



Declarations of Conformity and Regulatory Information for Cisco Access Products with 802.11a/b/g and 802.11b/g Radios

This document provides declarations of conformity and regulatory information for Cisco wireless access routers and access point high-speed WAN interface cards (AP HWICs) using radio components with the following part numbers:

- 74-3624-xx (802.11a/b/g)
- 74-3625-xx (802.11b/g)

This document contains the following sections:

- [Manufacturers Federal Communication Commission Declaration of Conformity Statement, page 2](#)
- [Department of Communications—Canada, page 4](#)
- [European Community, Switzerland, Norway, Iceland, and Liechtenstein, page 5](#)
- [Declaration of Conformity for RF Exposure, page 13](#)
- [Guidelines for Operating Cisco Wireless Access Products in Japan, page 13](#)
- [Administrative Rules for Cisco Wireless Devices in Taiwan, page 15](#)
- [Declaration of Conformity Statements, page 17](#)
- [Obtaining Documentation, page 17](#)
- [Documentation Feedback, page 18](#)
- [Cisco Product Security Overview, page 18](#)
- [Obtaining Technical Assistance, page 19](#)
- [Obtaining Additional Publications and Information, page 21](#)

Manufacturers Federal Communication Commission Declaration of Conformity Statement



FCC Certification numbers:

LDKXSARCD11—802.11a/b/g

LDKXSNIAG13—802.11b/g

Manufacturer:

Hon Hai Precision Ind. Co., Ltd.
Hsinchu Science Park Branch Office
5F-1, 5 Hsin-An Road
Hsinchu, Science-Based Industrial Park
Taiwan, R.O.C.
and
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference. However, there is no guarantee that interference will not occur. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician.

Table 1 lists the maximum power level settings permissible for the radio modules.

Table 1 Maximum Rated Power Output for the Radios

Radio FCC ID	Maximum Power Setting (dBm)		
	802.11b (2.4-GHz)	802.11g (2.4-GHz)	802.11a (5-GHz)
LDKXSARCD11 (802.11a/b/g)	20	17	16
LDKXSNIAG13 (802.11b/g)	19	17	—



Caution

The Part 15 radio device operates on a noninterference basis with other devices operating at this frequency when using antennas listed in Table 2. Any changes or modification to the product not expressly approved by Cisco could void the user's authority to operate this device.



Caution

Within the 5.15- to 5.25-GHz band (5-GHz radio channels 34 to 48); the U-NII devices are restricted to indoor operations to reduce any potential for harmful interference to co-channel Mobile Satellite System (MSS) operations. The maximum rated power output for the radio in the 5.15- to 5.25-GHz band is set to 12 dBm.

Table 2 Cisco 2.4-GHz and 5-GHz Antennas

Radio FCC ID	Antenna			
	Cisco Part Number	Description	Gain at 2.4-GHz	Gain at 5-GHz
LDKXSARCD11 (802.11a/b/g)	AIR-ANTM2050D-R	Swivel-mount dipole	2 dBi	5 dBi
	AIR-ANTM4050V-R	Diversity omnidirectional ceiling-mount	4 dBi	5 dBi
	AIR-ANTM5560P-R	Wall-mount patch	5.5 dBi	6 dBi
LDKXSNIAG13 (802.11b/g)	AIR-ANT4941 23.7786.51	Swivel-mount dipole	2.2 dBi	—
	AIR-ANT5959	Diversity omnidirectional ceiling-mount	2.35 dBi	—
	AIR-ANT1728	Omnidirectional ceiling-mount	5.2 dBi	—

Department of Communications—Canada

Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte les exigences du Règlement sur le matériel brouilleur du Canada.

This device complies with Class B Limits of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Cisco 802.11b/g radios are certified to the requirements of RSS-210 for 2.4-GHz spread spectrum devices, and Cisco 802.11a radios are certified to the requirements of RSS-210 for 5-GHz spread spectrum devices. The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations. For further information, contact your local Industry Canada office.

These devices have been designed to operate with the antennas listed in [Table 2 on page 3](#). Use of any other antenna is strictly prohibited per regulations of Industry Canada.

