.95 in) or 100 x 100 mm (3.93 x 3.93 in) VESA mount according to their requirements.

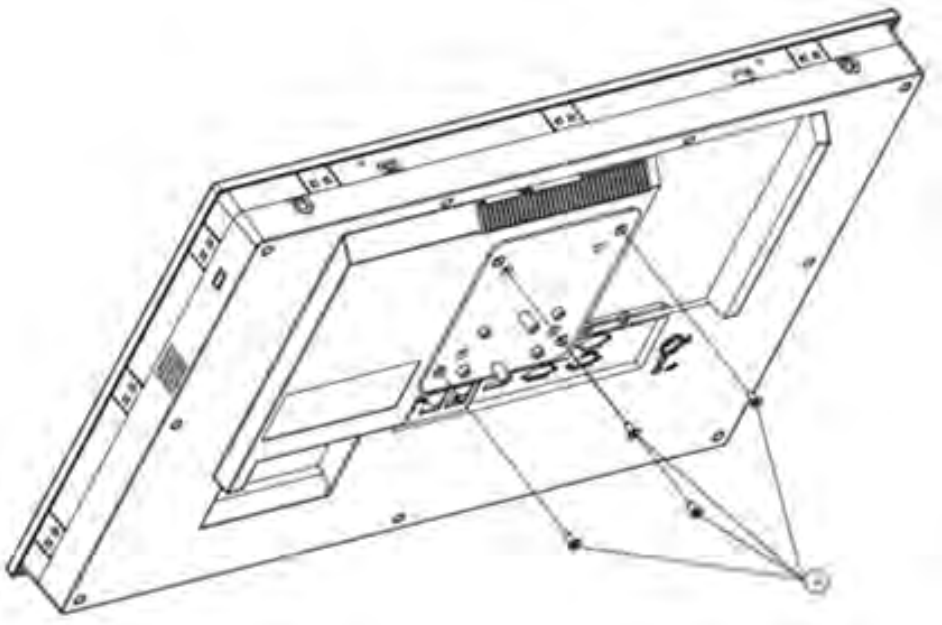


**Figure 2.6 VESA Mount Screw Holes**

2. Use the four M4 x 8L screws to secure the base plate to the mount stand.

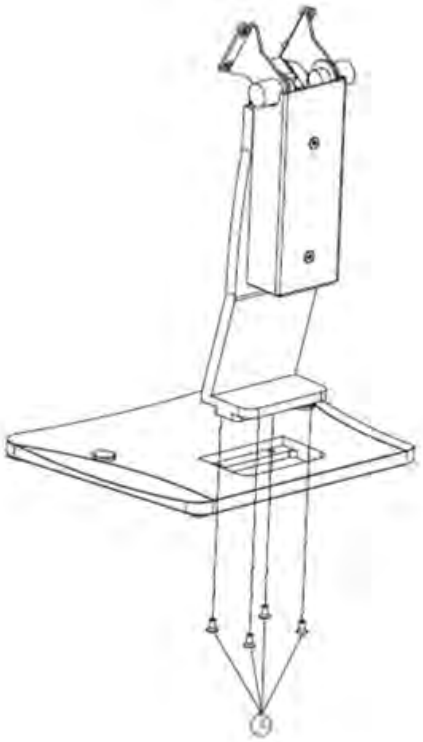


**Figure 2.7 Securing the VESA Mount Base**

3. Use four M4 x 6L screws to secure the mount stand to the VESA mount bracket.

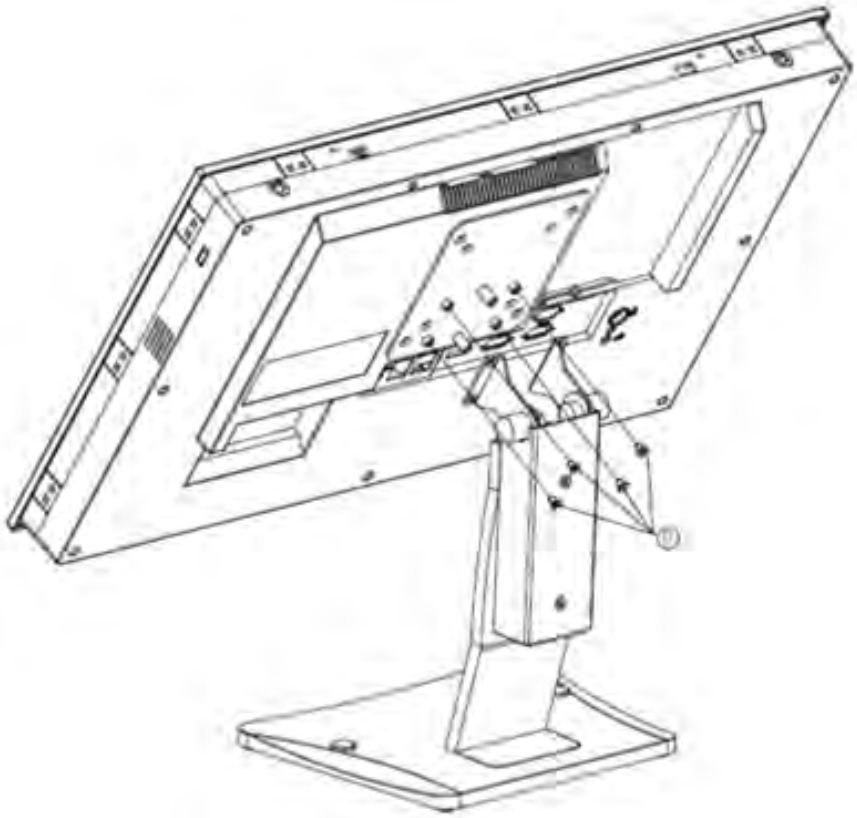


**Figure 2.8 Securing the VESA Mount Bracket**

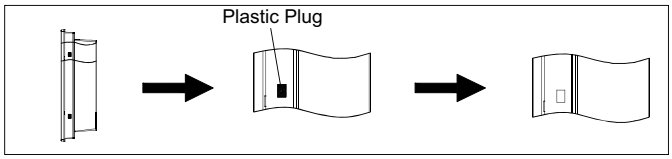
4. Use one M4 x 5L screw to secure the stand mount hinge cover.

**Figure 2.9 Securing the Stand Mount Hinge Cover**

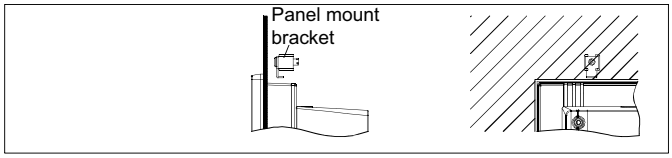
**Figure 2.10 Completed Stand Mount**

## 2.3.4 Panel Mounting

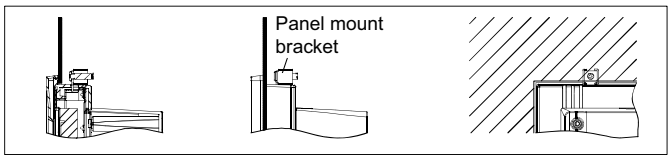
Panel Mount Bracket Installation



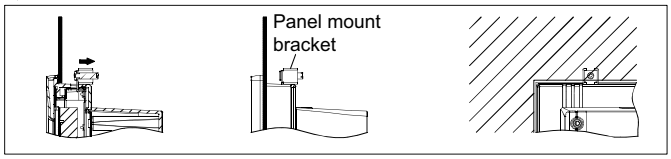

