



Catalyst 6500 Series Switch and Cisco 7600 Series Router Wireless Services Module Installation and Verification Note

Product number: WS-SVC-WiSM-1-K9

This document provides installation procedures for the Catalyst 6500 Series Switch and Cisco 7600 Series Router Wireless Services Module (WiSM).

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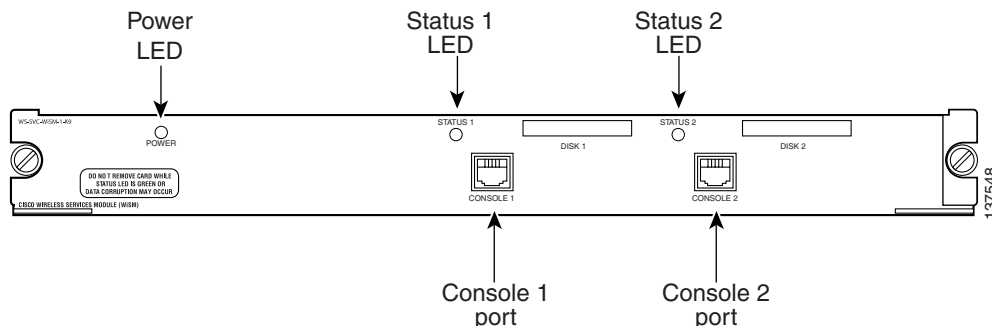
Front Panel Description

The Cisco WiSM front panel (see [Figure 1](#)) includes a POWER LED, two STATUS LEDs, and two CONSOLE ports.



Note The Compact Flash is internal; it is not a field-replaceable unit (FRU).

Figure 1 WiSM Front Panel



These sections describe the Cisco WiSM front panel:

- [LEDs, page 2](#)
- [CONSOLE Ports, page 3](#)

LEDs

The LEDs on the WiSM front panel indicate the status of the module. [Table 1](#) lists the LEDs and their functions.

Table 1 WiSM LEDs

LED	Color/Description
POWER	The POWER LED is green when the module is receiving power and is off when power is removed.
STATUS 1 STATUS 2	The STATUS LEDs shows the status as follows: <ul style="list-style-type: none"> • Orange—Booting the bootloader and running diagnostics • Green (flashing)—Software is accessing the Compact Flash • Green—Controller is initializing • Off—Controller is running normally

CONSOLE Ports

The CONSOLE ports allow you to access each controller either locally (with a console terminal) or remotely (with a modem). The CONSOLE ports are EIA/TIA-232 asynchronous, serial connections with hardware flow control and RJ-45 connectors.

System Requirements

These sections describe the hardware and software requirements:

- [Hardware Components, page 3](#)
- [Power Requirements, page 3](#)
- [Software Requirements, page 4](#)

Hardware Components



Note

The The Catalyst 6500 series or Cisco 7609 or 7613 chassis can support up to five Cisco WiSMs without any other service module installed. If one or more service modules are installed, the chassis can support up to four service modules (WiSMs included).

The Catalyst 6500 series or Cisco 7609 or 7613 chassis in which the Cisco WiSM is installed requires a Supervisor 720 module. The supported slots for the Cisco WiSM are listed in [Table 2](#).

Table 2 Supported Slots for the Cisco WiSM

Slot	Catalyst 6503	Catalyst 6504	Catalyst 6506	Catalyst 6509 Cisco 7609	Catalyst 6513 Cisco 7613
1–3	x	x	x	x	–
4	–	x	x	x	–
5–6	–	–	x	x	–
7–8	–	–	–	x	–
9	–	–	–	x	x
10–13	–	–	–	–	x

Power Requirements

The Cisco WiSM module requires 164W for operation. Make sure that your chassis can provide this power.



Note

All Catalyst 6500 chassis (except the Catalyst 6503) require the fan tray 2 module, which requires the 2500W power supply for proper operation. For planning purposes, be aware that the 2500W power supply requires a 20A input power circuit with a NEMA plug.

You can use the **show power** command to view power details for your installation, including the system power available and power statistics for installed power supplies and cards.

Software Requirements

Before you install the WiSM into the chassis, make sure that the module and the chassis meet the software requirements. Refer to the *Release Notes for Cisco Wireless LAN Controllers and Lightweight Access Points* at this URL:

<http://www.cisco.com/en/US/products/ps6366/index.html>

Safety Overview

Safety warnings appear throughout this publication in procedures that, if performed incorrectly, may harm you. A warning symbol precedes each warning statement.



