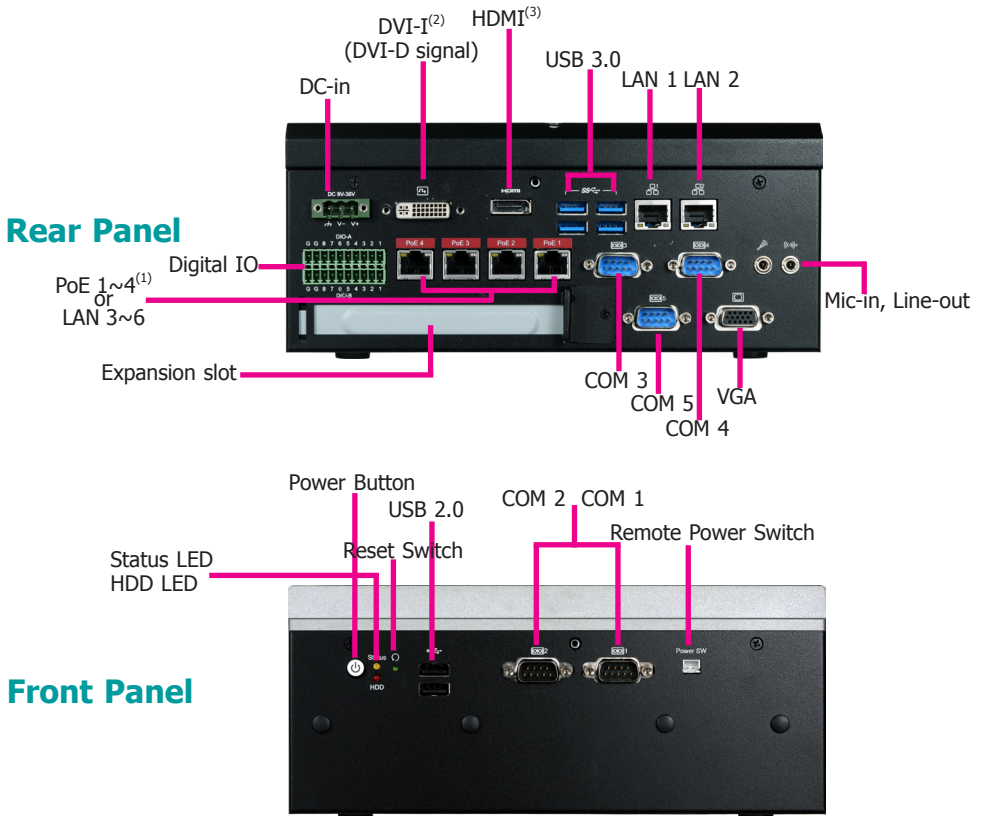


DFI®

EC510/511-KH Installation Guide

Package Contents

- EC510/511-KH system unit
- Quick Installation Guide
- CD disk includes:
 - Drivers / Manual



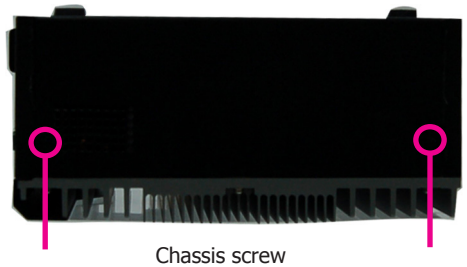
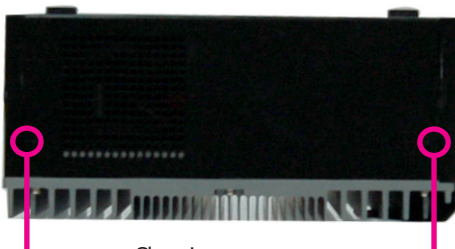
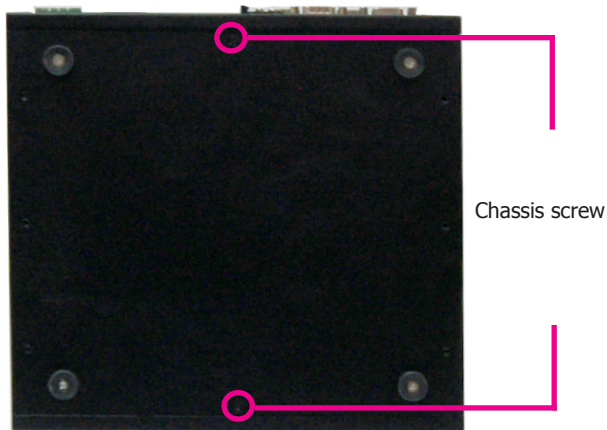
Notes:

