Manuals+ — User Manuals Simplified.

DFI VC500-CMS Fanless In Vehicle System Installation Guide

Contents

DFI VC500-CMS Fanless In Vehicle System

Specifications

- **Model:** VC500-CMS
- **Type:** Fanless In-Vehicle System
- **LAN Ports:** 2
- **USB Ports:** 1 x USB 3.1 Gen 2
- **DIO Ports:** 1
- **COM Ports:** COM5

Product Overview

The VC500-CMS is a fanless in-vehicle system designed for robust performance in various environments. It features multiple ports for connectivity and expansion, making it ideal for industrial applications.

Installation Instructions

1. Make sure the system and peripheral devices are powered off.
2. Disconnect all power cords and cables.
   1. **Step 1:** Turn the system upside down and remove the screws to detach the chassis cover.
   2. **Step 2:** Lift the cover to open the system.
   3. **Step 3:** Access the board after removing the chassis cover.

Installing an Antenna

1. Ensure the system and peripherals are powered down.
2. Disconnect all power cords and cables.
   1. **Step 1:** Remove the rubber plug covering the antenna hole on the system.
   2. **Step 2:** Connect the internal cable to the board's antenna connector and secure the antenna through the antenna hole using washers and nuts.
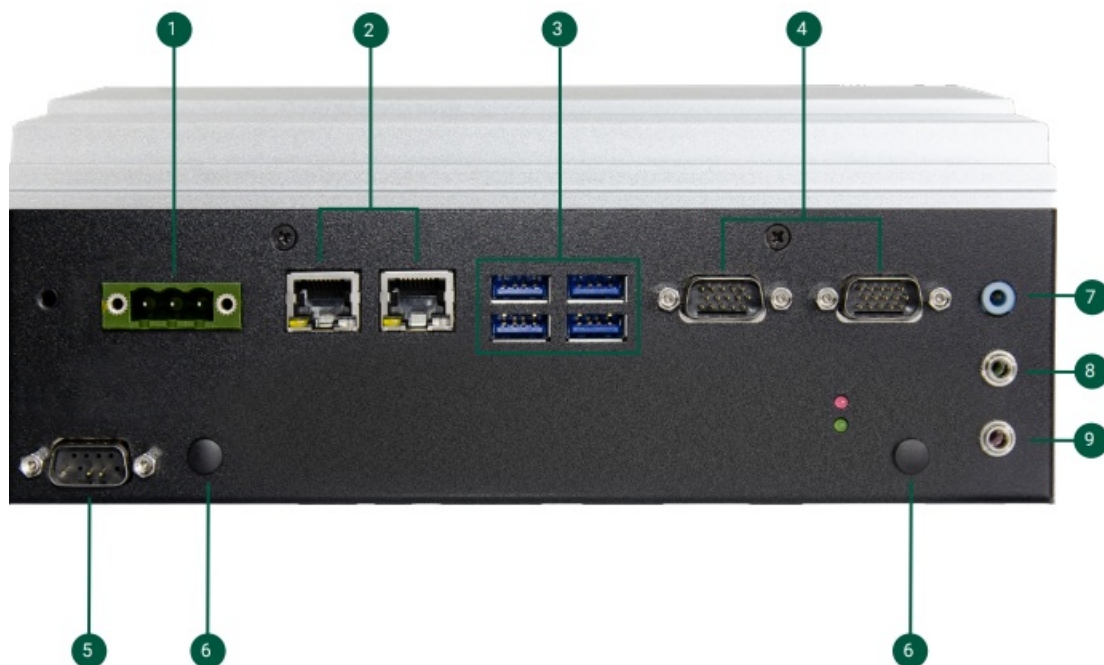
Inserting a 2.5 HDD/SDD

1. **Step 1:** Unlock the HDD/SDD slot by inserting the key provided in the package.
2. **Step 2:** Press the eject button to release the tray.
3. **Step 3:** Slide the drive into the slot until fully seated.
4. **Step 4:** Push the tray back in and lock it in place.
    - **Note:** Avoid inserting the drive backward to prevent damage to the slot.

