

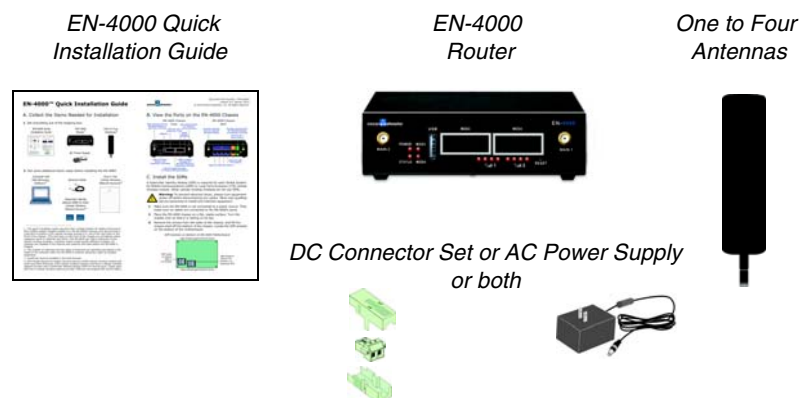
Installing the EN-4000

This document discusses installation of the EN-4000 hardware.

Note: The *EN-4000™ Quick Installation Guide* is also available.

2.1 Collecting the Items Needed for Installation

- 1 Get everything out of the shipping box:

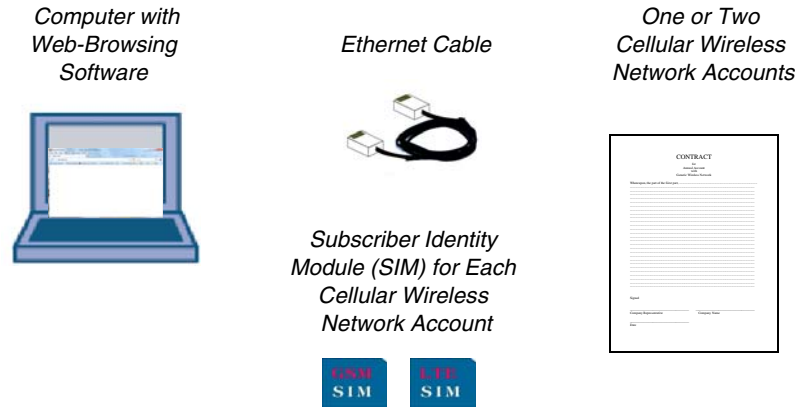


Note: The number of antennas and the types of antennas are specified (according to the needs of the network) when the EN-4000 is ordered. Antennas might be shipped separately.

Note: This discussion assumes that a Global System for Mobile Communications (GSM) cellular wireless module is in the EN-4000's internal card slot and that a Long-Term Evolution (LTE) cellular wireless module (card) is in the EN-4000's internal card slot and that a Long-Term Evolution (LTE) cellular wireless module is in one of the expansion ports (external card slots) on the front of the chassis. Customer orders might specify other cellular wireless modules, non-cellular wireless modules, or non-wireless modules.

The EN-4000 can hold a maximum of three modules; two of those modules can be cellular wireless modules. All modules are installed in the internal and external card slots before the EN-4000 is shipped.