Warning

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030



Warning

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.

Statement 1029

Required Tools

These tools are required to install the WiSM in the Catalyst 6500 series switches or the Cisco 7600 series routers:

- Number 2 Phillips screwdriver
- Antistatic mat or antistatic foam

- Your own electrostatic discharge (ESD) grounding strap or the disposable ESD strap included with the system

**Warning**

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Statement 1029

Installing the WiSM

This section describes how to install the WiSM in the Catalyst 6500 series switches or the Cisco 7600 series routers.

**Caution**

To prevent ESD damage, handle modules by the carrier edges only and wear grounding wrist straps.

**Note**

Specific combinations of supervisor engines and modules may not be supported in your chassis. Refer to the release notes of the software version running on your system for specific information on modules and supervisor engine combinations that are not supported.

To install the WiSM in the chassis, follow these steps:

-
- Step 1** Choose a slot for the WiSM.
 - Step 2** Verify that there is enough clearance to accommodate any interface equipment that you will connect directly to the WiSM ports. If possible, place modules between empty slots that contain only module filler plates.
 - Step 3** Verify that the captive installation screws are tightened on all modules installed in the chassis. This assures that the EMI gaskets on all modules are fully compressed in order to maximize the opening space for the new module or the replacement module.

**Note**

If the captive installation screws are loose, the EMI gaskets on the installed modules will push adjacent modules toward the open slot, reducing the opening size and making it difficult to install the replacement module.

-
- Step 4** Remove the module filler plate by removing the two Phillips pan-head screws from the filler plate. To remove a module, see the [“Removing the WiSM” section on page 13](#).
 - Step 5** Fully open both ejector levers on the WiSM. (See [Figure 2](#).)
 - Step 6** Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following two sets of substeps.

Horizontal slots

- a. Position the WiSM in the slot. (See [Figure 2](#).) Make sure that you align the sides of the module carrier with the slot guides on each side of the slot.
- b. Carefully slide the WiSM into the slot until the EMI gasket along the top edge of the module makes contact with the module in the slot above it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See [Figure 3](#).)
- c. Using the thumb and forefinger of each hand, grasp the two ejector levers and press down to create a small (0.040 inch [1 mm]) gap between the module's EMI gasket and the module above it. (See [Figure 3](#).)

**Caution**

Do not press down too hard on the levers. They will bend and be damaged.

- d. While pressing down, simultaneously close the left and right ejector levers to fully seat the supervisor engine or module in the backplane connector. The ejector levers are fully closed when they are flush with the module faceplate. (See [Figure 4](#).)

**Note**

Failure to fully seat the module in the backplane connector can result in error messages.

- e. Tighten the two captive installation screws on the WiSM.

**Note**

Make sure the ejector levers are fully closed before tightening the captive installation screws.

- f. Verify that the WiSM STATUS LED is lit. Check the STATUS LED periodically. If the STATUS LED changes from orange to green, the WiSM has successfully completed the boot process and is now online. If the STATUS LED remains orange or turns red, the WiSM has not successfully completed the boot process and may have encountered an error.