Package Contents

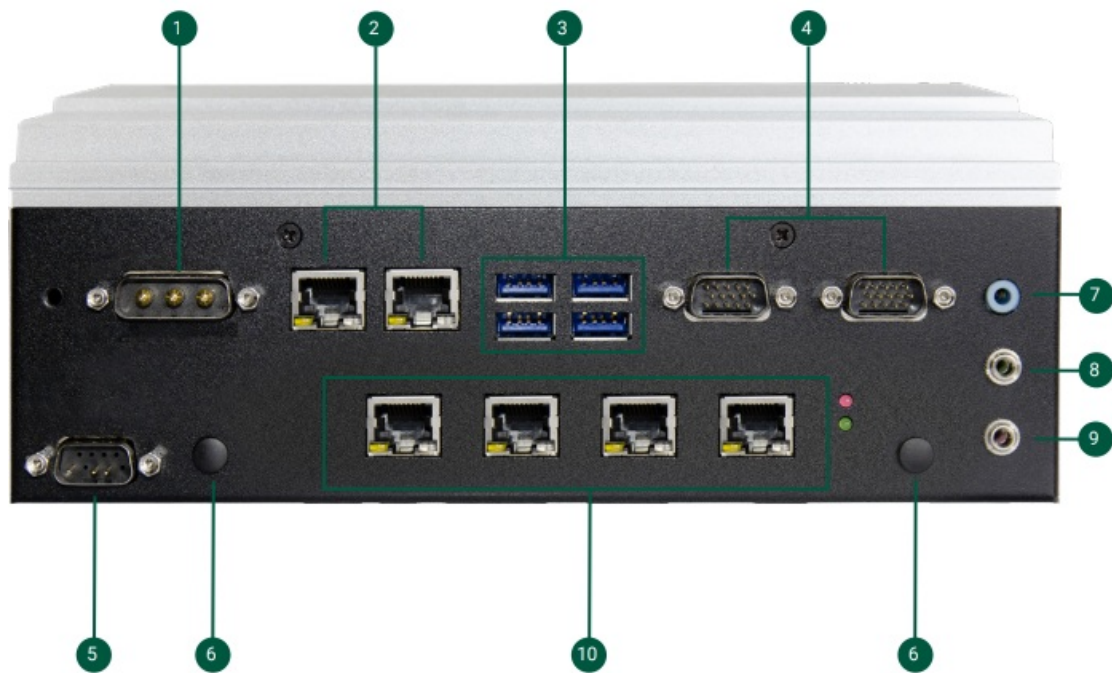- 1 VC500-CMS System Unit
- 1 Power Connector
- 1 Mounting Bracket

Product Overview

Front View – Without PoE Series

1. 3 Pin Terminal Block
2. LAN 1/2
3. USB 3.1 Gen 2
4. DIO
5. COM5
6. Antenna Hole
7. Line-Out
8. Mic-In
9. Line-In

Front View – 4 PoE

1. 3W3 Connector
2. LAN 1/2
3. USB 3.1 Gen 2
4. DIO
5. COM5
6. Antenna Hole
7. Line-Out
8. Mic-IN
9. Line-In
10. PoE Ports

