



CHAPTER 4

Upgrading the 2.4-GHz Radio

This chapter provides instructions for upgrading the 2.4-GHz (IEEE 802.11g) radio card and includes the following sections:

- [Upgrade Overview, page 4-2](#)
- [Unpacking the Radio, page 4-2](#)
- [Opening the Access Cover, page 4-3](#)
- [Removing a Blank Spacer Card, page 4-4](#)
- [Removing a 2.4-GHz Radio, page 4-5](#)
- [Installing a 2.4-GHz Radio, page 4-7](#)
- [Attaching the Compliance Labels, page 4-9](#)

Upgrade Overview

This section provides instructions for upgrading the access point 2.4-GHz radio. The following operations summarize the upgrade procedure:

1. Remove all cables and power connections from the access point.
2. Follow standard electrostatic discharge (ESD) procedures.
3. Place the access point on an ESD-protected work surface.
4. Open the access point's 2.4-GHz radio access cover.
5. For an access point without a 2.4-GHz radio feature, remove the blank spacer card.
6. For an access point with a 2.4-GHz radio feature, remove the existing 2.4-GHz radio card.
7. Install the new 2.4-GHz radio card.
8. Close the access point 2.4-GHz radio access cover.

**Caution**

ESD can damage the Cisco Aironet radio and the internal components of the access point. It is recommended that the 2.4-GHz radio upgrade procedures be performed by an ESD-trained service technician at an ESD-protected workstation.

Unpacking the Radio

Each 2.4-GHz radio is shipped with the following items:

- Quick start guide
- A product registration card
- A T-10 tamper-resistant Torx L-wrench
- A 1200 series access point 2.4-GHz radio compliance label

**Note**

The IEEE 802.11g radio also contains an 1100 series access point product compliance label (not needed for a 1200 series access point) and a 1200 series access point product compliance label.

If anything is missing or damaged, contact your Cisco representative for support.

Opening the Access Cover

To open the 2.4-GHz radio access cover, follow these steps:

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- Step 1** Remove all cables and power connections from the access point.
 - Step 2** Remove all static-generating items from the work area, such as plastic material, styrofoam cups, and other similar items.
 - Step 3** Place the access point and the new 2.4-GHz radio (in its antistatic bag) on an antistatic work surface.
 - Step 4** Discharge any static buildup on your body by touching a grounded surface (antistatic work surface) before proceeding.
 - Step 5** Position the access point so that the bottom cover is facing up.

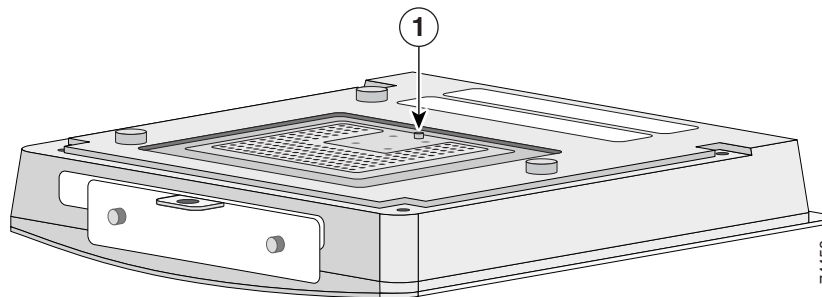


Caution

The internal access point components and the 2.4-GHz radio can be damaged by ESD from improper handling.

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- Step 6** Remove the bottom access cover using the T-10 tamper-resistant Torx L-wrench provided with your Cisco radio card (see [Figure 4-1](#)).

Figure 4-1 Location of 2.4-GHz Radio Access Cover Screw



1	Access Cover Screw
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If your access point was not configured with a 2.4-GHz radio, go to the [“Removing a Blank Spacer Card”](#) section. If you are replacing an existing 2.4-GHz radio, go to the [“Removing a 2.4-GHz Radio”](#) section.

Removing a Blank Spacer Card

When your access point is not factory-configured with a 2.4-GHz radio, it contains a blank spacer card in the internal mini-PCI connector. You must remove the blank spacer card prior to installing a new 2.4-GHz radio card.