Figure 2 Positioning the Module in a Horizontal Slot Chassis

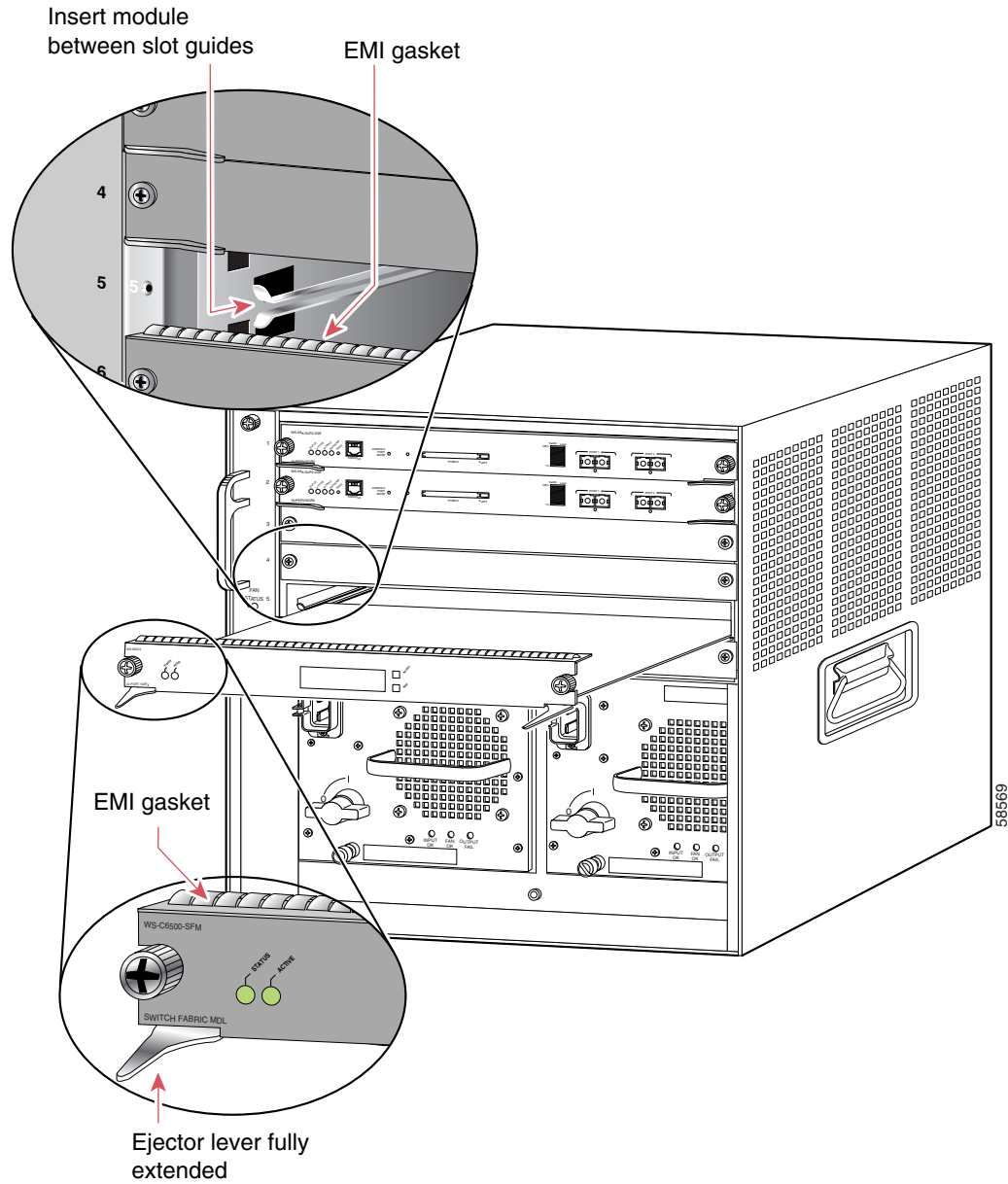
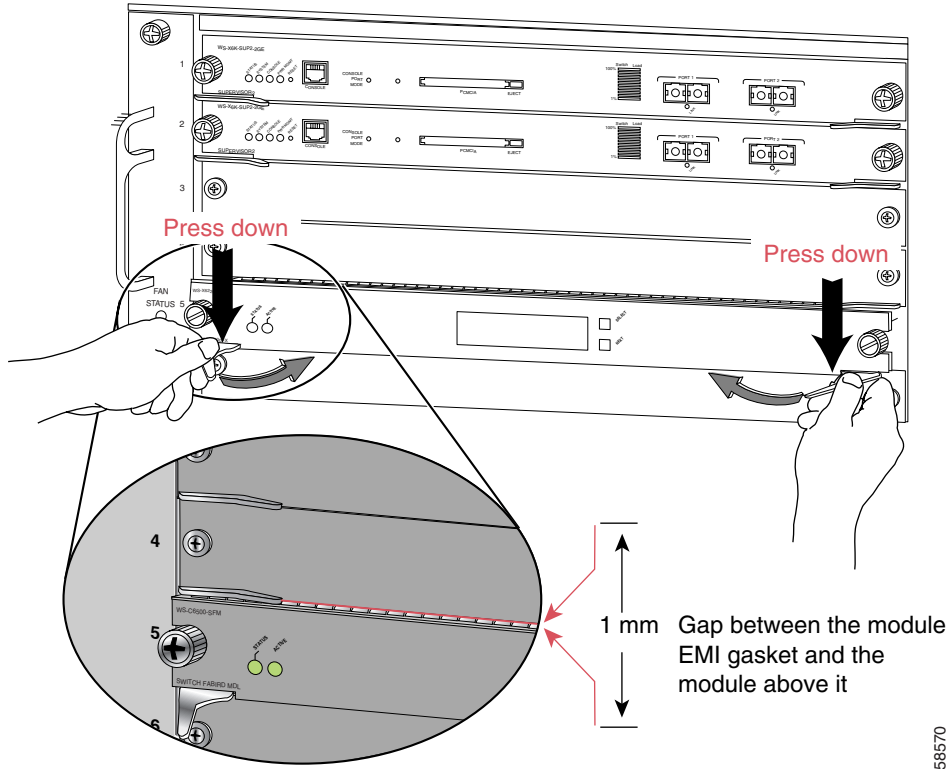
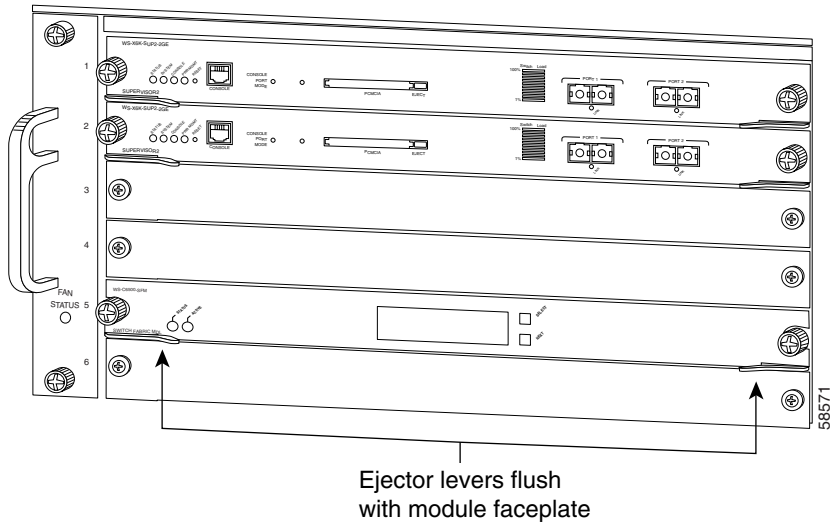