Front View – PoE Series
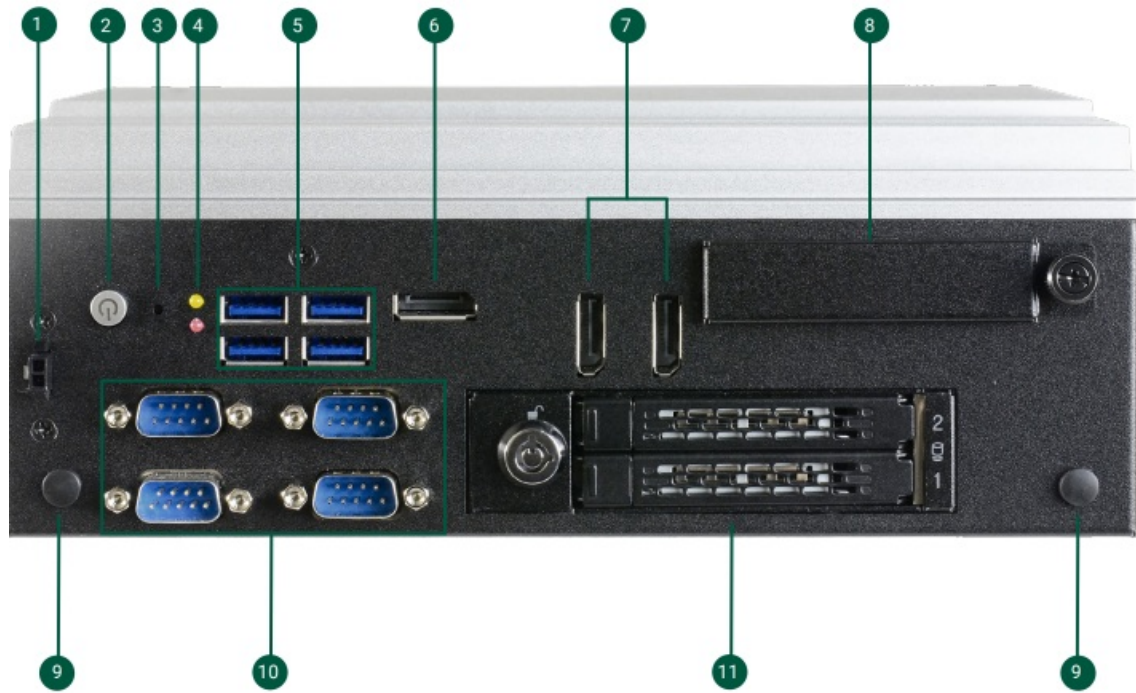

1. 3W3 Connector

2. LAN 1/2

3. USB 3.1 Gen 2

4. DIO

5. COM5

6. Antenna Hole

7. Line-Out

8. Mic-In

9. Line-In

10. PoE Ports

Front View – 10G Series

1. 3W3 Connector

2. LAN 1/2

3. USB 3.1 Gen 2

4. DIO

5. COM5

6. Antenna Hole

7. Line-Out

8. Mic-In

9. Line-In

10. 10G Fiber Ports

Rear View

1. Remote Switch
2. Power Button
3. Reset Button
4. Power Status LED (Yellow) Storage Activity LED (Red)
5. USB 3.1 Gen2
6. DP++ / HDMI
7. DP++
8. SIM Slots
9. Antenna Hole
10. COM 1/2/3/4
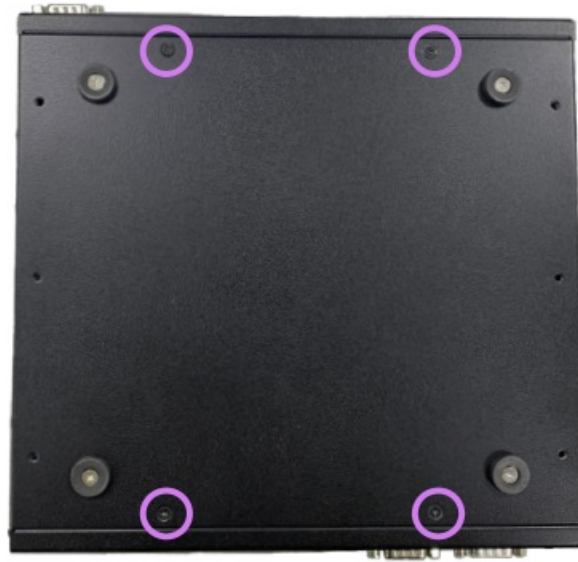11. 2.5″ SATA Drive Bays

Removing the Chassis Cover

Please observe the following guidelines and follow the instructions to open the system.

1. Make sure the system and all other peripheral devices connected to it have been powered off.
2. Disconnect all power cords and cables.

Step 1:

- Turn the system upside down to remove the 4 screws on the bottom.
- The 12 screws on both left and right sides of the system are used to secure the cover to the chassis.
- Remove the screws and put them in a safe place for later use.

Bottom View

Left View

Right View
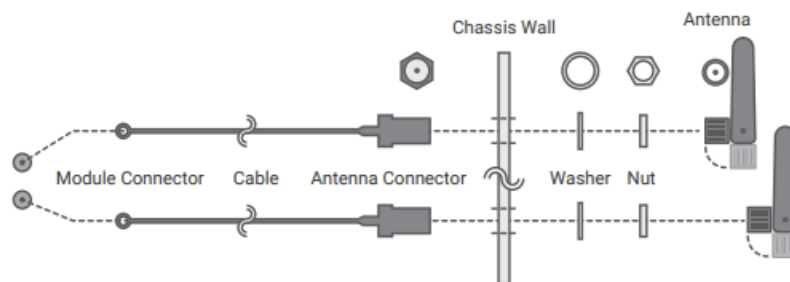

Step 2:

Lift the cover to open the system.

Step 3:

The board can be easily accessed after the chassis cover is removed.

Installing an Antenna

Before installing the antenna, please make sure that the following safety cautions are well-attended.

1. Make sure the PC and all other peripheral devices connected to it have been powered down.
2. Disconnect all power cords and cables.

Step 1:

There are antenna holes reserved on every side of the system and covered by rubber plugs. Please remove the plug before installing an antenna.

Step 2:

Connect the internal cable to the board's antenna connector, screw the antenna connector through the antenna hole with washers and nuts, and screw on the antenna as illustrated below.
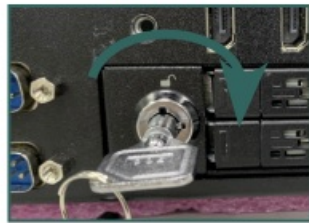

Inserting a 2.5″ HDD/SDD
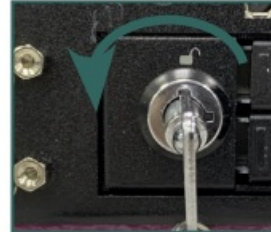
Step 1:

- The 2.5″ HDD/SDD slots on the front side of the system.
- Find the key slot. Insert the key included inside the package to unlock it.