2 Get some additional items ready before installing the EN-4000:

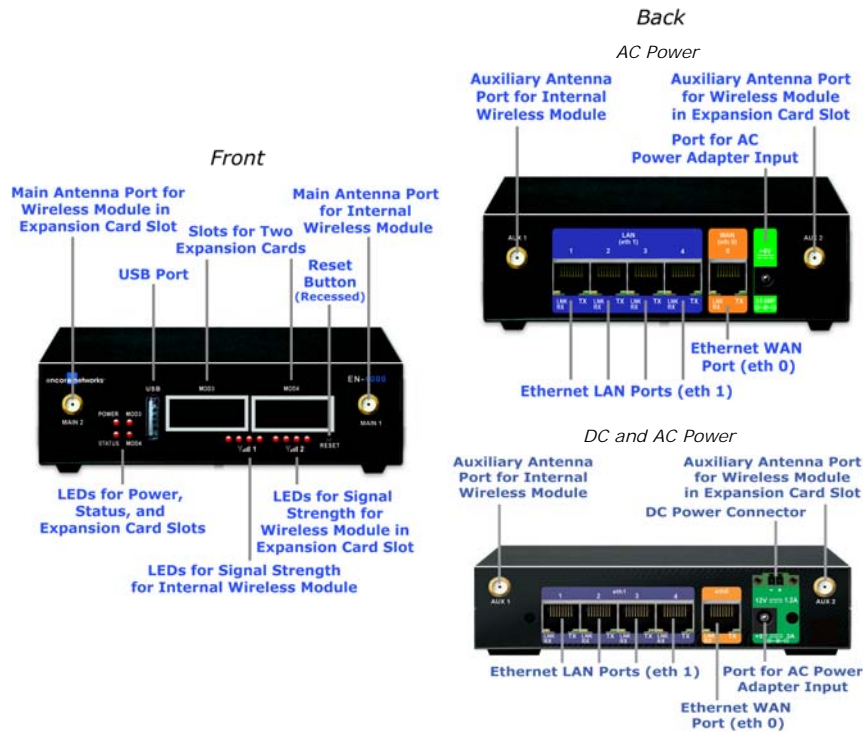


Note: JavaScript must be enabled in the web browser.

Note: Each Global System for Mobile Communications (GSM) cellular wireless module and each Long-Term Evolution (LTE) cellular wireless module must have a cellular wireless network account and a Subscriber Identity Module (SIM) for that account. Order each SIM from a cellular wireless network provider. SIMs are not shipped with the EN-4000.

2.2 Viewing the Ports on the EN-4000 Chassis

Figure 2-1. EN-4000 Chassis




2.3 Replacing the Subscriber Identity Module

The EN-4000 can hold two wireless cards. You may need to put Subscriber Identity Modules (SIMs) into place for GSM cards and LTE cards. (A SIM is sometimes called a GSM or LTE smartcard.)

A GSM cellular wireless module or an LTE cellular wireless module supports a removable SIM to identify the user to the GSM or LTE network. When you order your EN-4000's wireless cards, you specify which carrier and network each card will use. If you specify a GSM or LTE module, you must order a SIM from the selected GSM or LTE carrier. The carrier provides a SIM with the carrier's chip.

The EN-4000 is not a traveling device, so you will not need SIMs for different countries. However, if you change wireless providers, the EN-4000's GSM or LTE card will need a SIM from the new provider. Use the procedure below to install that new SIM.


Note: After you install or replace a SIM, you must activate the SIM's GSM or LTE card in the carrier network. The former activation of the card (with its former SIM) is no longer valid.

 **Warning:** Follow proper procedures and observe all precautions to guard against electrical shock and to protect the device against electrostatic discharge (ESD) when removing or installing modules in an EN-4000 device. (For example, keep the device grounded, wear an ESD wrist-strap, and so forth.) For more information, see the [Basic Safety Guidelines](#).

Allow only qualified service personnel to install and maintain this equipment.

To install a SIM for a GSM module in the EN-4000 or to install a SIM for an LTE Module in the EN-4000, do the following:

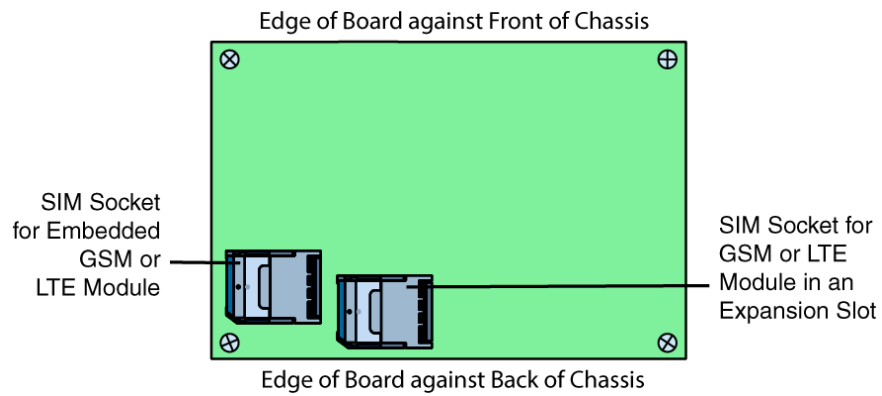
- 1 Unplug the EN-4000 device's power supply from the power source.