Figure 3 *Clearing the EMI Gasket in a Horizontal Slot Chassis*



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Figure 4 *Ejector Lever Closure in a Horizontal Slot Chassis*



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Vertical slots

- a. Position the supervisor engine or switching module in the slot. (See [Figure 5](#).) Make sure that you align the sides of the switching-module carrier with the slot guides on the top and bottom of the slot.
- b. Carefully slide the WiSM into the slot until the EMI gasket along the right edge of the module makes contact with the module in the slot adjacent to it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See [Figure 6](#).)
- c. Using the thumb and forefinger of each hand, grasp the two ejector levers and exert a slight pressure to the left, deflecting the module approximately 0.04 inches (1 mm) to create a small gap between the module's EMI gasket and the module adjacent to it. (See [Figure 6](#).)

**Caution**

Do not exert too much pressure on the ejector levers. They will bend and be damaged.

- d. While pressing on the ejector levers, simultaneously close them to fully seat the WiSM in the backplane connector. The ejector levers are fully closed when they are flush with the module faceplate. (See [Figure 7](#).)
- e. Tighten the two captive installation screws on the module.

**Note**

Make sure that the ejector levers are fully closed before tightening the captive installation screws.

- f. Verify that the WiSM STATUS LED is lit. Check the STATUS LED periodically. If the STATUS LED changes from orange to green, the WiSM has successfully completed the boot process and is now online. If the STATUS LED remains orange or turns red, the WiSM has not successfully completed the boot process and may have encountered an error.