Lock: Unlock:

Step 2:

- Once unlocked, press in gently the eject button until the tray is released.

Step 3:

- Pull the tray out and slide the drive into the slot until the drive is fully seated.

Step 4:

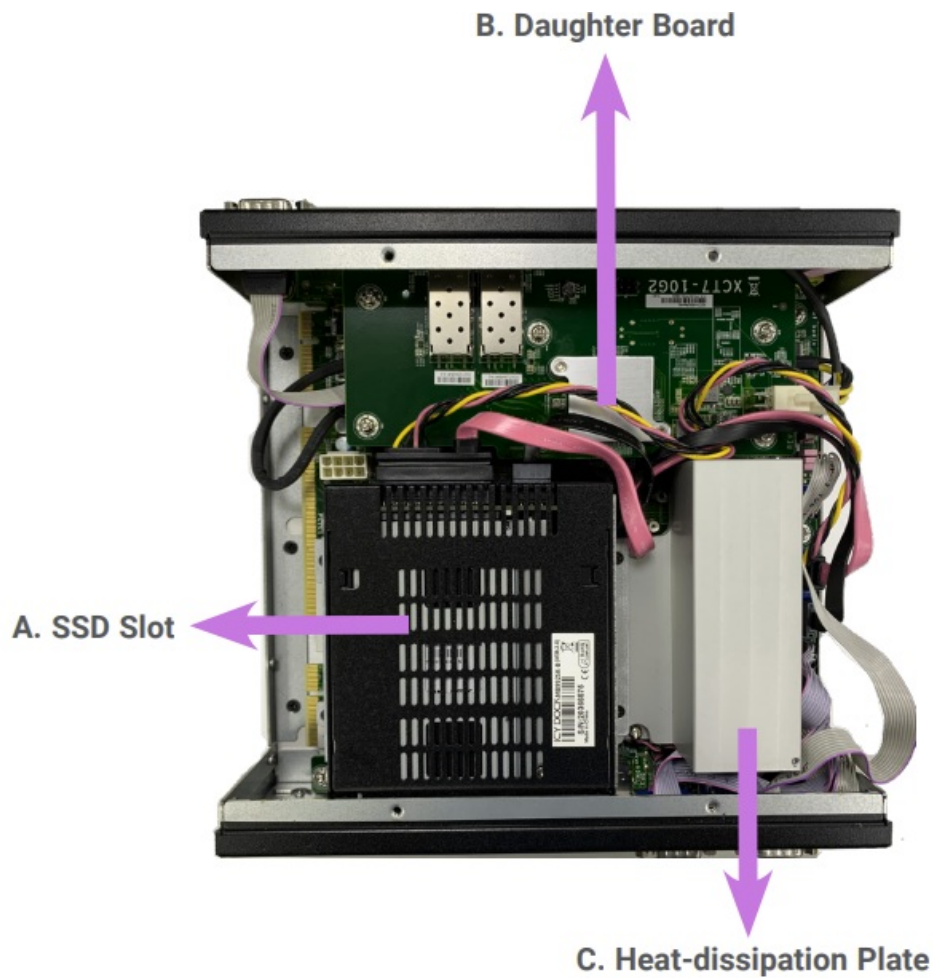- Push the tray back in and close the drive latch to lock the drive in place.

- **Important:** Excessive force may damage its mechanical parts.
- If the HDD/SSD is inserted backward into the slot, forcing the device may damage the slot.
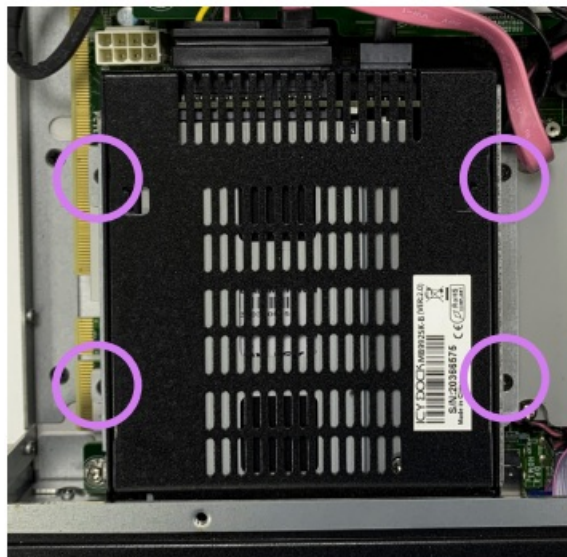
Expansion Slots