1. The PoE ports support PoE devices that comply with 802.3af and each port delivers 15.4W of power to connected devices. The system may be equipped with 4 Gigabit Ethernet ports without PoE depending on the SKU; please refer to the Ordering Information for details.
2. This port can be in HDMI or DVI-D (HDMI available upon request).
3. This port is a DP/HDMI combo port but can only transmit either HDMI or DP signals (as indicated on the panel). Please plug in a DP or an HDMI cable with the right orientation and alignment to avoid damage to the connector. You should feel resistance (due to a pin on the right) if the cable is not inserted correctly. For detailed instructions, see <https://youtu.be/SUj07rFN5I8>.

Removing the Chassis Cover

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

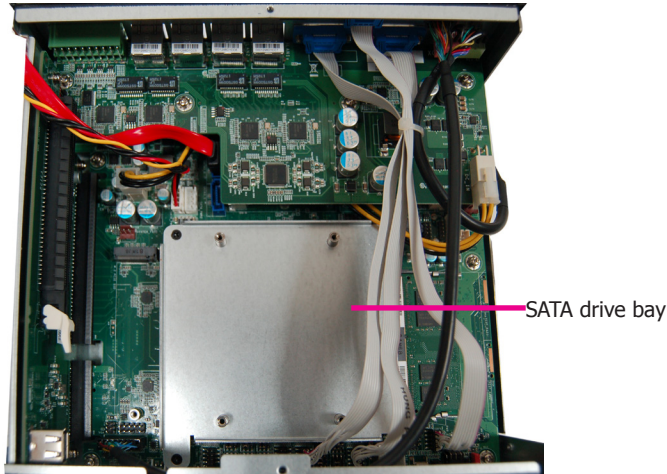
1. Make sure the system and all other peripheral devices connected to it have been powered off.
2. Disconnect all power cords and cables.
3. The 6 mounting screws on the bottom and both sides of the system are used to secure the cover to the chassis. Remove these screws and put them in a safe place for later use.



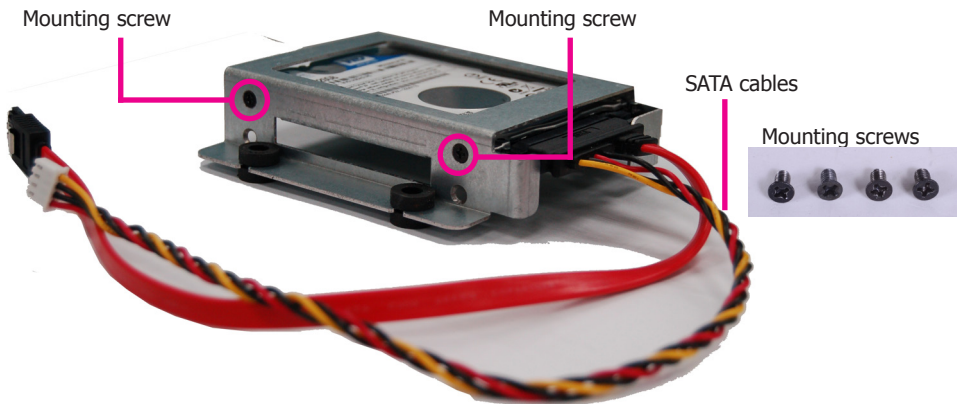
Installing a 2.5" SATA Drive

The system can accommodate two SATA drives. Please use the following procedure to install a SATA drive in the system.

