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Dell PowerEdge C8220X

Xeon Phi 5110P/7120P MIC Card Installation Guide

Regulatory Model: B06B
Regulatory Type: B06B001

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Regulatory Model B06B

Regulatory Type: B06B001

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Important Safety Information

Observe the following safety precautions when installing Intel Xeon Phi 5110P/7120P Many Integrated Core (MIC) cards in the PowerEdge C8220X sled.

WARNING: Working on systems that are still connected to a power supply can be extremely dangerous.

CAUTION: The sled must be operated with the cover installed to ensure proper cooling.

CAUTION: To ensure proper airflow in the PowerEdge C8000 server enclosure, if a sled module is removed it should be immediately replaced with another sled or sled blank.

CAUTION: Operating the system for extended periods of time without a sled blank installed can cause the PowerEdge C8000 server enclosure to overheat.

CAUTION: MIC cards can only be installed in the slots on the GPGPU card riser. Do not attempt to install MIC cards directly into the riser connector on the system board.

NOTE: It is recommended that you always use a static mat and static strap while working on components in the interior of the system.

To avoid injury to yourself or damage to your system, follow these guidelines:

- Always disconnect the system from the power outlet whenever you are working inside the system.
- If possible, wear a grounded wrist strap when you are working inside the system. Alternatively, discharge any static electricity by touching the bare metal chassis of the system case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress the circuit board.
- Leave all components inside the static-proof packaging until you are ready to use the component for the installation.
- Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

Recommended Tools

You may need the following items to install Intel Xeon Phi 5110P/7120P MIC cards in the PowerEdge C8220X sled.

- #1 or #2 Phillips screwdriver
- Static mat
- Static strap

Information You May Need

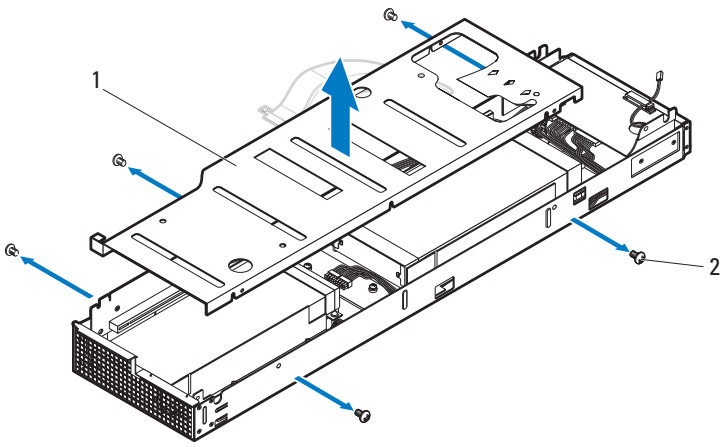
For information about system features, troubleshooting, and component replacement, see the *PowerEdge C8220X Hardware Owner's Manual*. This document is available at **dell.com/support/manuals**.

Xeon Phi 5110P/7120P MIC Cards

1. Remove the sled from the PowerEdge C8000 server enclosure. For detailed information on removing the sled, see the *PowerEdge C8220X Hardware Owner's Manual*.
2. Place the sled on a flat, stable surface.
3. Open the sled. For detailed information on opening the sled, see the *PowerEdge C8220X Hardware Owner's Manual*.
4. Remove the five M3 screws securing the top cover.
5. Lift the top cover away from the sled cover.

NOTE: Be careful not to damage the twin axial cable on the back GPGPU card riser when removing the top cover.