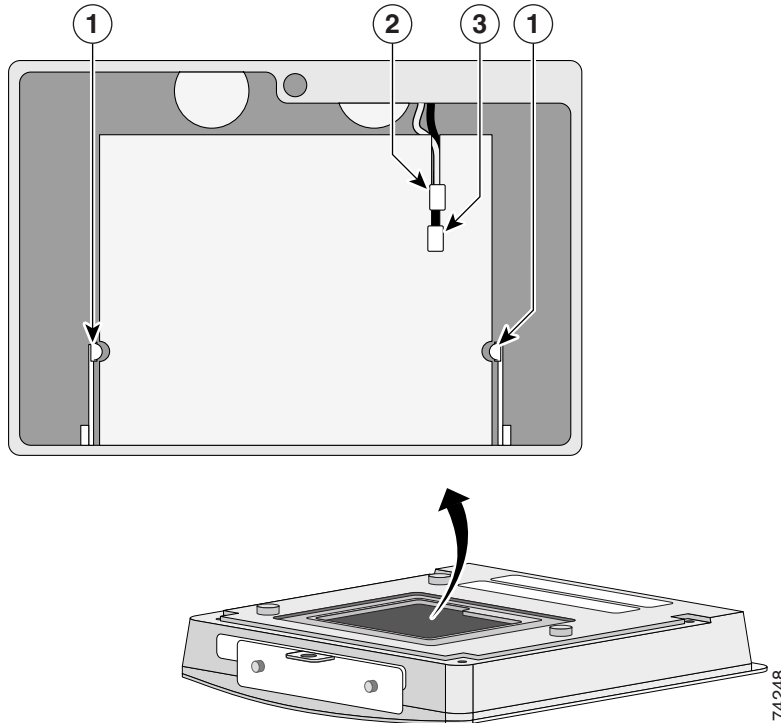
Caution

Handle all components carefully and observe all ESD precautions. The internal access point components and the 2.4-GHz radio can be damaged by ESD from improper handling.

To remove the blank spacer card from the mini-PCI connector, following these steps:

- Step 1** Push the card-retaining clips (on each side of card) away from the card (see [Figure 4-2](#)). When released, the board springs up.

Figure 4-2 Location of Retaining Clips on Blank Spacer Card



1	Card-retaining clips	3	Antenna connector (black wire)
2	Antenna connector (white wire)		

- Step 2** Carefully bend the card near the slots in opposite directions to provide enough clearance to remove the antenna wires.

Step 3 Remove the antenna wires from the blank spacer card.



Caution To avoid damaging the antenna wire assemblies, handle them by their connectors.

Step 4 Remove the blank spacer card from the mini-PCI connector.

For instructions on installing the radio card, go to the [“Installing a 2.4-GHz Radio”](#) section.

Removing a 2.4-GHz Radio

To remove a 2.4-GHz radio card from your access point, follow these steps:



Caution The internal access point components and the 2.4-GHz radio can be damaged by ESD from improper handling.

Step 1 Use your fingers to carefully remove the antenna wire connectors from the 2.4-GHz radio card.



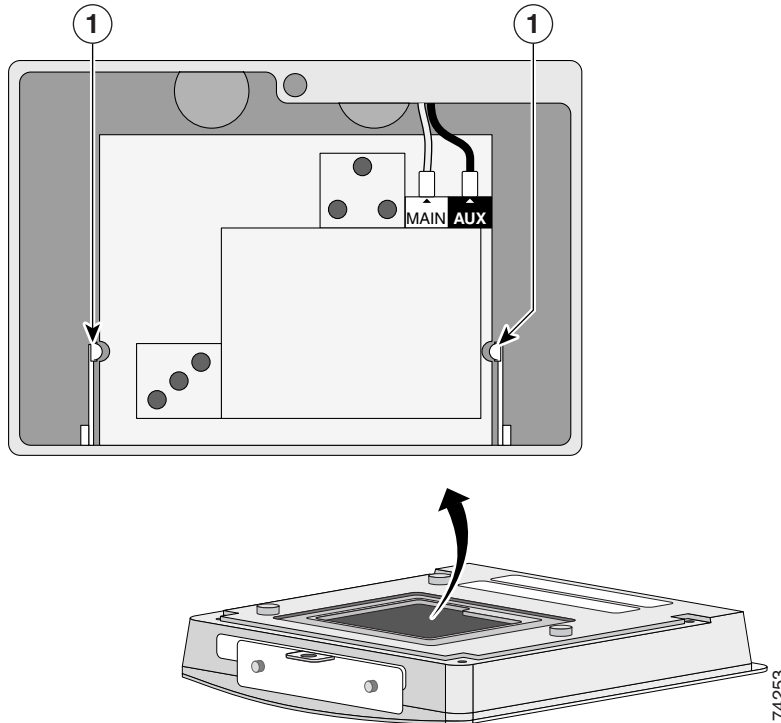
Caution The antenna connectors can be damaged by using a pair of long-nose pliers during the removal process.