1. The SATA HDD bracket is included in the product package. Locate the SATA drive bay on which the SATA HDD bracket will be mounted.



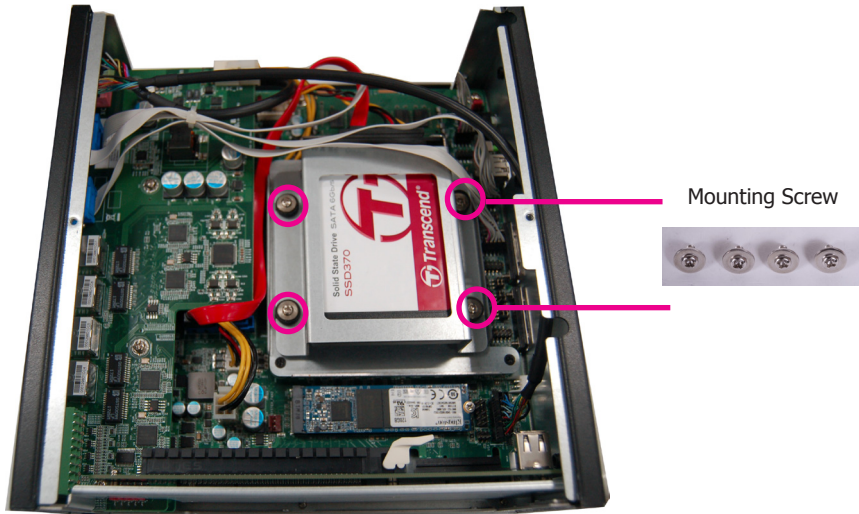
2. Insert the SATA drive into the HDD bracket and secure it in place with the provided screws (black screws). The HDD bracket can accommodate two SATA drives.



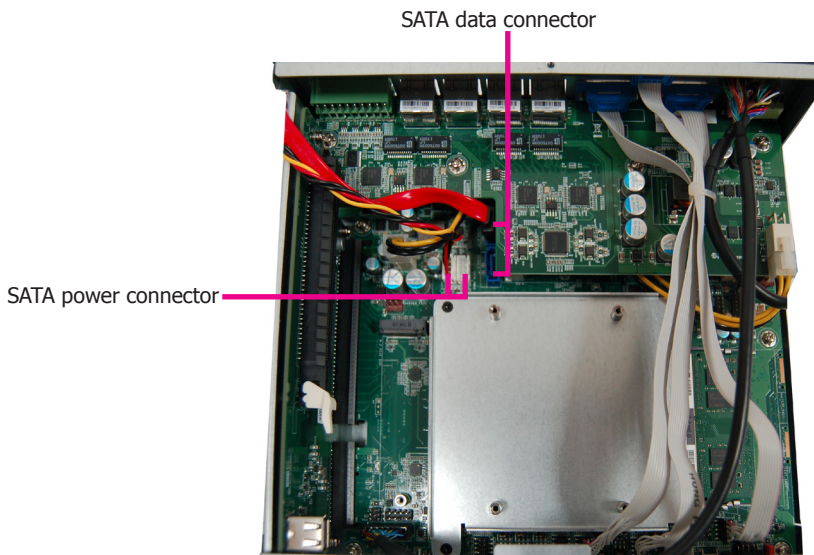
Note:

Connect SATA cables before affixing the SATA drive on the HDD bracket as the HDD bracket would prevent access to the SATA connectors of the drive.

3. Place the SATA drive with the HDD bracket into the system. Align the mounting holes on the HDD bracket with the mounting holes on the SATA drive bay and use the provided screws to secure the drive in place.