Remove the plastic plugs around the machine using tweezers.



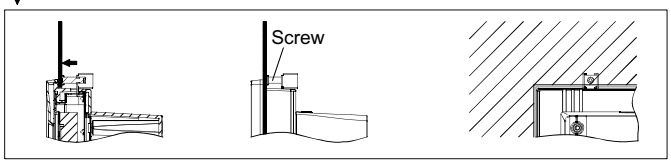

Put the machine into the cabinet and get the wall mount brackets.



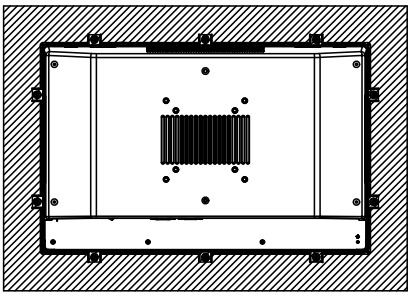

Fix the machine in place by tightening the screws.




Replace the plastic plugs according to the arrow and hookup machine.




Fix the machine in place by tightening the screws.



## 2.4 Quick Installation

Users can independently complete the panel wall mount installation by following the quick installation procedures listed below.

1. Loosen the two screws at the base (see the figure below).

2. Push the machine into a gap in the wall. The spring hook will lock the machine into the wall.

3. After mounting, the panel should appear as shown in the figure below. Then at the rear of the machine, lock the hook screw to fix the machine in place.