Caution To avoid damaging the antenna wire assemblies, handle them by their connectors.

- Step 2** Remove the 2.4-GHz radio card from the mini-PCI connector by performing the following operations:
- a. Push the card-retaining clips (on each side of card) away from the card (see [Figure 4-3](#)). When released, the radio card springs up (see [Figure 4-4](#)).

Figure 4-3 Location of Retaining Clips on 2.4-GHz Radio Card



1	Card-retaining clips
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- b. Grasp the radio card only on the edges, being careful not to touch components on the board or the gold connector pins.
- c. Remove the 2.4-GHz card from the mini-PCI connector.

- Step 3** Place the removed 2.4GHz radio card into an anti-static bag.

For instructions on installing a new radio card, go to the [“Installing a 2.4-GHz Radio”](#) section.

Installing a 2.4-GHz Radio

To install a new 2.4-GHz radio card into the access point, follow these steps:



Caution

The internal access point components and the 2.4-GHz radio can be damaged by ESD from improper handling.

Step 1

Carefully remove the Cisco Aironet 2.4-GHz radio card from its anti-static bag.

Step 2

Grasp the radio card only on the edges, being careful not to touch components on the board or the gold connector pins.

Step 3

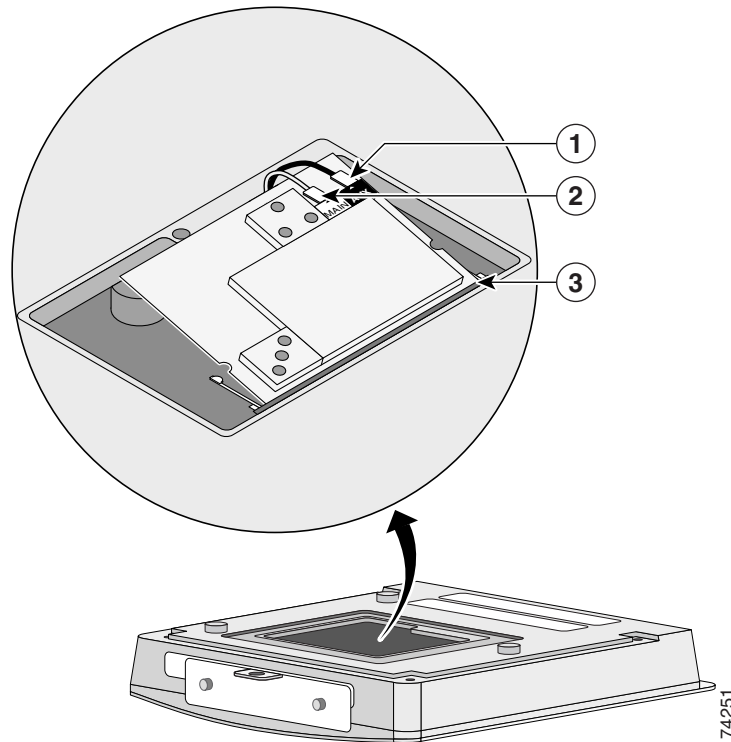
Connect the black antenna wire connector to the radio card antenna connector marked by the black label (see [Figure 4-4](#)).



Caution

To avoid damaging the antenna wire assemblies, handle them by their connectors.

Figure 4-4 Antenna Connector Labels and Mini-PCI Connector



1	Antenna connector (black wire)	3	Mini-PCI connector
2	Antenna connector (white wire)		

Step 4

Connect the white antenna wire connector to the radio card antenna connector marked by the white label (see [Figure 4-4](#)).

- Step 5** Insert the radio card into the access point's mini-PCI connector by following these steps:
- a. Tilt the radio card at approximately 20° to 30° so that its gold pins are aligned with the mini-PCI connector (see [Figure 4-4](#)).
 - b. Push the card into the mini-PCI connector until it clicks into place.
- Step 6** Carefully push the card down (towards the access point's motherboard) until the card-retaining clips lock into the notches on the side of the radio card (you will hear a click).
- Step 7** Carefully position the antenna wires so that the metal connectors do not touch each other.