 **Caution:** To prevent electrical shock, turn off power to the equipment before disconnecting cables.

- 2 Disconnect all network connections.
- 3 Place the chassis on a flat, stable surface.
- 4 Do the following:
 - a Turn the chassis over so that it is resting on its top.
 - b Remove the screws from the sides of the chassis, and lift the chassis shell off the bottom of the chassis.
- 5 Locate the SIM sockets on the bottom of the EN-4000 motherboard ([Figure 2-2](#)).

Note: The SIM sockets shown in this document are generic representations. The SIM sockets on your EN-4000 may look different.

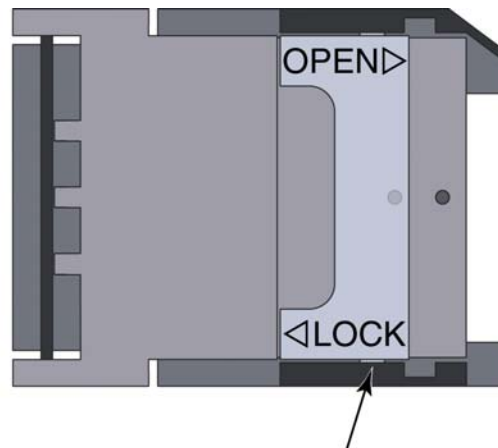
Figure 2-2. SIMs on Bottom of EN-4000 Motherboard



- 6 A SIM socket might have a latch to unlock or lock its door. The latch should be in the locked position (Figure 2-3).

Note: If the SIM sockets in your EN-4000 do not use locks, then the SIM doors themselves snap securely into place.

Figure 2-3. Empty SIM Socket (Top View), with Latch in Locked Position



When the SIM-holder's door is locked, the flanges of the lock are under the catches.

- 7 For one SIM socket, do the following:

- a** Slide the metal latch toward the end of the SIM socket's door (Figure 2-4). You might hear a slight click when it unlatches (Figure 2-5).

Figure 2-4. Unlocking the SIM Socket's Door

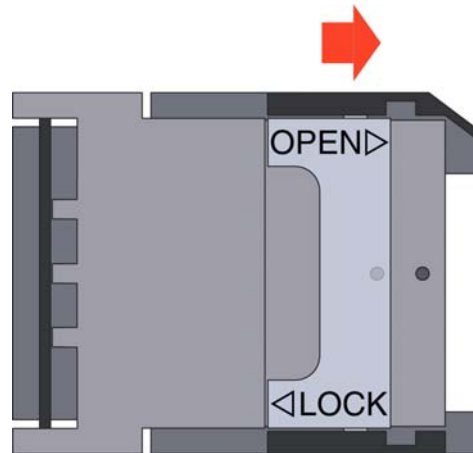
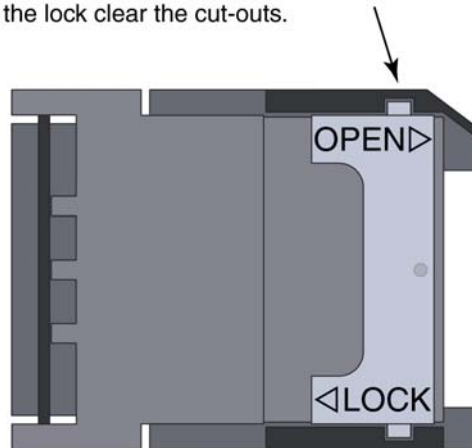


Figure 2-5. Unlocked SIM Socket

When the SIM-holder's door is unlocked, the flanges of the lock clear the cut-outs.



- b** Swing the hinged door up (Figure 2-6), so that the SIM socket is open (Figure 2-7 and Figure 2-8).