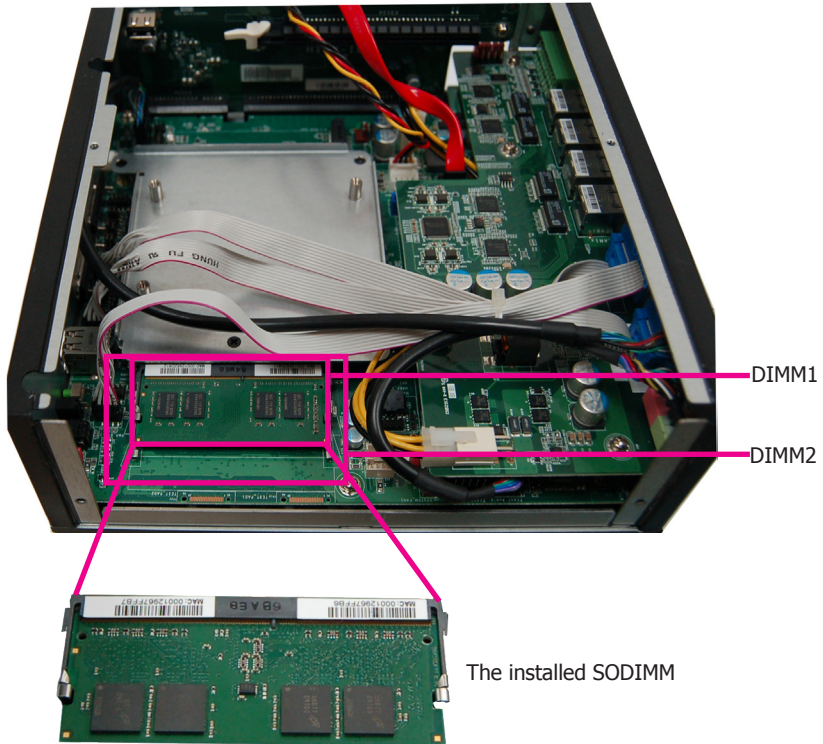


4. Connect the other end of the SATA data cable and the SATA power cable to the SATA data and SATA power connector on the mainboard respectively.



Installing a SODIMM

Grasp the module by its edges and align the SODIMM's notch with the socket's key; then insert the SODIMM into the socket at an angle and push it down until the retaining clips snap into place.



The installed SODIMM

To remove a SODIMM, gently spread the retaining clips at each end of the SODIMM socket. The SODIMM should pop out of the socket. Lift the SODIMM away from the socket on the mainboard.



Notes:

1. The system supports dual-channel configuration. To enable dual-channel, populate both SODIMM sockets.
2. If you plan to install only one SODIMM, install it in the DIMM1 socket (upper one and closer to the center of the mainboard).
3. The SODIMM sockets can only accept DDR4 memory modules. Please do not install other types of memory modules.

Installing a Mini PCIe Expansion Card

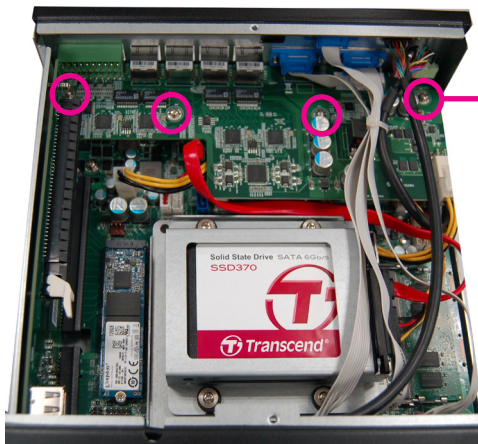
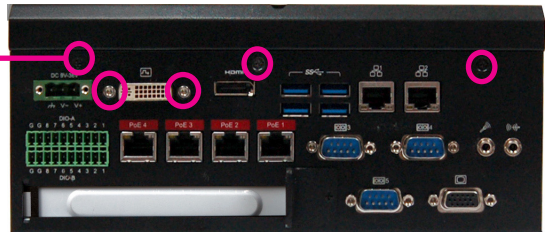
The Mini PCIe sockets are located on the mainboard. You need to remove the daughter board and the front bezel to access them.

