

CISCO ISR4451 X AXV-K9 G.SHDSL Network Interface Module



CISCO ISR4451 X AXV-K9 G.SHDSL Network Interface Module Instructions

[Home](#) » [Cisco](#) » CISCO ISR4451 X AXV-K9 G.SHDSL Network Interface Module Instructions 

Contents

- 1 [CISCO ISR4451 X AXV-K9 G.SHDSL Network Interface Module](#)
- 2 [Product Usage Instructions](#)
- 3 [Installing the Cisco G.SHDSL Network Interface Module](#)
- 4 [Overview](#)
- 5 [Recommended Practices for Cisco G.SHDSL NIM](#)
- 6 [Preventing Electrostatic Discharge Damage](#)
- 7 [General Maintenance Guidelines](#)
- 8 [Safety Warnings](#)
- 9 [Cisco G.SHDSL NIM](#)
- 10 [LEDs](#)
- 11 [Installing the Cisco G.SHDSL NIM](#)
- 12 [Tools and Equipment Required During Installation](#)
- 13 [Installing the Cisco G.SHDSL NIM into the Cisco 4000 Series ISRs](#)
- 14 [Related Documents](#)
- 15 [Documents / Resources](#)
 - 15.1 [References](#)



CISCO ISR4451 X AXV-K9 G.SHDSL Network Interface Module



Specifications:

- **Cisco G.SHDSL NIM SKU:** NIM-4SHDSL-EA
- **Description:** Multi-mode SHDSL. The NIM supports:
 - Lantiq Socrates-4e chipset
 - NXP P1021 Processor, Dual Core, 800Mhz
 - Multimode ATM traffic class
 - Dying Gasp
 - Secure Boot
 - Creation of DSL groups up to 4
 - Selection of ATM and EFM modes
 - NIM Mechanical Form Factor
 - 1000BASE-X backplane interface
 - NGIO compliant
 - Module hot swap

Product Usage Instructions

- **Installing the Cisco G.SHDSL Network Interface Module**
- The Cisco G.SHDSL NIM is designed to be inserted into the NIM slot of the Cisco 4000 Series ISRs. Follow the steps below for installation
 1. Ensure the Cisco router chassis is powered off before inserting the NIM.
 2. Locate the NIM slot on the router, align the NIM correctly, and gently slide it in until it is firmly seated.
 3. Power on the router and configure the settings for the Cisco
 4. G.SHDSL NIM as per your network requirements.

Recommended Practices for Cisco G.SHDSL NIM

Preventing Electrostatic Discharge Damage

- To prevent electrostatic discharge damage while handling the Cisco G.SHDSL NIM, follow these guidelines:
 - Work in an ESD-safe environment by using an ESD wrist strap or mat.

- Avoid touching the sensitive components directly. Hold the NIM by its edges or use antistatic bags.

General Maintenance Guidelines

To ensure proper maintenance of the Cisco G.SHDSL NIM, adhere to these guidelines:

- Keep the router chassis area clean and free from dust to maintain optimal performance.
- Store any removed chassis cover safely to prevent damage or misplacement.

Safety Warnings

Observe the following safety warnings when working with the Cisco G.SHDSL NIM:

- Be cautious of electrical hazards and follow standard safety practices to prevent accidents.
- Refer to the safety information document provided by Cisco for detailed safety instructions.

FAQ:

- **Q: Where can I find translations of safety warnings related to the Cisco G.SHDSL NIM?**

A: Translations of safety warnings are available in the Cisco Network Modules and Interface Cards Regulatory Compliance and Safety Information document that ships with each individual Cisco G.SHDSL NIM order and is also accessible online.

Installing the Cisco G.SHDSL Network Interface Module

First Published: May 24, 2018

This document provides information that you should know before and during the installation of the Cisco G.SHDSL Network Interface Module (NIM) in the Cisco 4000 Series Integrated Services Routers (Cisco 4000 Series ISRs).

- Overview, page 1
- Recommended Practices for Cisco G.SHDSL NIM, page 2
- Cisco G.SHDSL NIM, page 4
- Installing the Cisco G.SHDSL NIM, page 5
- Related Documents, page 6

Overview

- The Cisco G.SHDSL NIM is inserted into the NIM slot of the Cisco 4000 Series ISRs. The Cisco G.SHDSL NIM provides reliable WAN connections for remote sites. The Cisco G.SHDSL NIM operates in Asynchronous Transfer Mode (ATM) or Ethernet In The First Mile (EFM).
- Figure 1 shows the Cisco G.SHDSL NIM and Table 1 provides the description.