***Note!*** *According to the quick installation guide, the recommended mount thickness is no more than 2 mm (0.079 in). For other situations, the recommended thickness is 6 mm or less (0.236 in).*

## 2.5 Cabinet Installation and Grounding

Follow these instructions to install the PPC system, and pay attention to the ground pin which should be connected to the earth/ground. PPC system should give the best performance for EMI optimum EMI immunity, ESD immunity, surge immunity, and system isolation. If the PPC system is embedded in the cabinet, the PPC system's ground, cabinet's ground and earth/ground should be connected together.

1. Install the PPC system into the cabinet.

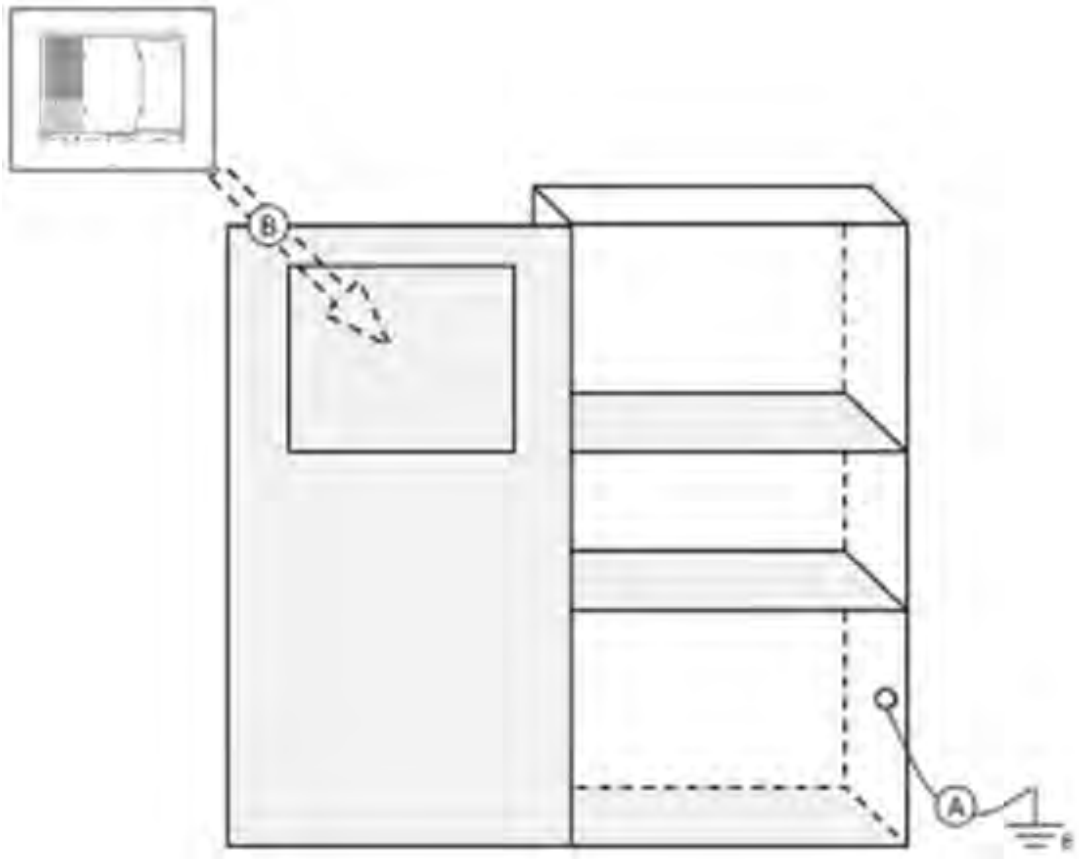



**Figure 2.11 Cabinet Installation**

a. Connect the cabinet to the earth/ground.
b. Embed null PPC system into the cabinet without any I/O cable and power.