Before Installing the expansion modules

- The M.2 and SO-DIMM sockets are located on the mainboard.
- Please disassemble the following items first to access them.
- **A.** SSD Slot
- **B.** Daughter Board
- **C.** Heat-dissipation Plate

B. Daughter Board

A. SSD Slot

C. Heat-dissipation Plate

A. SSD Slot

- Remove four screws and put them in a safe place for later use. After removing the screws, gently pull the SSD slot out of the system.
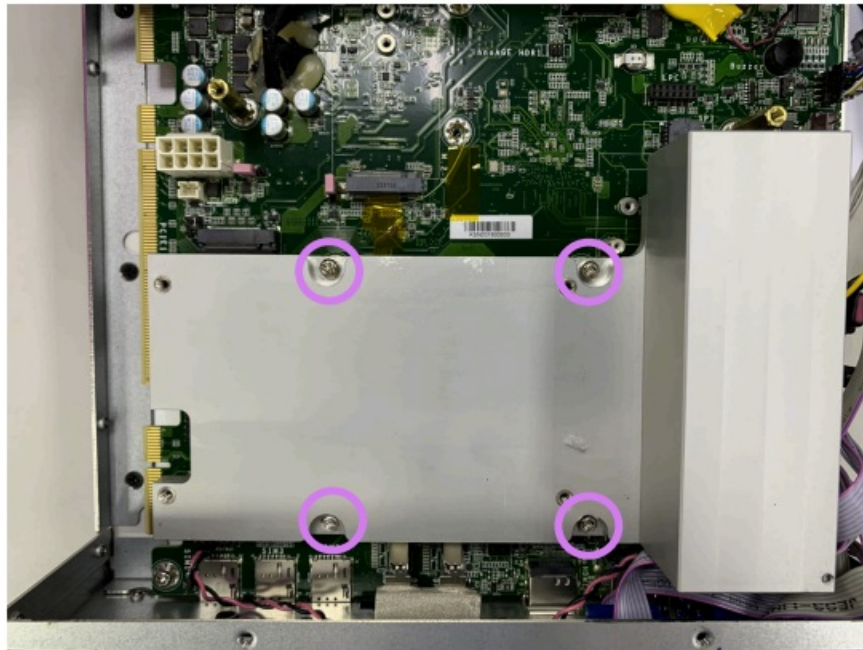

B. Daughter Board

- Remove five mounting screws and put them in a safe place for later use. To disengage the daughter board, gently pull the board out of the system.

C. Heat-Dissipation Plate

- Remove four mounting screws and put them in a safe place for later use. Disassemble the heat dissipation plate and lift it to access the SODIMM sockets.
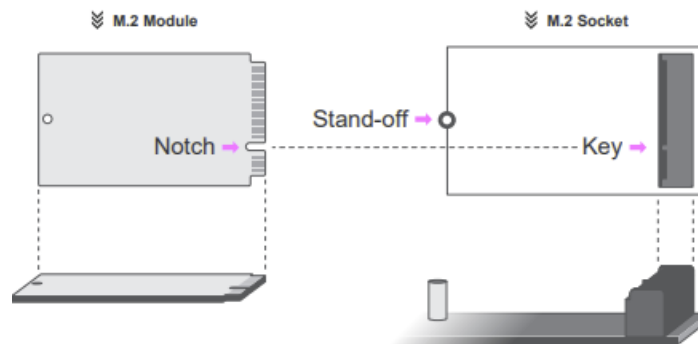

Installing the M.2 Module

Before installing the M.2 module into the M.2 socket, please make sure that the following safety cautions are well-attended.

1. Make sure the PC and all other peripheral devices connected to it have been powered down.
2. Disconnect all power cords and cables.
3. Locate the M.2 socket on the system board
4. Make sure the notch on the card is aligned to the key on the socket.
5. Make sure the standoff screw is removed from the standoff.