Figure 2-6. Opening the SIM Socket's Door (Side View)

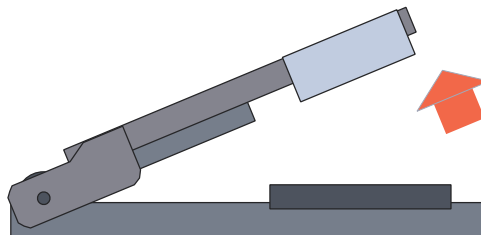


Figure 2-7. Partially Opened Empty SIM Socket (Side View)

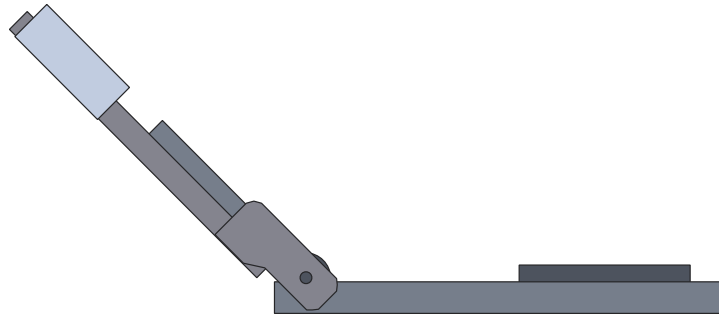
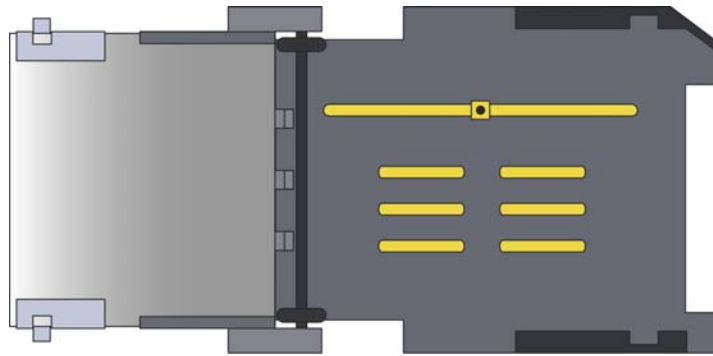


Figure 2-8. Partially Opened Empty SIM Socket (Top View)

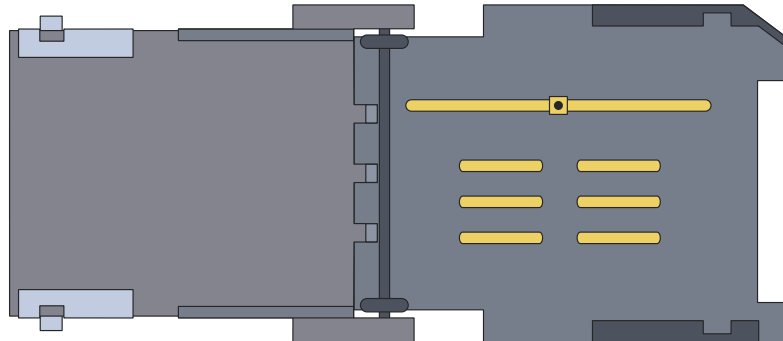


Note: The door can swing open 180 degrees (Figure 2-9 and Figure 2-10), to provide easy access.

Figure 2-9. Fully Opened Empty SIM Socket (Side View)

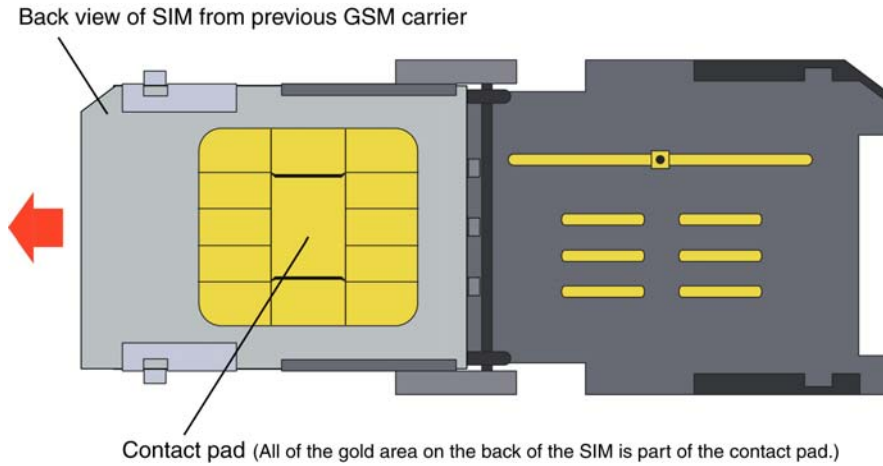


Figure 2-10. Fully Opened Empty SIM Socket (Top View)



- c If a SIM from a former provider is in the door, slide it out ([Figure 2-11](#)). (Use care not to touch the contact pad.) Put the old SIM into an anti-static bag.