Figure 1-1. Removing the Top Cover

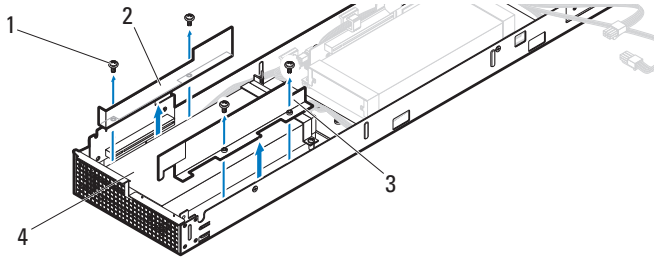


1 top cover 2 M3 screws (5)

Installing the Front Xeon Phi 5110P/7120P MIC card

1. Remove the four M3 screws securing the air baffles.
2. Lift the air baffles out of the sled cover.

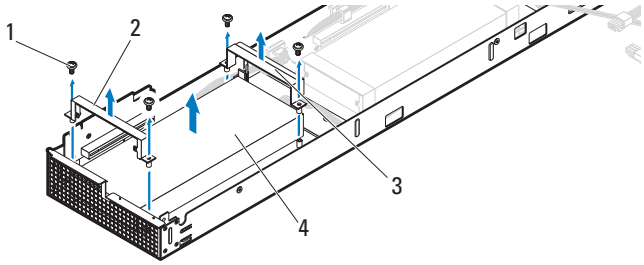
Figure 1-2. Removing the Air Baffles



1	M3 screws (4)	2	right air baffle
3	left air baffle	4	GPGPU blank

3. Remove the four M3 screws securing the mounting brackets.
4. Lift the mounting brackets away from the GPGPU blank. Save the mounting brackets.
5. Lift the GPGPU blank out of the sled cover. Save the GPGPU blank for future use.

Figure 1-3. Removing the Mounting Brackets and GPGPU Blank

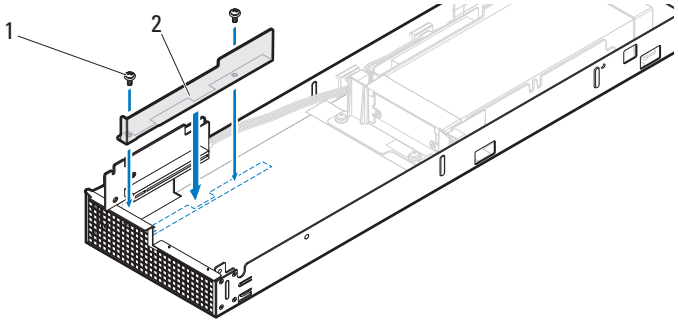


1	M3 screws (4)	2	front mounting bracket
3	back mounting bracket	4	GPGPU blank

6 Align the right air baffle with the screw holes on the front of the sled cover.

7 Secure the right air baffle to the sled cover using the two M3 screws. Tighten the screws to 5.21 in-lbs.

Figure 1-4. Installing the Right Air Baffle

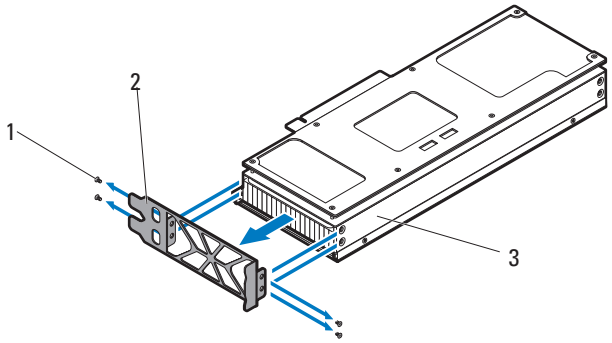


1 M3 screws (2) 2 right air baffle

8 Remove the four screws securing the MIC card bracket.

9 Lift the bracket from the MIC card. Save the bracket for future use.

Figure 1-5. Removing the MIC Card Bracket



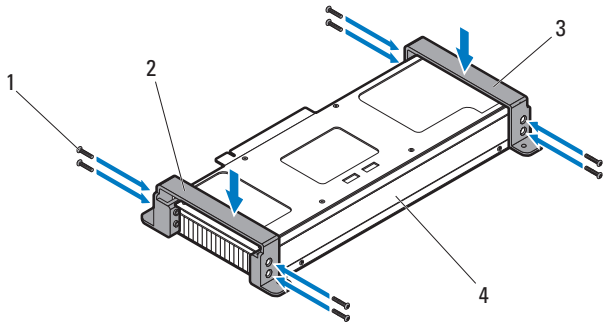
1 screws (4) 2 MIC card bracket

3 MIC card

10 Align the front mounting bracket with the screw holes on the left of the MIC card and secure with four M3 screws. Tighten the screws to 5.21 in-lbs.