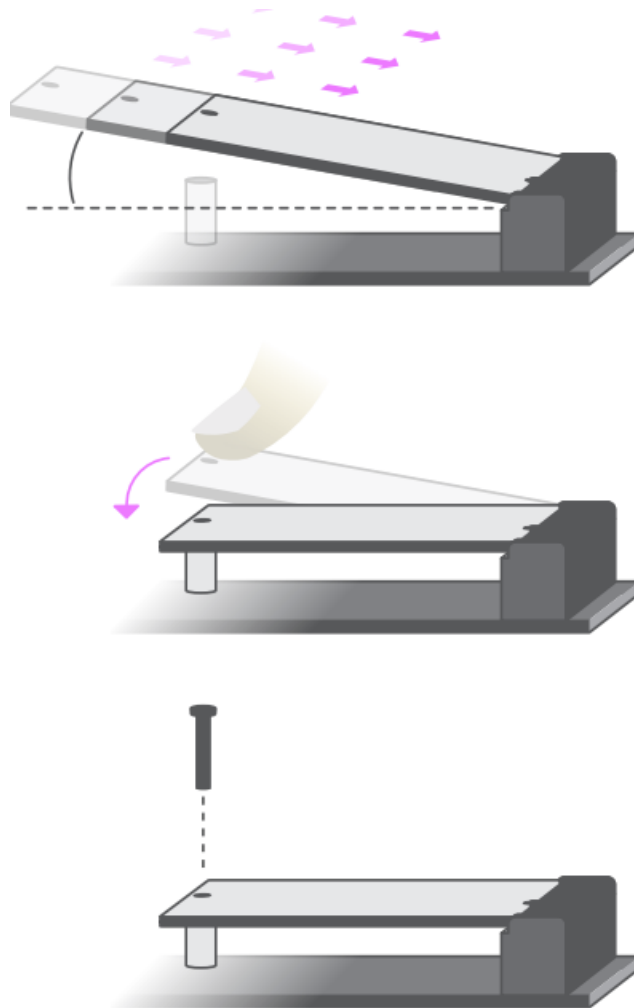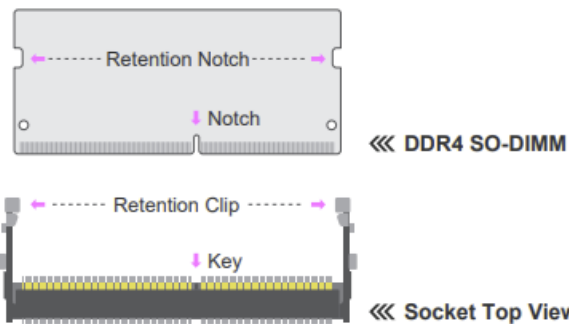Please follow the steps below to install the card into the socket.

1. **Step 1:**
   - Insert the card into the socket at an angle while making sure the notch and key are perfectly aligned.
2. **Step 2:**
   - Press the end of the card far from the socket down until against the stand-off.
3. **Step 3:**
   - Screw tight the card onto the stand-off with a screw driver and a stand-off screw until the gap between the card and the stand-off closes up. The card should be lying parallel to the board when it's correctly mounted.

Installing the SO-DIMM Module

Before installing the memory module, please make sure that the following safety cautions are well-attended.

1. Make sure the PC and all other peripheral devices connected to it have been powered down.
2. Disconnect all power cords and cables.
3. Locate the SO-DIMM socket on the system board
4. Make sure the notch on the memory card is aligned to the key on the socket.

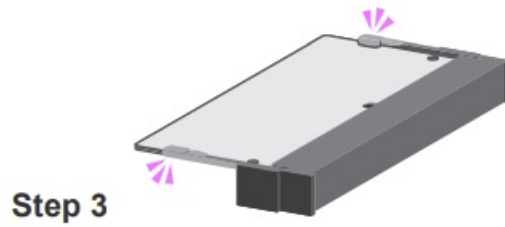Please follow the steps below to install the memory card into the socket.
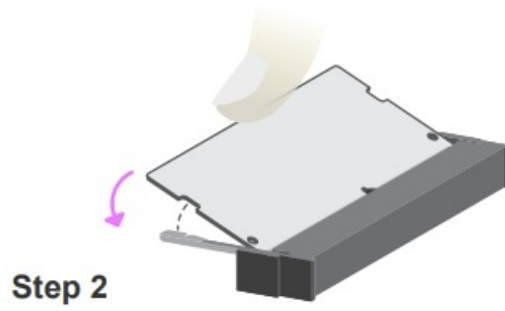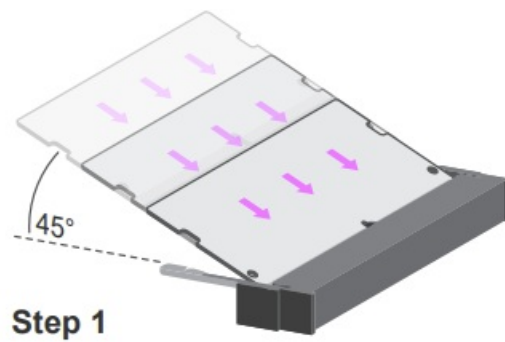