Figure 2-11. Sliding an Old SIM out of the SIM Socket



- d Open the package holding the new SIM. Hold the new SIM by its edges and take it out of the package. ([Figure 2-12](#)).

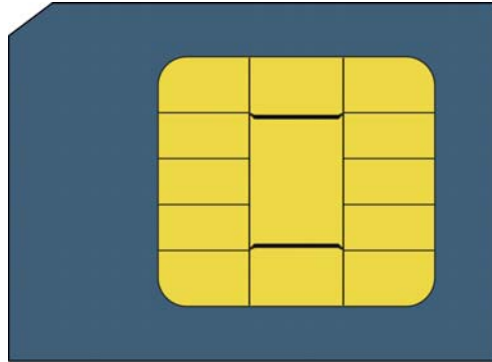
Note: The SIM has a notch out of one corner, to fit into the beveled corner of the SIM socket. The SIM fits into the socket in only one way that allows the SIM door to close.

Figure 2-12. Front of SIM (Sample Logo)



! **Caution:** Be careful not to touch the contact pad on the back of the SIM (Figure 2-13).

Figure 2-13. Contact Pad on Back of SIM



- e Make sure the SIM's contact pad will face the contacts in the bottom plate of the SIM socket when the door is closed. Then slide the new SIM into the door (Figure 2-14 through Figure 2-16). (The door has guides to hold the card in place.)