11 Align the back mounting bracket with the screw holes on the right of the MIC card and secure with four M3 screws. Tighten the screws to 5.21 in-lbs.

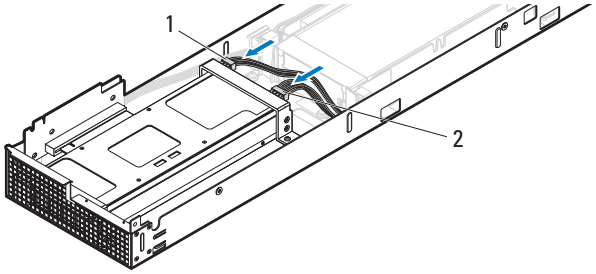
Figure 1-6. Installing the Mounting Brackets



1	M3 screws (4)	2	front mounting bracket
3	back mounting bracket	4	MIC card

12 Connect the power cables to the MIC card. Ensure the cables are properly attached. See Figure 1-19 for the cable routing diagram.

Figure 1-7. Connecting the Power Cables

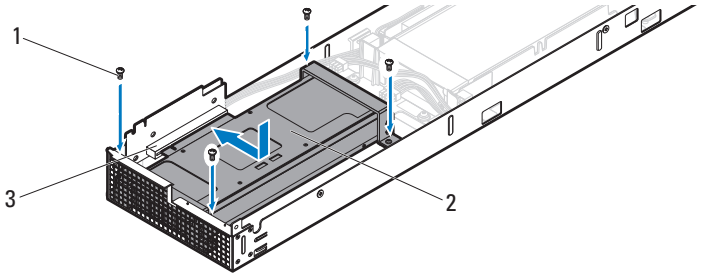


1, 2 power cables

13 Align and insert the MIC card assembly into the front GPGPU card riser connector until the card is fully seated.

14 Secure the MIC card to the front of the sled cover using the four M3 screws, working in a clockwise sequence. Tighten the screws to 5.21 in-lbs.

Figure 1-8. Installing the Front MIC Card Assembly



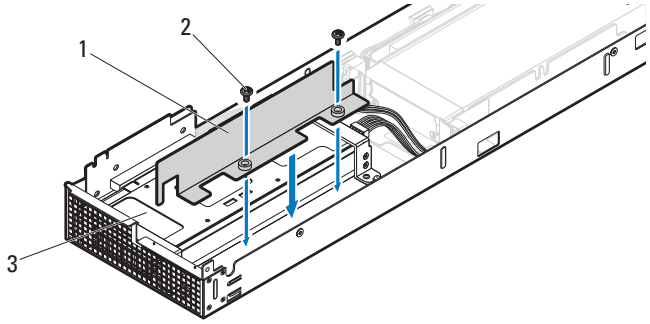
1 M3 screws (4) 2 MIC card assembly

3 front GPGPU card riser

15 Align the left air baffle with the screw holes on the front of the sled cover.

16 Secure the left air baffle to the sled cover using the two M3 screws. Tighten the screws to 5.21 in-lbs.

Figure 1-9. Installing the Left Air Baffle



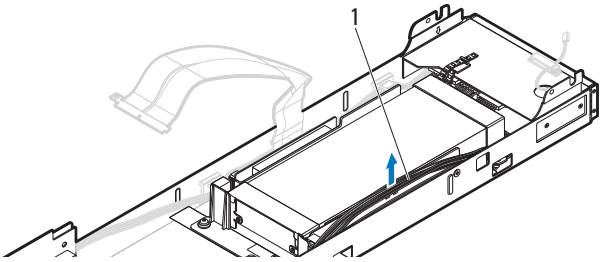
1 left air baffle 2 M3 screws (2)