Figure 5 Positioning the Module in a Vertical Slot Chassis

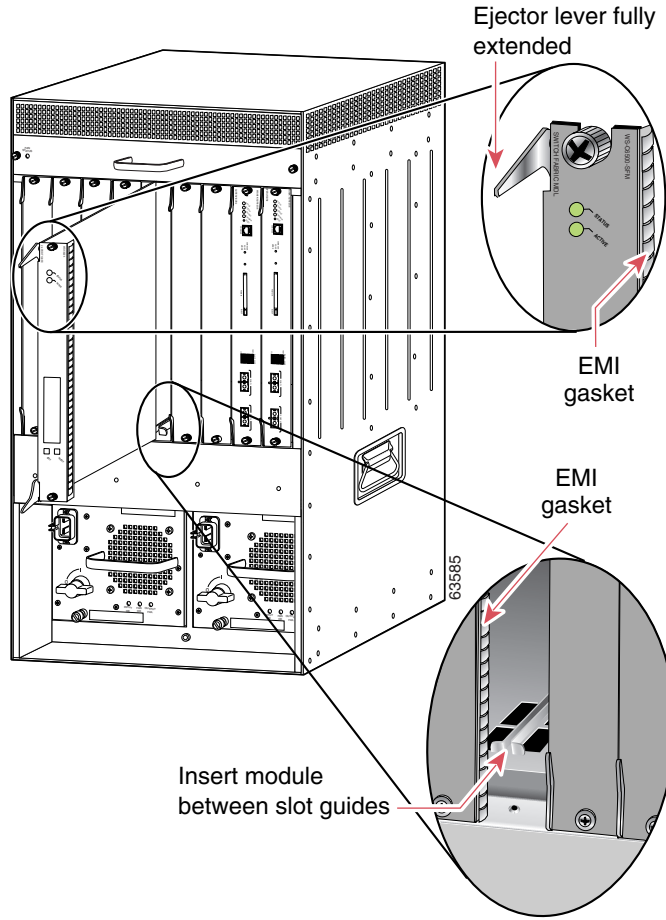


Figure 6 Clearing the EMI Gasket in a Vertical Slot Chassis

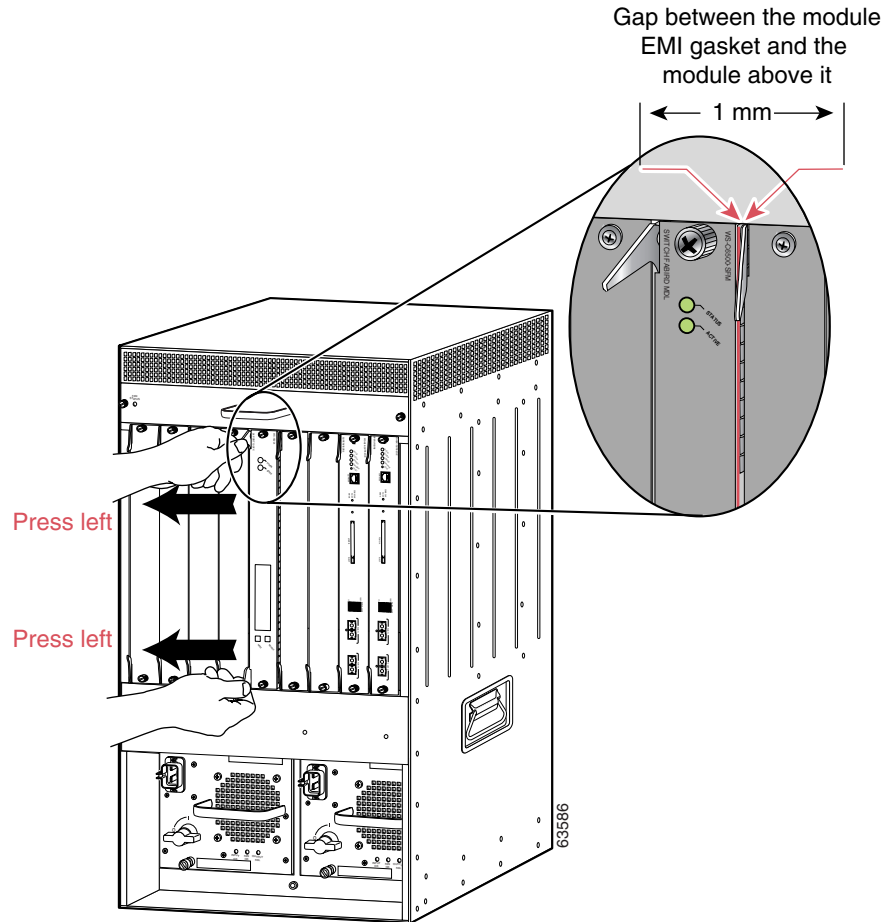
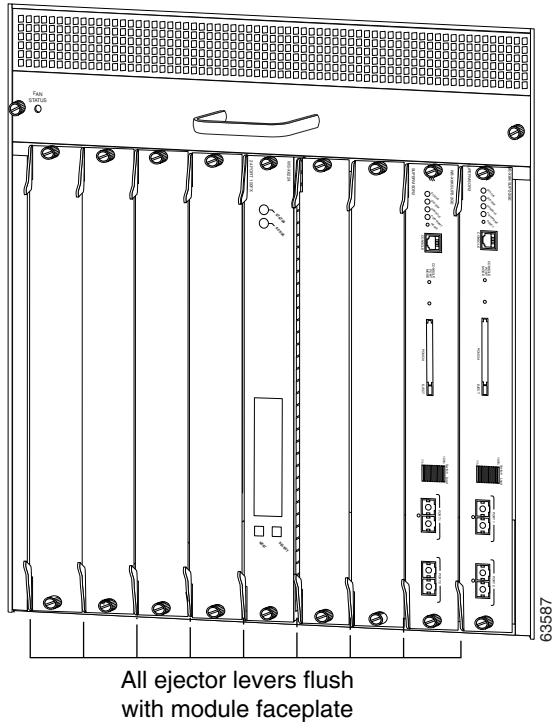