Recommended Practices for Cisco G.SHDSL NIM

Figure 1 Cisco G.SHDSL NIM

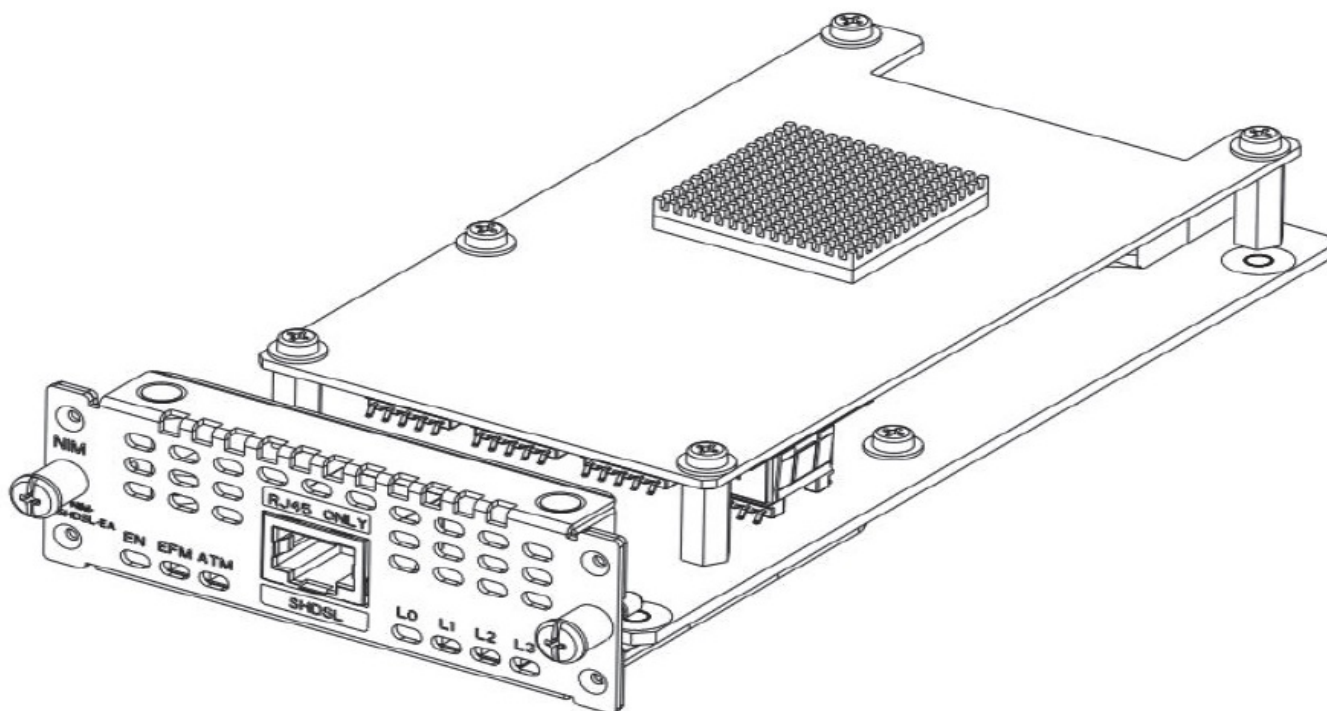


Table 1 Description of the Cisco G.SHDSL NIM

Cisco G.SHDSL NIM SKU	Description
NIM-4SHDSL-EA	<p>Multi-mode SHDSL. The NIM supports:</p> <ul style="list-style-type: none"> • Lantiq Socrates-4e chipset • NXP P1021 Processor, Dual Core, 800Mhz • Multimode ATM traffic class • Dying Gasp • Secure Boot • Creation of DSL groups up to 4 • Selection of ATM and EFM modes • NIM Mechanical Form Factor • 1000BASE-X backplane interface • NGIO compliant • Module hot swap

Recommended Practices for Cisco G.SHDSL NIM

This section describes recommended practices for safe and effective installation of the hardware described in this document.