3 MIC card assembly

Installing the Back Xeon Phi 5110P/7120P MIC card

1. Release the cables from the retaining clips and slightly lift the cables to access the screws on the sled cover.

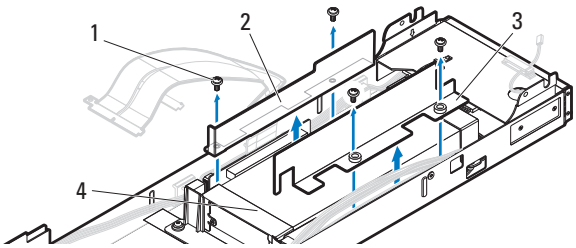
Figure 1-10. Releasing the Power Cables



1 power cables

2. Remove the four M3 screws securing the air baffles.
3. Lift the air baffles out of the sled cover.

Figure 1-11. Removing the Air Baffles



1 M3 screws (4)
2 right air baffle
3 left air baffle
4 GPGPU blank

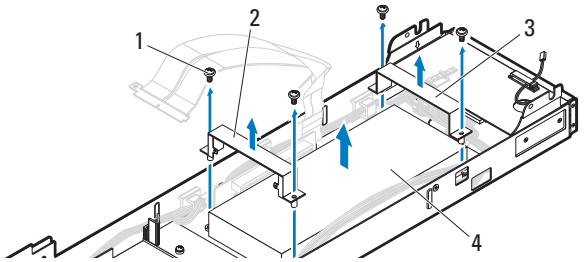
4 Remove the four M3 screws securing the mounting brackets.

5 Lift the mounting brackets away from the GPGPU blank. Save the mounting brackets.

6 Lift the GPGPU blank out of the sled cover. Save the GPGPU blank for future use.

NOTE: Be careful not to damage the twin axial cable on the back GPGPU card riser when removing the top cover.

Figure 1-12. Removing the Mounting Brackets and GPGPU Blank



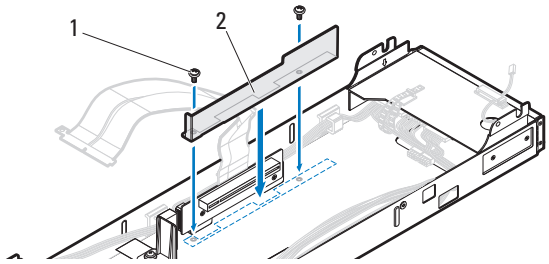
1	M3 screws (4)	2	front mounting bracket
3	back mounting bracket	4	GPGPU blank

NOTE: Ensure that the back GPGPU card riser is secured to the sled cover using the type **A** screw holes.