The antennas listed in [Table 2](#) were chosen to reduce potential radio interference to other users. The equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

The 5150-5250 MHz band is for indoor use only, to reduce potential for harmful interference to co-channel Mobile Satellite systems. The maximum antenna gain permitted on 5250-5350 MHz devices complies with the EIRP limit.



Caution

High power radars are allocated as primary users of 5250-5350 MHz and 5650-5850 MHz. These radars could cause interference and/or damage to LELAN devices.



Caution

Ensure that the antenna is located or pointed in a way that does not emit an RF field in excess of Health Canada limits for the general population. For more information, see Safety Code 6, at the Health Canada website: www.hc-sc.gc.ca/rpb

Canadian Certification numbers:

2461B-XSARCD11 (802.11a/b/g)

2461B-XSNIAG13 (802.11b/g)

European Community, Switzerland, Norway, Iceland, and Liechtenstein

This section contains compliance information relevant to the European Union and other countries that have implemented the EU Directive 1999/5/EC.

The information contained in this section applies to the following wireless LAN products:

Single-Band (2.4-GHz) Models:

Access point high-speed WAN interface card:

- HWIC-AP-G-E

Cisco 850 series and Cisco 870 series routers:

- CISCO851W-G-E-K9
- CISCO857W-G-E-K9
- CISCO871W-G-E-K9
- CISCO876W-G-E-K9
- CISCO877W-G-E-K9
- CISCO878W-G-E-K9

Dual-Band (2.4-GHz and 5-GHz) Models:

Access point high-speed WAN interface card:

- HWIC-AP-AG-E

Cisco 1800 series routers:

- CISCO1801W-AG-E/K9
- CISCO1802W-AG-E/K9
- CISCO1803W-AG-E/K9
- CISCO1812W-AG-E/K9

This equipment operates in the 2400- to 2483.5-MHz frequency range, and depending on the product also in the 5150- to 5350-MHz frequency range.

National regulations may require that operations be limited to portions of the frequency ranges identified above. See the [“National Restrictions” section on page 8](#) for complete details.

Declaration of Conformity with Regard to the EU Directive 1999/5/EC (R&TTE Directive)

Česky [Czech]:	Toto zařízení je v souladu se základními požadavky a ostatními odpovídajícími ustanoveními Směrnice 1999/5/EC.
Dansk [Danish]:	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 1999/5/EF.
Deutsch [German]:	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 1999/5/EU.
Eesti [Estonian]:	See seade vastab direktiivi 1999/5/EÜ oluliste nõuetele ja teistele asjakohastele sätetele.
English:	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]:	Este equipo cumple con los requisitos esenciales así como con otras disposiciones de la Directiva 1999/5/CE.
Ελληνική [Greek]:	Αυτός ο εξοπλισμός είναι σε συμμόρφωση με τις ουσιαστικές απαιτήσεις και άλλες σχετικές διατάξεις της Οδηγίας 1999/5/EC.
Français [French]:	Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 1999/5/EC.
Íslenska [Icelandic]:	Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 1999/5/EC.
Italiano [Italian]:	Questo apparato é conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 1999/5/CE.
Latviski [Latvian]:	Šī iekārta atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]:	Šis įrenginys tenkina 1999/5/EB Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.

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Nederlands [Dutch]:	Dit apparaat voldoet aan de essentiële eisen en andere van toepassing zijnde bepalingen van de Richtlijn 1999/5/EC.
Malti [Maltese]:	Dan l-apparat huwa konformi mal-htigiet essenzjali u l-provedimenti l-oħra rilevanti tad-Direttiva 1999/5/EC.
Magyar [Hungarian]:	Ez a készülék teljesíti az alapvető követelményeket és más 1999/5/EK irányelvben meghatározott vonatkozó rendelkezéseket.
Norsk [Norwegian]:	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 1999/5/EF.
Polski [Polish]:	Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi warunkami określonymi Dyrektywą UE: 1999/5/EC.
Português [Portuguese]:	Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 1999/5/EC.
Slovensko [Slovenian]:	Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi pogoji Direktive 1999/5/EC.
Slovensky [Slovak]:	Toto zariadenie je v zhode so základnými požiadavkami a inými príslušnými nariadeniami direktív: 1999/5/EC.
Suomi [Finnish]:	Tämä laite täyttää direktiivin 1999/5/EY olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen.
Svenska [Swedish]:	Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 1999/5/EC.