The 4 mounting screws on the daughter board are used to secure the board to the mainboard. Remove these screws and put them in a safe place for later use. To disengage the daughter board from the mainboard, gently pull the card out of the connector.

The 4 mounting screws (plus the two fasteners used on DVI-D connector) affix the front bezel to the system as shown in the following pictures. Remove these screws and put them in a safe place for later use.



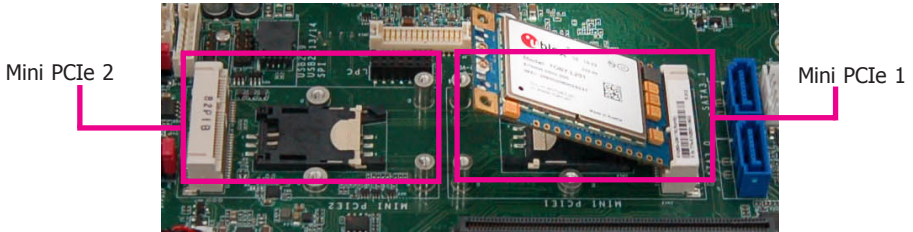
Front bezel mounting screw



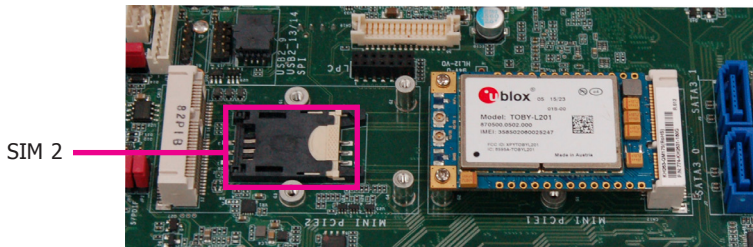
Daughter board mounting screw

The system board is equipped with 2 Mini PCIe slots with Mini SIM card sockets to support a variety of wireless LAN and mobile broadband communication modules. Mini PCIe slot 1 provides both USB and PCIe interfaces whereas Mini PCIe slot 2 provides only USB interface.

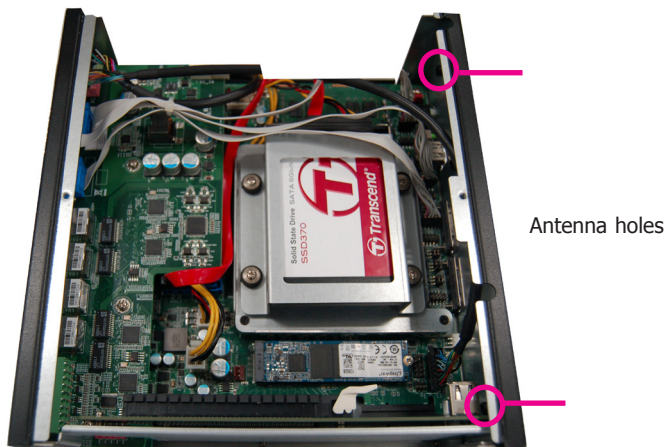
1. Grasp the Mini PCIe card by its edges and align the notch in the connector of the Mini PCIe card with the notch in the connector on the system board.