7 Align the right air baffle with the screw holes on the back of the sled cover.

8 Secure the right air baffle to the sled cover using the two M3 screws. Tighten the screws to 5.21 in-lb.

Figure 1-13. Installing the Right Air Baffle

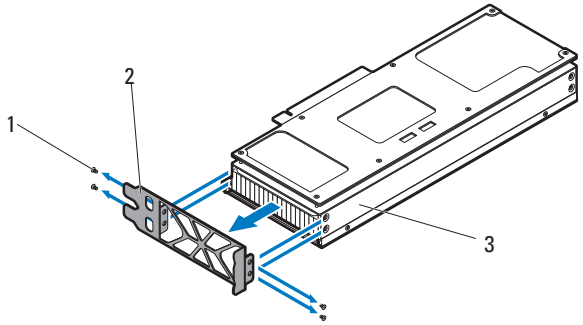


1	M3 screws (2)	2	right air baffle

9 Remove the four screws securing the MIC card bracket.

10 Lift the bracket from the MIC card. Save the bracket for future use.

Figure 1-14. Removing the MIC Card Bracket

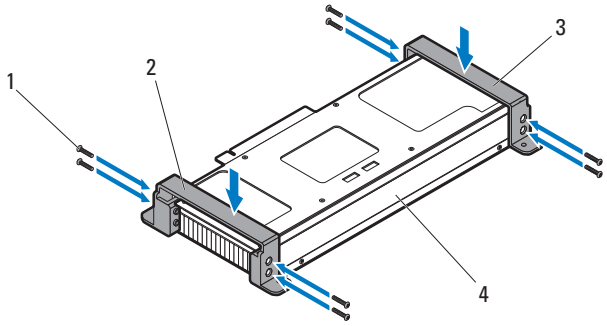


1	screws (4)	2	MIC card bracket
3	MIC card		

11 Align the front mounting bracket with the screw holes on the left of the MIC card and secure with four M3 screws. Tighten the screws to 5.21 in-lbs.

12 Align the back mounting bracket with the screw holes on the right of the MIC card and secure with four M3 screws. Tighten the screws to 5.21 in-lbs.

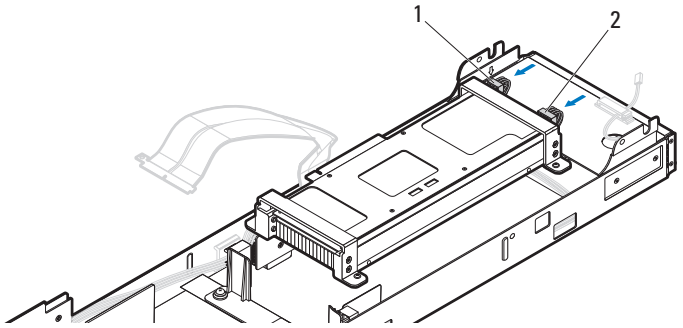
Figure 1-15. Installing the Mounting Brackets



1	M3 screws (8)	2	front mounting bracket
3	back mounting bracket	4	MIC card

13 Connect the power cables to the MIC card. Ensure the cables are properly attached. See Figure 1-19 for the cable routing diagram.

Figure 1-16. Connecting the Power Cables

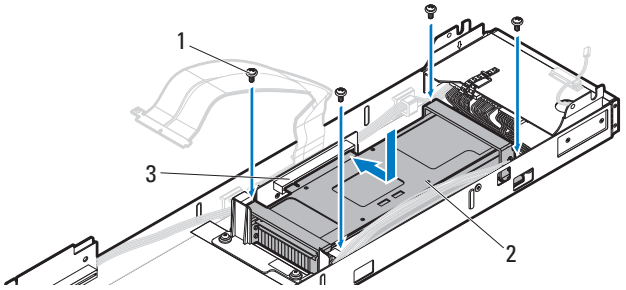


1, 2 power cables

14 Align and insert the MIC card assembly into the back GPGPU card riser connector until the card is fully seated.

15 Secure the MIC card to the back of the sled cover using the four M3 screws, working in a clockwise sequence. Tighten the screws to 5.21 in-lb.

Figure 1-17. Installing the Back MIC Card Assembly



1 M3 screws (4)

2 Xeon Phi 7120P MIC card assembly

3 back GPGPU card riser

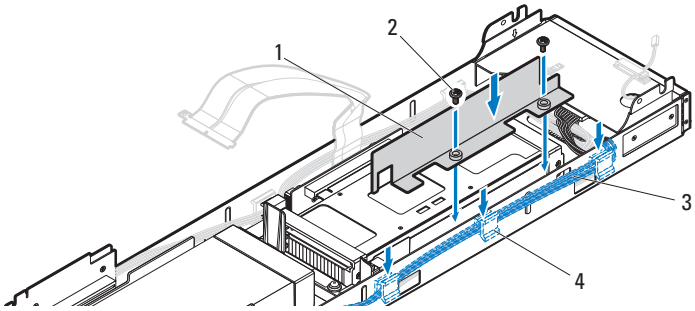
16 Align the left air baffle with the screw holes on the back of the sled cover.