2. System wiring.

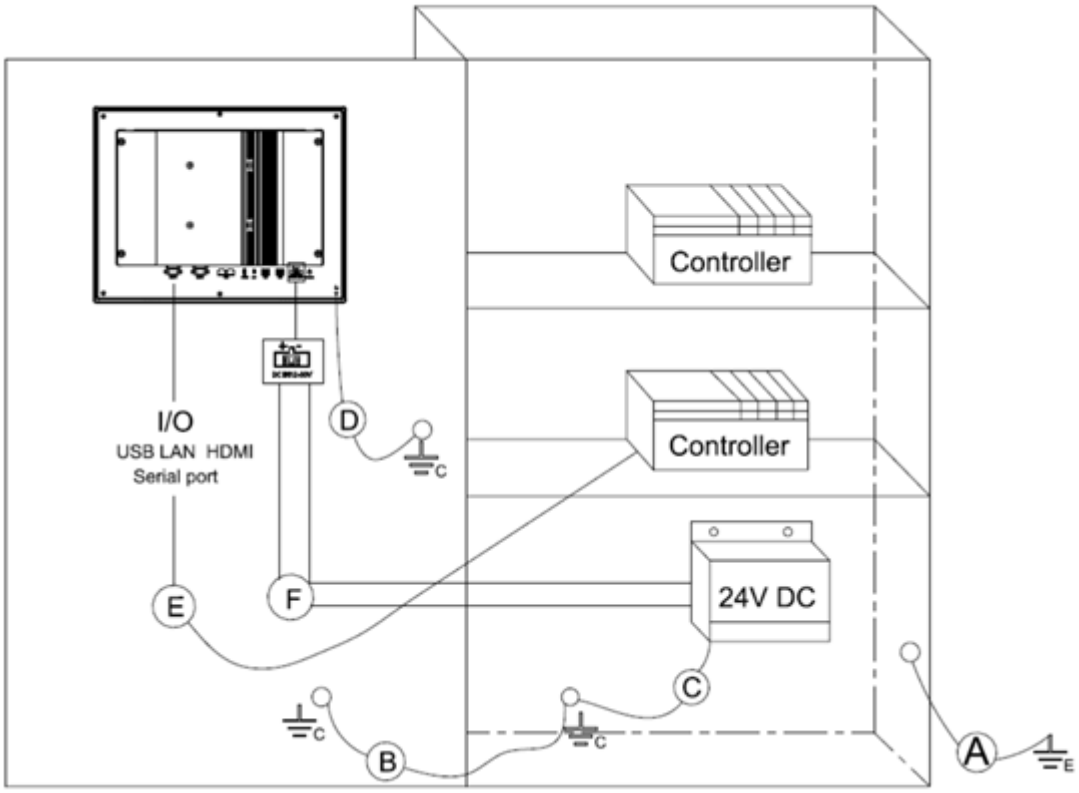



**Figure 2.12 System Wiring Diagram**

a. Connect the cabinet to the earth/ground.
b. Ensure that all cabinets have been grounded together.
c. Connect the ground of the power supply to the cabinet.
d. Connect the ground pin of PPC system to the cabinet.

***Note!*** *The wire of the protective earthing conductor shall be green-and-yellow, xx AWG/ 0.75mm2 and connecting to earth of building.*

*Ensure that the voltage of the power source is correct before connecting the equipment to a power outlet. By means of a power cord connected to a socket- outlet with earthing connection.*

# Appendix A

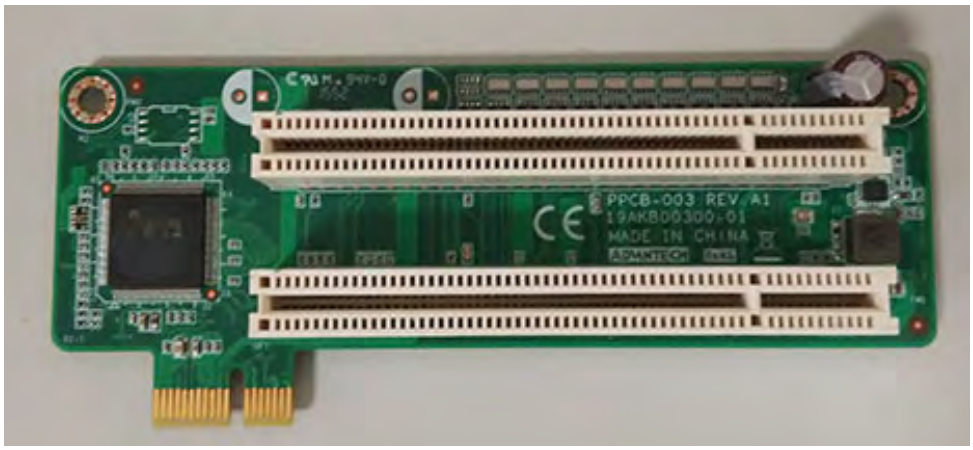
## PCI/PCIE Riser Card

# A.1 Riser Card Introduction

## A.1.1 PPCB-003 PCI Riser Card

The total current load provided by the PPC-615W/618W/621W PCI slot does not exceed 20 W. Additional details are provided below.

| | |
|---|---|
| -12 V | 0.1A |
| +12 V | 0.5A |
| +5 V | 4A |
| +3.3 V | 2.5A |
| +3.3 VSB | 0.25A |




## A.1.2 PPCB-006 PCIE x4 Riser Card

The total current load provided by the PPC-615W/618W/621W PCI slot does not exceed 25 W. Additional details are provided below.