2. Secure the card on the mainboard with the provided mounting screw.

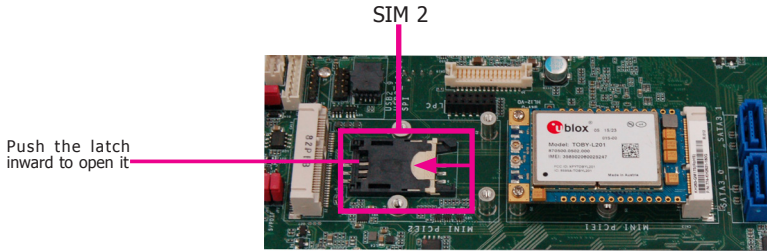


3. If the Mini PCIe card has antennas, route the antennas to the antenna holes on the front chassis of the device.

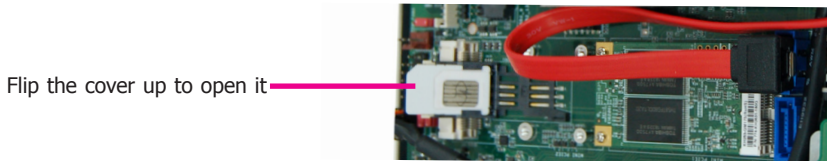


Installing a SIM Card

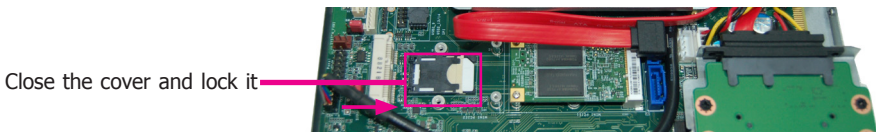
Open the SIM card socket by pushing the white latch inward.



Insert the SIM card into the slot. Please place the card with the IC facing down and the angled corner aligning with the socket's angled corner so it will be correctly in contact with the system board.

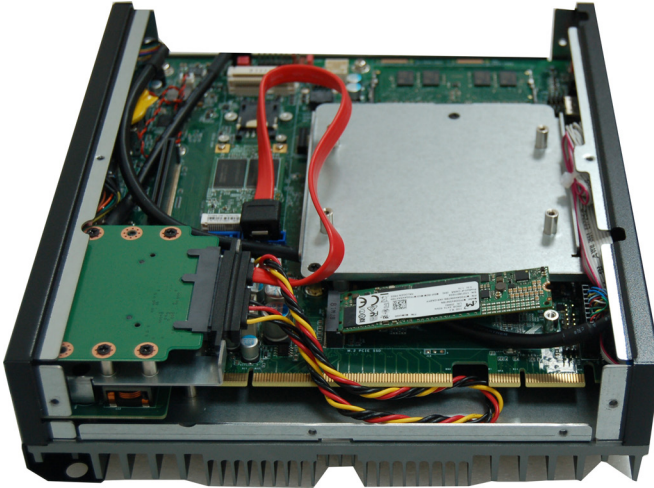


Close the slot's cover and lock the slot by pushing the white latch outward.

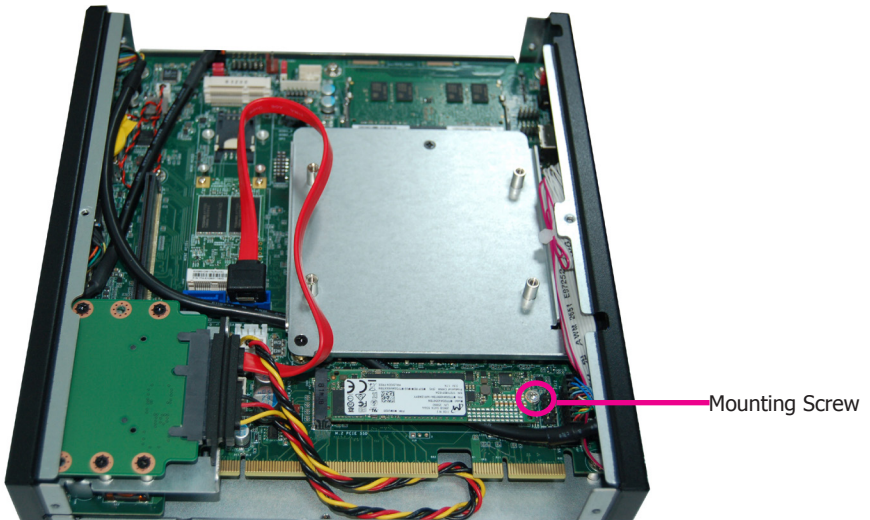


Installing an M.2 Card

The onboard M.2 Type 2280 connector (M Key) supports PCIe NVMe modules up to PCIe Gen 3.0 x4 bandwidth. Note that only SKUs with Intel® QM175 Chipset support M.2 socket.