**Caution**

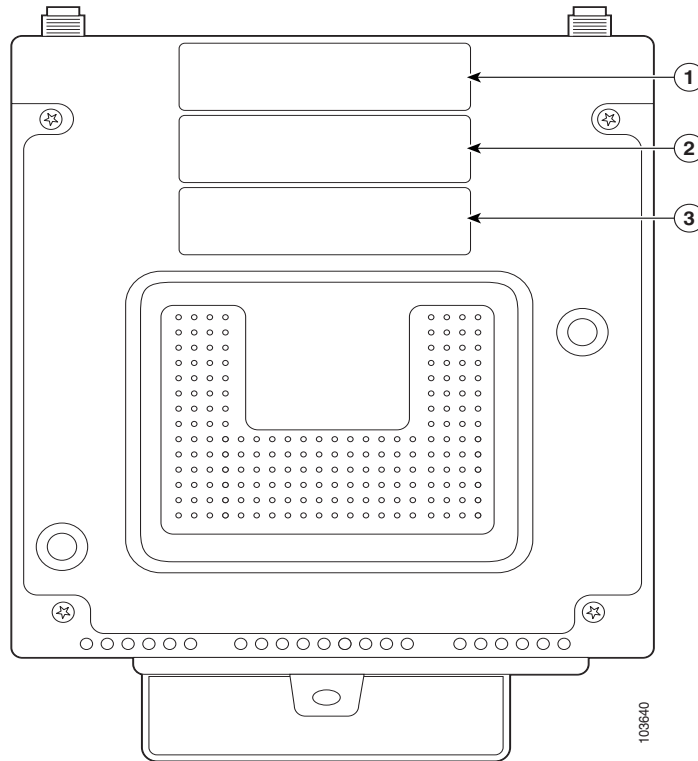
Do not allow antenna connectors to touch while power is applied, or the radio can be damaged. If they are touching, carefully rotate them in opposite directions until they are separated.

- Step 8** Reinstall the 2.4-GHz radio access cover and use the T-10 tamper-resistant Torx L-wrench to tighten the cover's retaining screw.
- Step 9** Look at the compliance labels on your access point. Depending on the model you originally ordered, there may be up to three labels affixed to the case.
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Attaching the Compliance Labels

There are three places on the 1200 series access point dedicated to compliance labels, one for the product compliance label and two for the radio compliance labels. The label locations are shown in [Figure 4-5](#).

Figure 4-5 Access Point Compliance Labels



1	Product compliance label	3	Radio compliance label
2	Radio compliance label		

The product compliance label always occupies the top space (location 1). The two spaces below (locations 2 and 3) contain the radio compliance labels. Whether or not locations 2 or 3 contain labels depends on how your access point is configured. For example, a dual-band access point could have two radio compliance labels (one for each radio device installed), or it could have only a product compliance label, depending on how it was ordered.

Make sure that your access point has the correct labels after you install or upgrade its radio configuration so that it will be in compliance with regulations in your country.

Placing the Labels

The 802.11g radio upgrade kit ships with the following labels for the 1100 and 1200 series access points:

- 1100 series access point upgrade label (AIR-1121G-x-K9 UPGRADE)—not used on the 1200 series access point.
- 1200 series product compliance label (AIR-AP1231G-x-K9)
- 1200 series radio compliance label (AIR-MP21G-x-K9)

Table 4-1 shows where to place the labels on your 1200 series access point, based on the model you are upgrading. Follow these steps to place the labels correctly:

- Step 1** Check the product compliance label to identify the model number of your 1200 series access point.
- Step 2** Use the matrix in Table 4-1 to decide which labels to use and where to place them on the access point.

Table 4-1

1200 Series Model	AIR-MP21G-x-K9 Radio Compliance Label	AIR-AP1231G-x-K9 Product Compliance Label
AIR-AP1200	Place over existing AIR-MP20B-x-K9 radio compliance label or location 2 if no label exists.	—
AIR-AP1210		
AIR-AP1220A		
AIR-AP1230A		
AIR-AP1220B	—	Place over existing AIR-AP12xx-x-K9 product compliance label.
AIR-AP1230B		

- Step 3** Discard any labels that you did not use.
- The radio card installation is now complete.