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Declaration of Conformity Statements for European Union Countries

All the Declaration of Conformity statements related to this product can be found at the following URL:
<http://www.ciscofax.com>



Note

If you still have questions regarding the compliance of these products or you cannot find the information you are looking for, please send an e-mail request to Cisco at complianceinfo@cisco.com.

Standards

The following standards were applied during the assessment of the product against the requirements of the Directive 1999/5/EC:

- Radio: EN 301.893 and/or EN 300 328
- EMC: EN 301 489-1 and EN 301 489-17
- Safety: EN 60950 and EN 50385

**Note**

The equipment, when operating in the 5-GHz frequency range, has no Dynamic Frequency Selection (DFS) feature related to radar detection built in. However, the equipment is equipped with a feature that, when enabled, results in a random selection of the operating frequency when powered on.

**Note**

In order to meet the Transmit Power Control (TPC) requirement, the equipment has different user-selectable power levels. Devices should always be configured to the lowest possible power level. See the [“Changing Output Power” section on page 11](#) for instructions on how to change the output power settings.

CE Marking

For Cisco wireless products with only a 2.4-GHz radio, the following CE mark and class-2 identifier is affixed to the equipment and packaging:



For Cisco wireless products with a 2.4- and 5-GHz radio, the following CE mark and class-2 identifier is affixed to the equipment and its packaging:



National Restrictions

The 2400- to 2483.5-MHz band is available in all EU member states for indoor as well as outdoor usage. In the majority of the countries, the maximum power allowed is 100 mW EIRP.

With regard to operation in the 5-GHz bands, these products meet the requirements as specified in the Guidance Document produced by the CEPT/ECC WG FM for ‘Interim Arrangements for 5-GHz Wireless LANs’ (September 2002). The equipment can operate in either band (5150 to 5250 MHz or 5150 to 5350 MHz) and is intended to be placed on the market only in those countries that have a permanent or interim regulation in place by which the equipment without DFS (radar detection) is allowed to operate in part of the 5-GHz frequency band and if applicable, at a reduced output power level.

For all countries, the operation in the 5-GHz bands (5150 to 5350 MHz) is restricted to indoor use only.

[Table 3](#) contains an overview of the countries in which the product is intended to be placed on the market together with the applicable frequency band and the maximum allowed power (EIRP).

Table 3 Country-Specific Frequency Ranges and Power Levels

Countries	Frequency (MHz)	Power Level (mW) EIRP
All EU countries ¹	2400–2483.5	100
DK, NO	5150–5250	50
AT, DE, IT, PT	5150–5250	60
FR, NL, SI, SK	5150–5250	200
BE, FI, IR, UK, LU, ES, CH, LI	5150–5350	120
GR, PL	5150–5350	200

1. For specific information regarding 2.4-GHz operation in France, see the “France” section on page 9.

We recommend that you check with the local authorities for the latest status of their national regulations for 2.4- and 5-GHz wireless LANs or for regulations in countries not listed in Table 3.

The following sections identify EU countries having additional requirements or restrictions than those listed in Table 3.

Italy

Outdoor usage is only allowed when operating in the 2.4-GHz band.

This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless operating within the boundaries of the owner’s property, the use of these wireless LAN products requires a “general authorization.”

Check the following URL for more information:

<http://www.comunicazioni.it/it/>

France

Outdoor usage is only allowed when operating in the 2.4-GHz band. However, the output power is restricted within some parts of the 2.4-GHz band. See Table 4 or check the following URL for more information:

<http://www.art-telecom.fr/>

Table 4 Applicable Power Levels for 2.4-GHz Operation in France

Location	Frequency (MHz)	Power (mW) EIRP
Indoor (no restrictions)	2400–2483.5	100 mW (20 dBm)
Outdoor	2400–2454	100 mW (20 dBm)
	2454–2483.5	10 mW (10 dBm)

Belgium

Outdoor usage is only allowed when operating in the 2.4-GHz band. The Belgian Institute for Postal Services and Telecommunications (BIPT) needs to be notified of outdoor wireless links with a range in excess of 300 meters. Check the following URL for more information:

<http://www.bipt.be/langue.htm>



Note

Although Norway, Switzerland, and Liechtenstein are not EU member states, the EU Directive 1999/5/EC has also been implemented in those countries.