| | |
|---|---|
| +12 V | 2.1A |
| +3.3 V | 3A |
| +3.3 VSB | 0.375A |

### A.1.3 EAMB-BE02 2x PCIe x 1 Riser Card

The total current load provided by the PPC-615W/618W/621W PCIe slot does not exceed 25 W. Additional details are provided below.

| | |
|---|---|
| +12 V | 2.1A |
| +3.3 V | 3A |
| +3.3 VSB | 0.375A |

### A.1.4 EAMB-BE03 1 x PCIe x 1+1 x PCI Riser Card

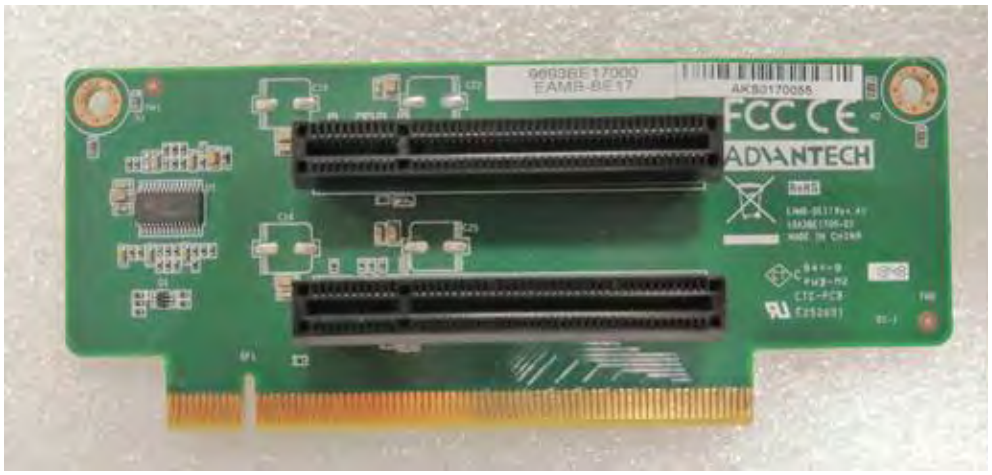
The total current load provided by the PPC-615W/618W/621W PCIe and PCI slot does not exceed 25 W. Additional details are provided below.

| | |
|---|---|
| -12 V | 0.1A |
| +12 V | 1.0A |
| +5 V | 2A |
| +3.3 V | 2.5A |
| +3.3 VSB | 0.25A |

## A.1.5 EAMB-BE17 2 x PCIe x 8 Riser Card (for PPC-MB-6X0(U) only)

The total current load provided by the PPC-615W/618W/621W PCIe slot does not exceed 25 W. Additional details are provided below.

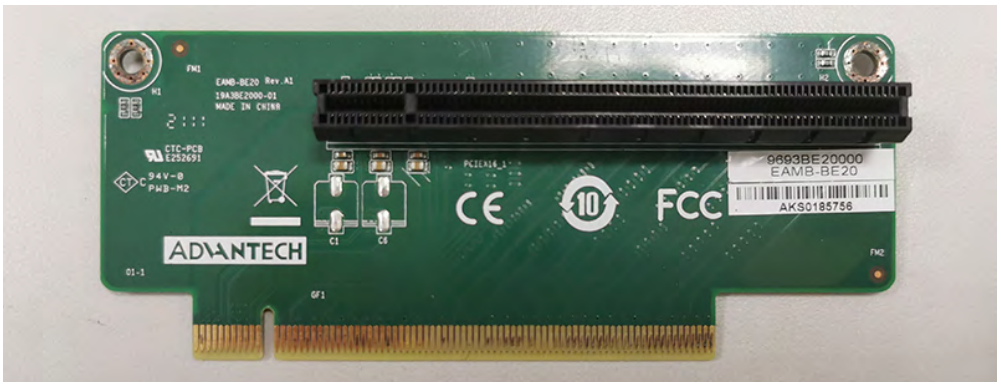
| | |
|---|---|
| +12 V | 2.1A |
| +3.3 V | 3A |
| +3.3 VSB | 0.375A |




## A.1.6 EAMB-BE20 PCIe x 16 Riser Card (for PPC-MB-6X0(U) only)

The total current load provided by the PPC-615W/618W/621W PCIe slot does not exceed 75 W. Additional details are provided below.

| | |
|---|---|
| +12V | 5.5A |
| +3.3V | 3.0A |
| +3.3VSB | 0.375A |




***Note!*** *The dimensions of the PCI and PCIE cards can not exceed 178 x 110 x20 mm (for PPC-615W),205 x 110 x 20 mm (for PPC-618W/621W).*

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