1. **Step 1:**
   - Insert the memory card into the slot while making sure 1) the notch and the key are aligned, and 2) the non-connector end rises approximately 45 degrees horizontally.
   - Press the card firmly into the socket while applying and maintaining even pressure on both ends.
2. **Step 2:**
   - Press the end of the card far from the socket down while making sure the retention notch and the clip align as indicated by the dotted line in the illustration.
   - If the retention notch and the clip do not align, please remove the card and re-insert it. Press the card down.
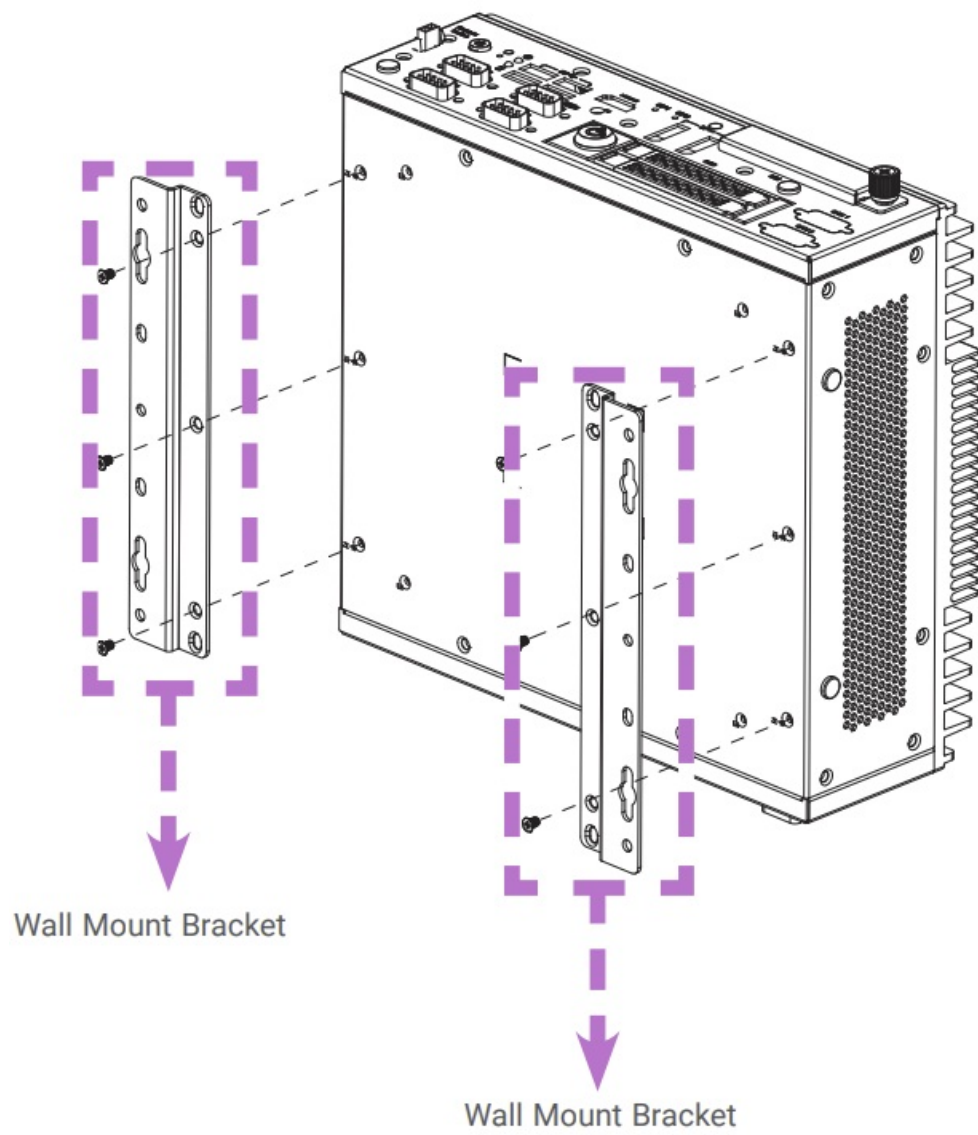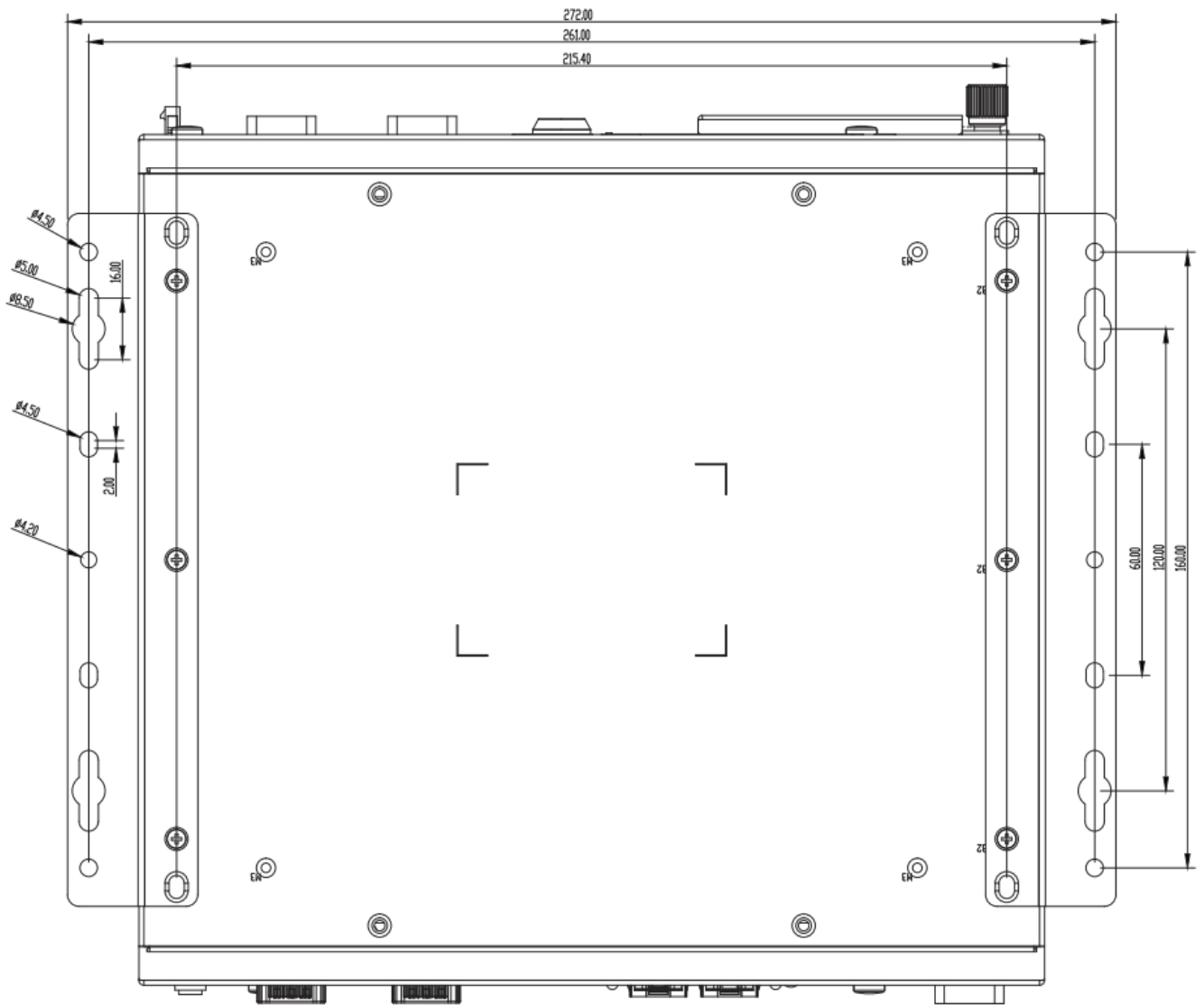3. **Step 3:**
   - The clips snap automatically and abruptly to the retention notches of the card, sounding a distinctive click, and lock the card in place. Inspect that the clip sits in the notch.
   - If not, please pull the clips outward, release and remove the card, and mount it again.