Note

The regulatory limits for maximum output power are specified in EIRP. The EIRP level of a device can be calculated by adding the gain of the antenna used (specified in dBi) to the output power available at the connector (specified in dBm).

Antennas

Cisco wireless access routers or AP HWICs can be shipped with dedicated antennas that are external to the equipment. [Table 5](#) and [Table 6](#) list the antennas that were assessed together with the equipment against the requirements of the R&TTE directive. Depending on the country, a different regulatory limit might be applicable. It is therefore the responsibility of the end user to select a power level that, together with the antenna, results in an EIRP (radiated power) level that is below the applicable limit.

Single-Band (2.4-GHz) Antennas

The maximum conducted power setting for each of the antennas and the applicable regulatory limits for 2.4-GHz only products are provided in [Table 5](#). See the “[National Restrictions](#)” section on page 8 to identify the regulatory limit in your country.

Table 5 *Maximum Allowed Conducted Power Settings to Meet Regulatory Limits for Output Power (EIRP) in Single-Band (2.4-GHz) Products*

Cisco Product Number	Gain (dBi)	Frequency Band (GHz)	Regulatory Limit (EIRP) (mW)	Maximum Conducted Power Setting (dBm)	Antenna Description
AIR-ANT4941 23.7786.51	2.2	2.4 ¹	100	17	Swivel-mount dipole
AIR-ANT5959	2.35			15	Diversity omnidirectional ceiling-mount
AIR-ANT1728	5.2			13	Omnidirectional ceiling-mount
AIR-ANT3549	9			10	Wall-mount patch

1. Outdoor operation within the band 2454–2483.5 MHz is not allowed in France.

Dual-Band (2.4-GHz and 5-GHz) Antennas

The maximum conducted power setting for each of the antennas and the applicable regulatory limits for dual-band products are provided in [Table 6](#). See the “[National Restrictions](#)” section on [page 8](#) to identify the regulatory limit in your country.

Table 6 *Maximum Allowed Conducted Power Settings to Meet Regulatory Limits for Output Power (EIRP) in Dual-Band (2.4-GHz and 5-GHz) Products*

Cisco Product Number	Gain (dBi)	Frequency Band (GHz)	Regulatory Limit (EIRP) (mW)	Maximum Conducted Power Setting (dBm)	Antenna Description
AIR-ANT-M2050D-R	2	2.4 ¹	100	17	Swivel-mount dipole
	5	5	50	11	
			60	11	
			120	14	
			200	16	
AIR-ANT-M4050V-R	4	2.4 ¹	100	15	Diversity omnidirectional ceiling-mount
	5	5	50	11	
			60	11	
			120	14	
			200	16	
AIR-ANT-M5560P-R	5.5	2.4 ¹	100	13	Wall-mount patch
	6	5	50	10	
			60	11	
			120	14	
			200	16	

1. Outdoor operation within the band 2454–2483.5 MHz is not allowed in France.

Operating Frequency

The operating frequency in a wireless LAN is determined by the access point. As such, it is important that the access point be correctly configured to meet the local regulations. See the “[National Restrictions](#)” section on [page 8](#) for country specific operating frequency ranges.

Changing Output Power

Connect your PC to the Ethernet port of the wireless access router or host platform of the AP HWIC and follow these steps to change the output power to meet the local regulations.



Note

For detailed information on how to connect your PC to the router, see the appropriate hardware installation guide or quick start guide.

- Step 1** Open your Internet browser. You must use Microsoft Internet Explorer (version 5.x or later) or Netscape Navigator (version 4.x or later).
- Step 2** Enter the access point IP address in the browser address line and press **Enter**. An Enter Network Password screen appears.
- Step 3** Enter the username and password and press **Enter**. The Summary Status page appears.



Note The default username and password are *Cisco*. They are case-sensitive.

- Step 4** In the Network Interfaces section, choose the radio that you want to change. The status page for that radio appears.
- Step 5** Choose the **Settings** tab. The Settings page appears.
- Step 6** Scroll down to the Transmitter Power section.
- Step 7** Choose the appropriate power level.