- Preventing Electrostatic Discharge Damage, page 3
- General Maintenance Guidelines, page 3
- Safety Warnings, page 3

Preventing Electrostatic Discharge Damage

Electrostatic discharge can damage equipment and electrical circuitry. Electrostatic discharge occurs when electronic printed circuit cards, such as those used in Cisco service modules and network modules, are improperly handled and can result in complete or intermittent equipment failure. Always observe the following electrostatic discharge damage (ESD) prevention procedures when installing, removing, or replacing any electronic printed circuit cards:

- Make sure that the router chassis is electrically connected to earth ground.
- Wear an ESD-preventive wrist strap, and make sure that it makes good contact with your skin.
- Connect the wrist strap clip to an unpainted portion of the chassis frame to channel unwanted ESD voltages to ground

Caution: The wrist strap and clip must be used correctly to ensure proper ESD protection. Periodically confirm that the resistance value of the ESD-preventive wrist strap is between 1 and 10 megohms (ohm).

- If no wrist strap is available, ground yourself by touching the metal part of the router chassis.

General Maintenance Guidelines

The following maintenance guidelines apply to the Cisco G.SHDSL NIM:

- Keep the router chassis area clear and dust-free during and after installation.
- If you remove the chassis cover for any reason, store it in a safe place.
- Do not perform any action that creates a hazard to people or makes equipment unsafe.
- Keep walk areas clear to prevent falls or damage to equipment.
- Follow installation and maintenance procedures as documented by Cisco Systems, Inc.

Safety Warnings

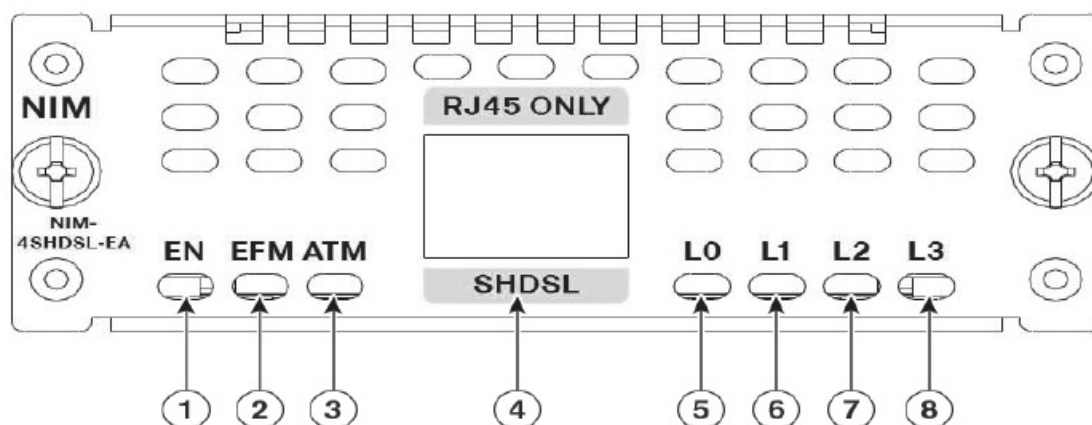
- The following safety warning statements apply to all hardware procedures involving the Cisco G.SHDSL NIM for Cisco 4000 Series ISRs. Translations of these warnings are available in the Cisco
- Network Modules and Interface Cards Regulatory Compliance and Safety Information document, which ships with all individual Cisco G.SHDSL NIM orders, and is also available online.
- **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:** Do not work on the system or connect or disconnect cables during periods of lightning activity. Statement 1001
- **Warning:** Read the installation instructions before using, installing, or connecting the system to the power source. Statement 1004
- **Warning:** To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Both LAN and WAN ports may use RJ-45 connectors. Use caution when connecting cables. Statement 1021
- **Warning:** Hazardous network voltages are present in WAN ports regardless of whether power to the router is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables,

detach the end away from the router first. Statement 1026

- **Warning:** Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030
- **Warning:** Ultimate disposal of this product should be handled according to all national laws and regulations. Statement 1040
- **Warning:** Installation of the equipment must comply with local and national electrical codes. Statement 1074

Cisco G.SHDSL NIM

Figure 2 shows the front panel of the Cisco G.SHDSL NIM. The LEDs are described in Table 2.
Figure 2 Cisco G.SHDSL NIM Front Panel



1	EN LED	2	EFM LED
3	ATM LED	4	SHDSL (RJ45 Only)
5	L0 LED	6	L1 LED
7	L2 LED	8	L3 LED

LEDs

The LEDs are located on the front panel of the Cisco G.SHDSL NIM and are described in Table 2.
Table 2 Cisco G.SHDSL NIM LEDs

LEDs	Color	Description
EN	Green	Operating System is running.
EFM	Green	Indicates EFM mode.
ATM	Green	Indicates ATM mode.
L0, L1, L2, L3	Green	Link is active.
	Off	Link is inactive or not configured.
	Amber	Link alarm.
	Blinking Green	Link is training.