To install an M.2 card, insert the bottom edge of the M.2 card into the connector, and then secure the card to the standoff with the provided mounting screw.



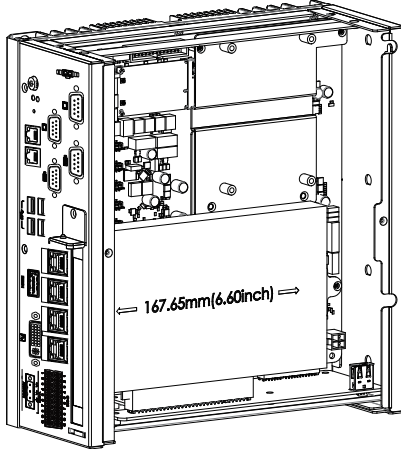


Installing a PCI or PCIe Expansion Card

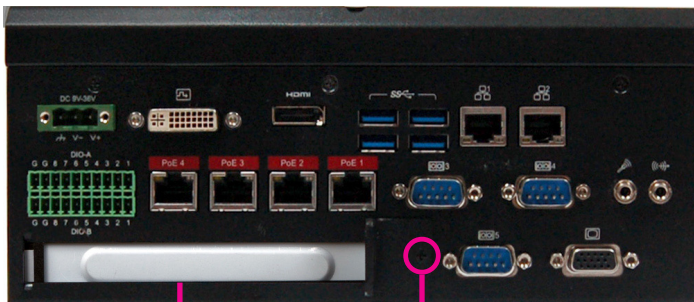


Important:

When inserting expansion cards into the system, please select a standard card within 167.65mm (as shown in the picture below) in order to fit into the expansion slot.



The PCI and PCIe slots on the riser card inside the system are used to install expansion cards. To install an expansion card you need to first remove the slot plate and bracket by uninstalling the screw on the rear panel.

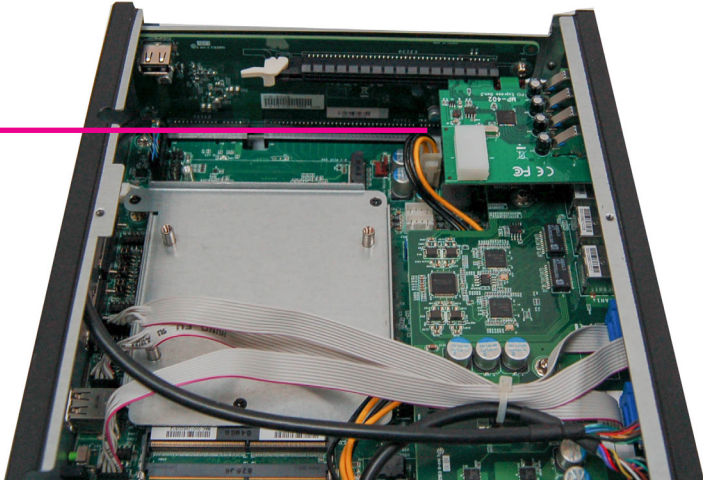


Slot plate

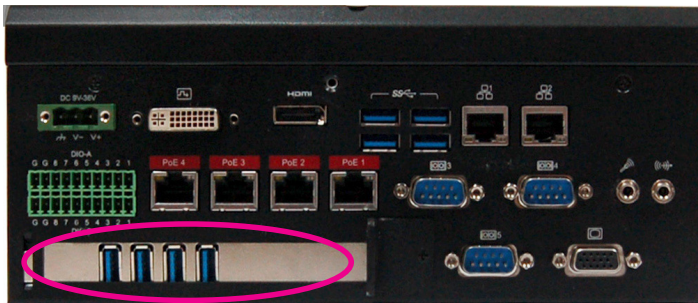
Mounting screw and bracket

2. Insert the expansion card into a PCI or PCIe slot on the riser card. Ensure the card is properly seated into the slot and secure the bracket in place.