Step 1

Step 2

Step 3

Mounting Options

- The wall mount kit containing two mounting brackets can be attached to the bottom of the system for mounting onto desired locations, such as walls, stands, or shelves.
- Locate the mounting holes on the bottom of the system as shown in the photo. Screw on the two brackets onto the system with six screws as illustrated below.

Wall Mount Bracket

Wall Mount Bracket

- DFI reserves the right to change the specifications at any time before the product's release.
- This QR may be based on the product's revision.
- For more documentation and drivers, please visit the download page at **www.dfi.com/downloadcenter,** or via the QR codes to the right.

- **www.dfi.com**

Frequently Asked Questions

- **Q: How many LAN ports does the VC500-CMS have?**
  - **A:** The VC500-CMS comes with 2 LAN ports for network connectivity.
- **Q: Can I install additional antennas on the system?**
  - **A:** Yes, you can install additional antennas on the reserved antenna holes of the system following the provided instructions.
- **Q: What type of drives can be inserted into the system?**
  - **A:** The system supports 2.5 HDDs or SSDs which can be inserted into the front slots after unlocking them

with the included key.

Documents / Resources

DFI VC500-CMS Fanless In Vehicle System [pdf] Installation Guide
VC500-CMS, VC500-CMS Fanless In Vehicle System, Fanless In Vehicle System, Vehicle System

References

- **DFI** **DFI | Embedded Motherboard | Industrial Computer**
- **DFI** **DFI | Embedded Motherboard | Industrial Computer**
- **DFI** **Download Center Support DFI**
- **User Manual**