Installing the Cisco G.SHDSL NIM

This section describes the installation tasks for installing the Cisco G.SHDSL NIM into a Cisco 4000 Series ISR.

- Tools and Equipment Required During Installation, page 5
- Installing the Cisco G.SHDSL NIM into the Cisco 4000 Series ISRs, page 5
- Removing the Cisco G.SHDSL NIM from the Cisco 4000 Series ISRs, page 6

Tools and Equipment Required During Installation

You will need the following tools and equipment while working with the Cisco G.SHDSL NIM:

- Number 1 Phillips screwdriver or a small flat-blade screwdriver
- ESD-preventive wrist strap

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

Installing the Cisco G.SHDSL NIM into the Cisco 4000 Series ISRs

Procedure

1. Shut down the electrical power to the slot in the router either by turning off the electrical power to the router or by issuing the online insertion and removal (OIR) commands. Leave the power cable plugged in to channel ESD voltages to ground. For more information on OIR, see “Managing Cisco Enhanced Services and Network Interface Modules” in the Cisco 4000 Series ISRs Software Configuration Guide.
2. Remove all network cables, including telephone cables, from the rear panel of the router.
3. Remove the blank faceplates installed over the NIM slot that you intend to use.

Note: Save the blank faceplates for future use.

4. Align the NIM with the guides in the chassis walls or slot divider and slide it gently into the NIM slot on the router.
5. Push the NIM into place until you feel the edge connector seat securely into the connector on the router backplane. The NIM faceplate should contact the chassis rear panel.
6. Using a number 1 Phillips or flat-blade screwdriver, tighten the captive screws on the NIM.
7. Connect the NIM to the network and re-enable the power to the slot in the router.

Note: See the Related Documents for information on locating additional hardware documentation.

Removing the Cisco G.SHDSL NIM from the Cisco 4000 Series ISRs

Procedure

1. Shut down the electrical power to the slot in the router either by turning off the electrical power to the router or by issuing the online insertion and removal (OIR) commands. Leave the power cable plugged in to channel ESD voltages to ground. For more information on OIR, see “Managing Cisco Enhanced Services and Network Interface Modules” in the Cisco 4000 Series ISRs Software Configuration Guide.

2. Remove all network cables, including telephone cables, from the rear panel of the router.
3. Using a number 1 Phillips or flat-blade screwdriver, loosen the captive screws on the NIM.
4. Slide the NIM out.
5. If you are not replacing the NIM, install a blank faceplate over the empty slot to ensure proper air flow.

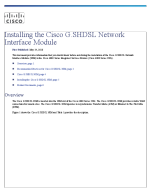
Related Documents

Related Topic	Document Title
Information about installing the Cisco 4000 Series ISRs.	Hardware Installation Guide for the Cisco 4000 Series Integrated Services Router
Information about configuring the Cisco 4000 Series ISRs.	Cisco 4000 Series ISRs Software Configuration Guide
Information about configuring the Cisco G.SHDSL NIMs.	Configuring Cisco Multimode G.SHDSL EFM/ATM in Cisco ISR 4000 Series Routers
Information about DSLAM interoperability.	Cisco Multimode VDSL2 and ADSL2/2 Network Interface Module Data Sheet
Regulatory compliance and safety information	Cisco Network Modules, Server Modules, and Interface Cards Regulatory Compliance and Safety Information








Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL:

- www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)
- Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.
- © 2018 Cisco Systems, Inc. All rights reserved.

Documents / Resources

	<p>CISCO ISR4451 X AXV-K9 G.SHDSL Network Interface Module [pdf] Instructions ISR4451 X AXV-K9 G.SHDSL Network Interface Module, ISR4451 X AXV-K9, G.SHDSL Network Interface Module, Network Interface Module, Interface Module, Module</p>
---	--

References

-  [Cisco Multimode VDSL2 and ADSL2/2+ Network Interface Module Data Sheet - Cisco](#)
-  [Hardware Installation Guide for Cisco 4000 Series Integrated Services Routers - Cisco](#)
-  [Cisco 4000 Series ISRs Software Configuration Guide - Cisco](#)
-  [Cisco Network Modules, Server Modules, and Interface Cards Regulatory Compliance and Safety Information - Cisco](#)
-  [Cisco Trademarks - Cisco](#)
-  [Configuring Cisco Multimode G.SHDSL EFM/ATM in Cisco ISR 4000 Series Routers - Cisco](#)
-  [Cisco Trademarks - Cisco](#)
- [User Manual](#)

Manuals+, Privacy Policy

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.