Figure 2-14. Inserting the New SIM into the SIM Socket's Door

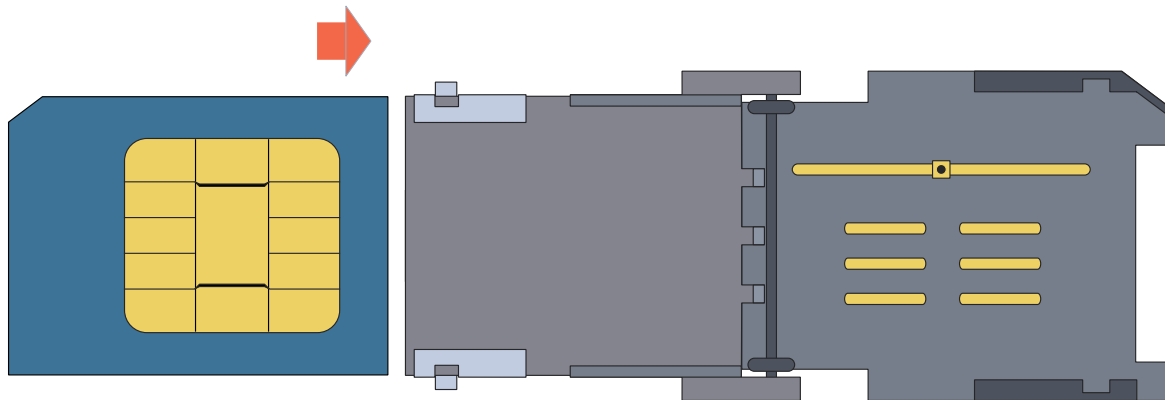


Figure 2-15. SIM Partially Inserted into the SIM Socket's Door

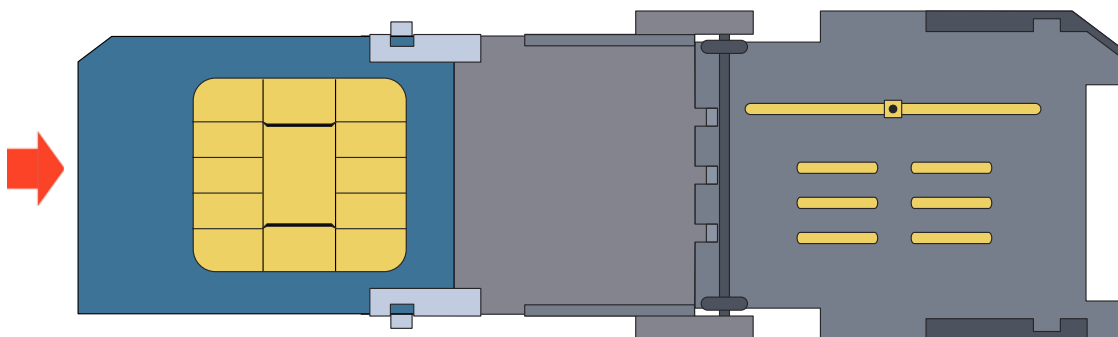
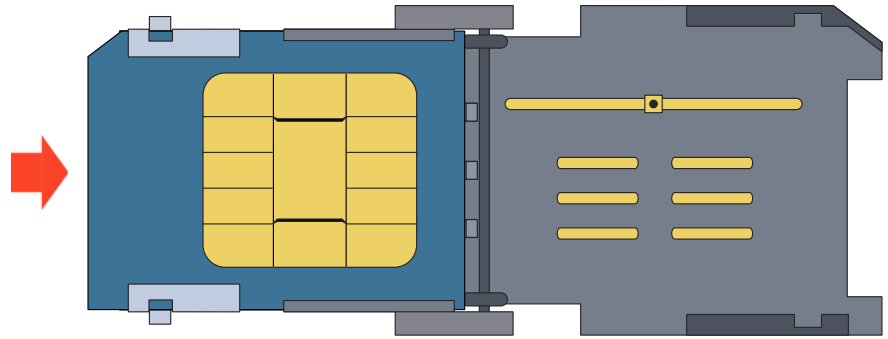


Figure 2-16. SIM Fully Inserted into the SIM Socket's Door



f Gently swing the door shut (Figure 2-17 through Figure 2-19).

Figure 2-17. Closing the SIM Socket, at about 45 Degrees of Rotation (Side View)

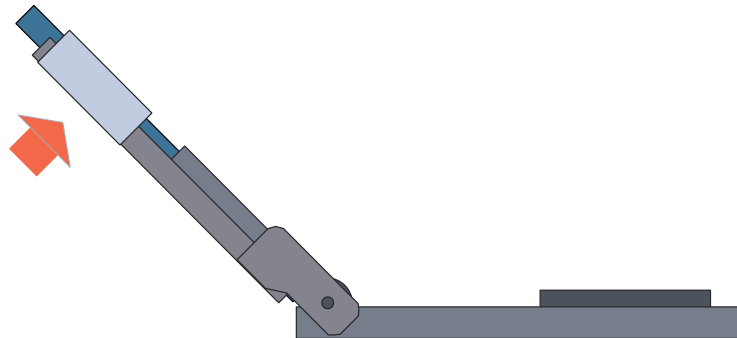


Figure 2-18. Closing the SIM Socket, at about 135 Degrees of Rotation (Top View)

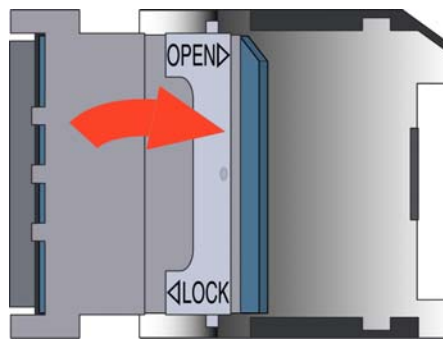


Figure 2-19. Closed SIM Socket with New SIM (Side View, Door Not Yet Locked)



! **Caution:** The SIM fits into the SIM socket in only one way. When you gently swing the door shut, you will see whether the notched corner of the SIM fits into the socket's beveled corner.

If the SIM is not in the correct position, its notched corner will not match the beveled corner in the SIM socket, and the door will not close ([Figure 2-20](#) and [Figure 2-21](#)).

Figure 2-20. SIM in Incorrect Position (Top View)