Figure 7 Ejector Lever Closure in a Vertical Slot Chassis



Verifying the Installation

Enter the **show module** command to verify that the system acknowledges the new module and has brought it online.

This example shows the output of the **show module** command:

```
Router> show module 2
```

Mod	Ports	Card Type	Model	Serial No.
2	10	Wireless Services Module	WS-SVC-WISM-1-K9	SAD092504JJ

Mod	MAC addresses	Hw	Fw	Sw	Status
2	0001.0002.0003 to 0001.0002.0012	0.1	12.2(14r)S5	12.2	Ok

Mod	Sub-Module	Model	Serial	Hw	Status
2	Centralized Forwarding Card	WS-F6700-CFC	SAD092608SY	0.2	Ok

Mod	Online Diag Status
2	Pass

```
Router>
```

Removing the WiSM

This section describes how to remove an existing WiSM from a chassis slot.



Caution

Do not remove the Cisco WiSM from the chassis until the module has shut down completely and the STATUS LED is orange or off. You can damage the module if you remove it from the chassis before it completely shuts down.



Caution

During this procedure, wear grounding wrist straps to avoid ESD damage to the card.

To remove a WiSM from the chassis, follow these steps:

- Step 1** In configuration mode from the router prompt, enter the **no power enable module mod** command.



Note

Shutdown may require several minutes.

- Step 2** Verify that the WiSM is down. Do not remove the module from the switch until the STATUS LEDs are off or orange.
- Step 3** Use a screwdriver to loosen the captive installation screws at the left and right sides of the module.
- Step 4** Grasp the left and right ejector levers. Simultaneously, pull the left lever to the left and the right lever to the right to release the module from the backplane connector.
- Step 5** As you pull the module out of the slot, place one hand under the carrier to support it. Avoid touching the module itself.
- Step 6** Carefully pull the module straight out of the slot, keeping one hand under the carrier to guide it. Keep the module at a 90-degree orientation to the backplane (horizontal to the floor).
- Step 7** Place the removed module on an antistatic mat or antistatic foam.



Warning

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- Step 8** If the slot is to remain empty, install a module filler plate to keep dust out of the chassis and to maintain proper airflow through the module compartment.

Configuring the WiSM

For information on configuring the WiSM, refer to the *Cisco Wireless LAN Controller Configuration Guide* and the *Cisco Wireless LAN Controller Command Reference* at this URL: <http://www.cisco.com/en/US/products/ps6366/index.html>

Regulatory Standards Compliance

Catalyst 6500 series switching modules comply with the regulatory standards listed in the *Regulatory Compliance and Safety Information for the Catalyst 6500 Series Switches* publication. Cisco 7600 series routers comply with the regulatory standards listed in the *Regulatory Compliance and Safety Information for the Cisco 7600 Series Router* publication.

Related Documentation

For more detailed installation and configuration information, refer to these publications:

- *Regulatory Compliance and Safety Information for the Catalyst 6500 Series Switches*
- *Regulatory Compliance and Safety Information for the Cisco 7600 Series Router*
- *Catalyst 6500 Series Switch Module Installation Guide*
- *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide*
- *Catalyst 6500 Series Switch Software Configuration Guide*
- *Catalyst 6500 Series Switch Command Reference*
- *Cisco 7600 Series Router Installation Guide*
- *Cisco 7600 Series Router Software Configuration Guide*
- *Cisco 7600 Series Router Command Reference*
- *Cisco Wireless LAN Controller Configuration Guide*
- *Cisco Wireless LAN Controller Command Reference*
- *Release Notes for Cisco Wireless LAN Controllers and Lightweight Access Points*

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For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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