PCI card



Rear View

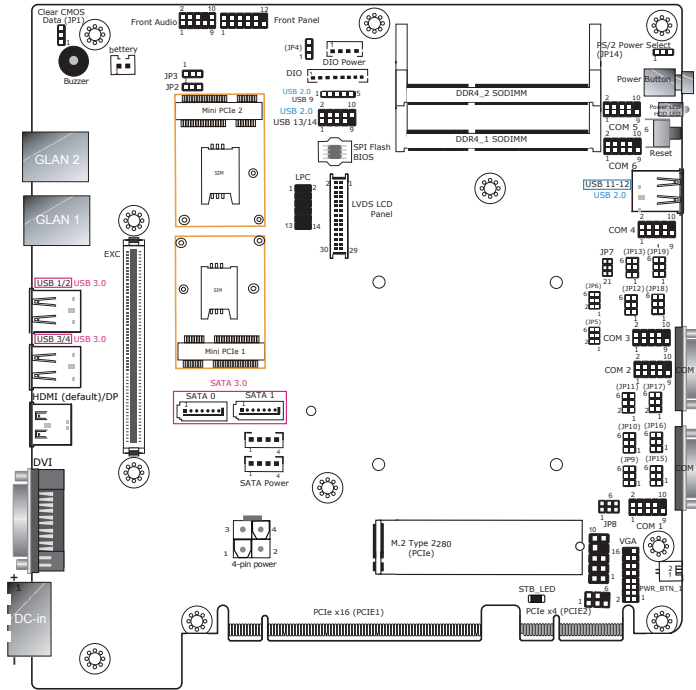


Note:

The EC511-KH has one PCIe x16 slot with the H120-1E riser card, whereas the EC510-KH has one PCI slot with the H320-1P riser card.



Board Layout and Jumper Settings



Clear CMOS Data	JP1
Normal (default)	1-2 On
Clear CMOS Data	2-3 On

DIO bit 0~3 Pull-up/Pull-down Selection	JP3
Pull-up	1-2 On
5V/5V_Standby	
Pull down GND	2-3 On

DIO bit 4~7 Pull-up/Pull-down Selection	JP2
Pull-up	1-2 On
5V/5V_Standby	
Pull down GND	2-3 On

DIO bit 0~7 Power Source selection	JP4
5V_Standby	1-2 On
5V	2-3 On

PS/2 KB/MS Power source	JP14
5V	1-2 On
5V_Standby	2-3 On

RS232/Power Select: COM 1 (JP8), COM 2 (JP7)	
RS232 (default)	1-3 (RI), 2-4 (DCD) On
RS232 with power	3-5 (+5V), 4-6 (+12V) On

RS232/422/485 Select: COM 1 (JP10), COM 2 (JP16) COM 3 (JP13), COM 4 (JP5)	
RS232 (default)	1-3, 4-6 On
RS422 Full Duplex	3-5, 4-6 On
RS485	3-5, 2-4 On

RS232/422/485 Select: COM 1 (JP9/JP15), COM 2 (JP11/JP17) COM 3 (JP12/JP18), COM 4 (JP6/JP19)	
RS232 (default)	1-3, 2-4 On
RS422 Full Duplex/RS485	3-5, 4-6 On

Notes:

1. When COM1 RS232/422/485 is selected, JP9 and JP15 must be set in accordance to JP10.
2. When COM2 RS232/422/485 is selected, JP11 and JP17 must be set in accordance to JP16.
3. When COM3 RS232/422/485 is selected, JP12 and JP18 must be set in accordance to JP13.
4. When COM4 RS232/422/485 is selected, JP6 and JP19 must be set in accordance to JP5.