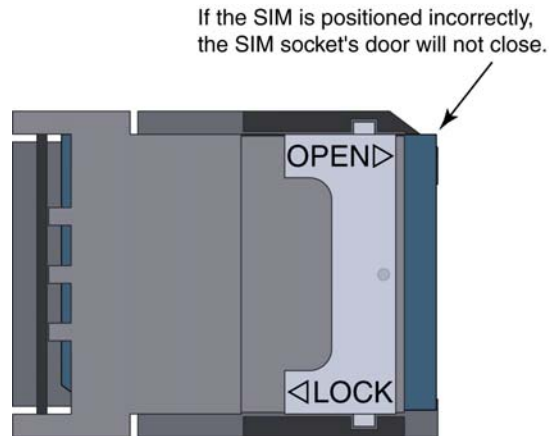
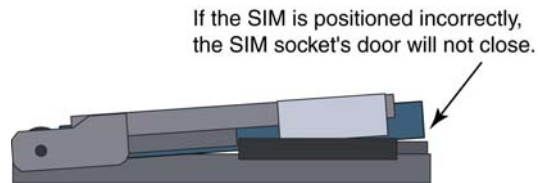
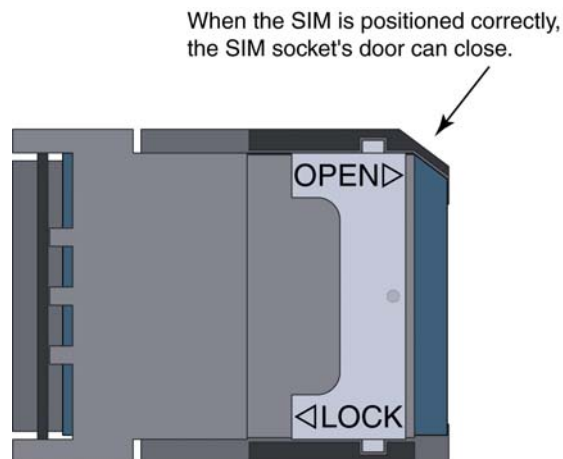


Figure 2-21. SIM in Incorrect Position (Side View)



g If the SIM is not in the correct position, remove the SIM and replace it in the correct position ([Figure 2-22](#)).

Figure 2-22. SIM in the Correct Position (Top View)



- h** When the SIM is correctly positioned and the SIM socket's door is fully closed, slide the metal lock toward the center of the door ([Figure 2-23](#)) until it stops ([Figure 2-24](#)).

Figure 2-23. Locking the SIM Socket's Door (Top View)

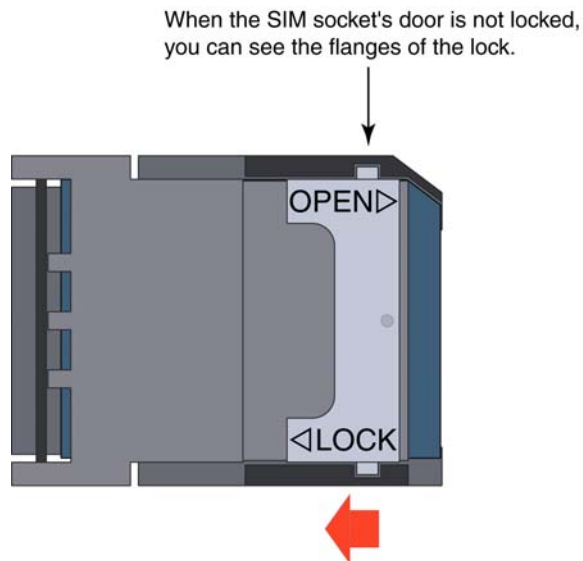
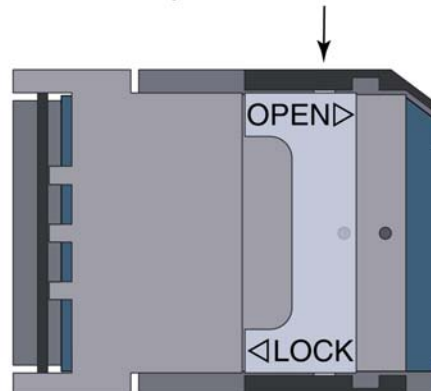


Figure 2-24. Locked SIM Socket with New SIM (Top View)

When the SIM socket's door is locked, you will not see the flanges of the lock, because they are under the socket's catches.



- 8** You have completed replacement of the SIM for the GSM or LTE card. Do one of the following:
- a** If you need to replace the SIM for the other GSM or LTE card in this chassis, repeat the procedure, starting with [step 7](#) on page 4.
 - b** Otherwise, continue to [step 9](#).
- 9** Reassemble the EN-4000 chassis, and turn the chassis right side up (that is, in its normal position, with the chassis top facing up).