17 Secure the left air baffle to the sled cover using the two M3 screws. Tighten the screws to 5.21 in-lb.

18 Route the power cables along the inside wall of the sled cover.

19 Secure the cables to the retaining clips.

Figure 1-18. Installing the Left Air Baffle



1	left air baffle	2	M3 screws (2)
3	power cables	4	retaining clips (3)

20 Replace the top cover.

NOTE: Be careful not to damage the twin axial cable on the back GPGPU card riser when replacing the top cover.

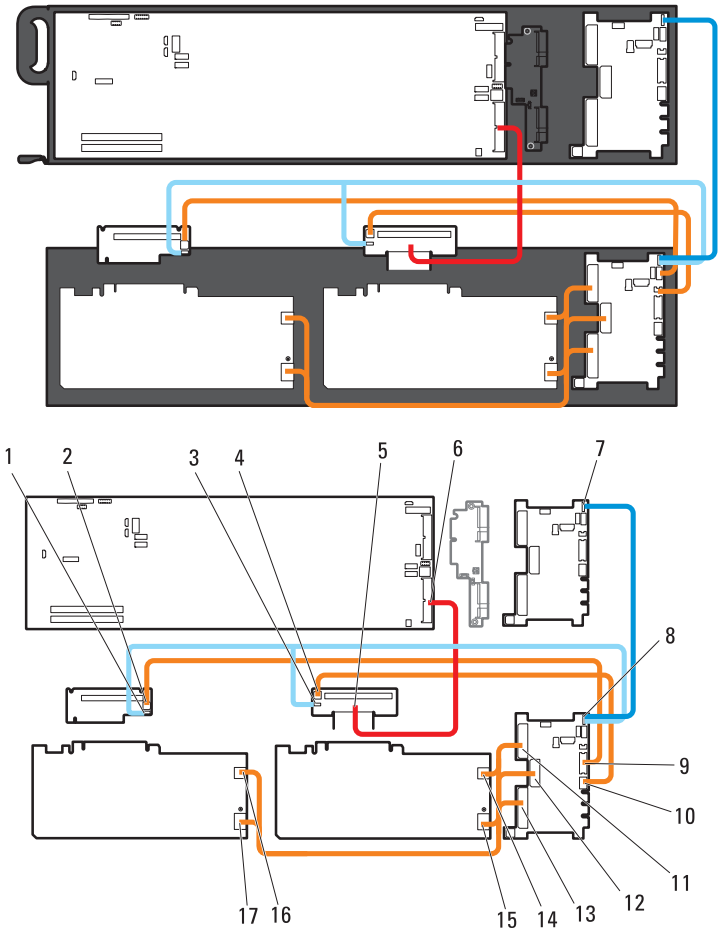
21 Close the sled.

22 Replace the sled in the server enclosure.

Cable Routing Diagram

NOTE: Route the cables properly inside the sled to prevent the cables from being pinched or crimped.

Figure 1-19. Cable Routing for Front and Back Xeon Phi 5110P/7120P MIC Card Assembly



1	power/emergency throttling connector on front GPGPU card riser	2	power connector on front GPGPU card riser
3	power/emergency throttling connector on back GPGPU card riser	4	power connector on back GPGPU card riser
5	twin axial cable on back GPGPU card riser	6	twin axial cable connector on system board
7	power/emergency throttling connector on node power distribution board (NPDB)	8	power/emergency throttling connector on NPDB
9	power connector on NPDB	10	power connector on NPDB
11	power connector on NPDB	12	power connector on NPDB
13	power connector on NPDB	14	power connector on back MIC card
15	power connector on back MIC card	16	power connector on front MIC card
17	power connector on front MIC card		

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