2.4 Connecting and Starting the EN-4000 Chassis

- 1 Attach antennas to the antenna ports on the front (MAIN 1 and MAIN 2 ports) and back (AUX 1 and AUX 2 ports) of the chassis, as shown in [Figure 2-25](#) and [Figure 2-26](#).

Figure 2-25. Front of EN-4000 Chassis, with Antennas

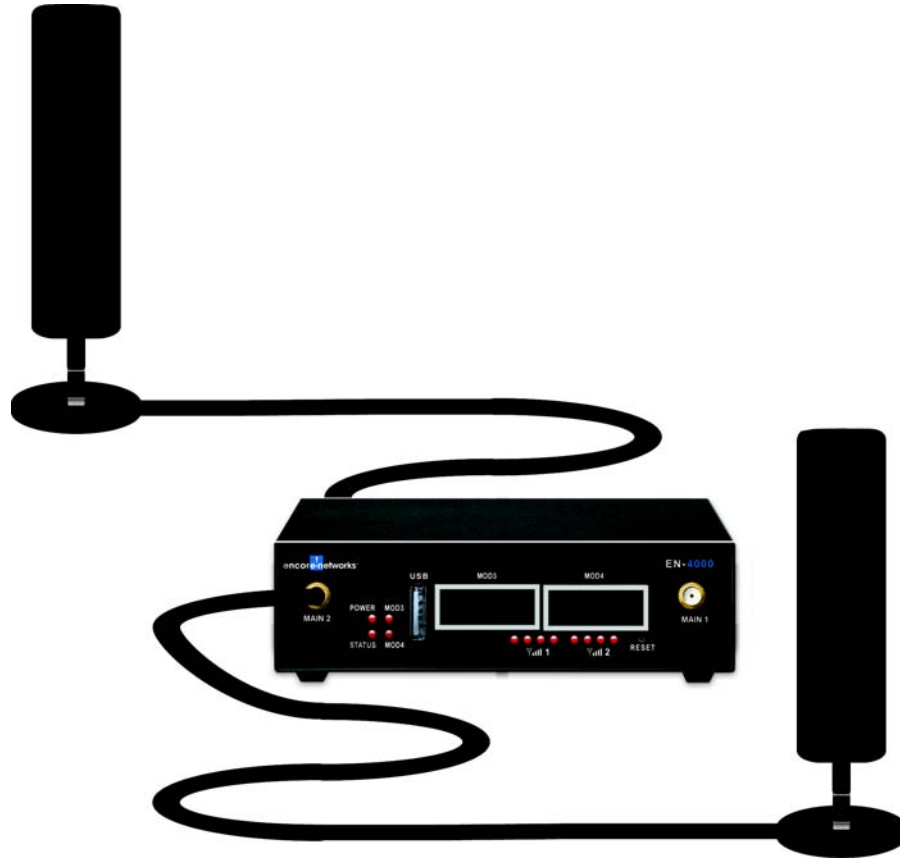


Figure 2-26. Back of EN-4000 Chassis, with Antennas



Note: [Figure 2-27](#) shows an alternate approved installation of an EN-4000 chassis. Two cellular wireless antennas are on magnetic mounts. Two 10-foot-long cables connect the antennas to the EN-4000's MAIN 2 and AUX 2 antenna ports.

Figure 2-27. Approved Installation



Note: Each wireless card uses two antennas, for data diversity:

- The antenna ports marked MAIN 1 and AUX 1 support the internal GSM wireless card.
- The antenna ports marked MAIN 2 and AUX 2 support the LTE wireless card in the expansion slot.

- 2 Connect the EN-4000's network connections.
- 3 Review [Connecting the EN-4000 to DC Power](#) before connecting the chassis to any power source. Then connect the EN-4000's power supply.
 - ❖ The device powers up.

2.5 The Next Step

To log into the EN-4000 and configure it for your network, see the procedures in the document [Configuring General Settings for the EN-4000](#).

Note: If you installed a new SIM in a GSM or LTE card, use the initialization stream provided by the GSM or LTE carrier to activate the SIM in the carrier network. This activation can be set up in the EN-4000's custom command list. (Select **System**, then select **Custom Commands**. Add one carrier's activation commands to the list and save the commands. Then add the other carrier's commands. Each carrier has a unique set of commands.)