Table 7 lists the output power levels (conducted) for the 2.4-GHz and 5-GHz bands.

Table 7 Available Output Power Levels

802.11b/g 2.4-GHz Mode (dBm)	802.11a 5-GHz Mode (dBm)
17	16
15	14
13	13
10	11
	10
	7
	4

- Step 8** Click **Apply**.



Note See the hardware installation guide or the quick start guide for your product for more details on how to connect your PC to the wireless device and how to configure it using the web browser interface.

Obtaining Documents from Cisco.com

Follow these steps to obtain any of the online documents mentioned in this document.

- Step 1** Browse to <http://www.cisco.com>.
- Step 2** In the menu on the left side of the website, click **Technical Support & Documentation**. A small window appears containing a list of resources.
- Step 3** Click **Product Support**. The Product Support page opens.

- Step 4** Click **Routers**. A list of routers categorized by series appears.
- Step 5** Choose the appropriate series of routers. A list of products belonging to this series appears.
- Step 6** Choose your product and click the appropriate document.

**Note**

If you still have questions regarding the compliance of these products or you cannot find the information you are looking for, please send an e-mail request to Cisco at complianceinfo@cisco.com.

Declaration of Conformity for RF Exposure

The radio module has been found to be compliant to the requirements set forth in CFR 47 Sections 2.1091, and 15.247 (b) (4) addressing RF Exposure from radio frequency devices as defined in Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields. For all approved antennas the equipment should be installed at least 20 cm (7.9 in.) from your body or nearby persons.

The wireless product must be installed to maintain a minimum 20 cm (7.9 in.) co-located separation distance from other FCC approved indoor/outdoor antennas used with the access point. Any antennas or transmitters not approved by the FCC cannot be co-located with the access point antennas. The co-located 2.4-GHz and 5-GHz antennas support a minimum separation distance of 10 cm (3.9 in.) and are compliant with the applicable FCC RF exposure limit when transmitting simultaneously.

**Note**

Dual antennas used for diversity operation are not considered co-located.

Guidelines for Operating Cisco Wireless Access Products in Japan

This section provides guidelines for avoiding interference when operating Cisco wireless access products in Japan. These guidelines are provided in both Japanese and English.

Japanese Translation

この機器の使用周波数帯では、電子レンジ等の産業・科学・医療用機器のほか工場の製造ライン等で使用されている移動体識別用の構内無線局（免許を要する無線局）及び特定小電力無線局（免許を要しない無線局）が運用されています。

- 1 この機器を使用する前に、近くで移動体識別用の構内無線局及び特定小電力無線局が運用されていないことを確認して下さい。
- 2 万一、この機器から移動体識別用の構内無線局に対して電波干渉の事例が発生した場合には、速やかに使用周波数を変更するか又は電波の発射を停止した上、下記連絡先にご連絡頂き、混信回避のための処置等(例えば、パーティションの設置など)についてご相談して下さい。
- 3 その他、この機器から移動体識別用の特定小電力無線局に対して電波干渉の事例が発生した場合など何かお困りのことが起きたときは、次の連絡先へお問い合わせ下さい。

連絡先 : 03-5549-6500

43768

English Translation

This equipment operates in the same frequency bandwidth as industrial, scientific, and medical devices such as microwave ovens and mobile object identification (RF-ID) systems (licensed premises radio stations and unlicensed specified low-power radio stations) used in factory production lines.

1. Before using this equipment, make sure that no premises radio stations or specified low-power radio stations of RF-ID are used in the vicinity.
2. If this equipment causes RF interference to a premises radio station of RF-ID, promptly change the frequency or stop using the device; contact the number below and ask for recommendations on avoiding radio interference, such as setting partitions.
3. If this equipment causes RF interference to a specified low-power radio station of RF-ID, contact the number below.

Contact Number: 03-5549-6500

Models with 802.11a/b/g Radios:

Cisco 1800 series routers:

- CISCO1812W-AG-J/K9

Access point high-speed WAN interface card:

- HWIC-AP-AG-J

Models with 802.11b/g Radios:

Cisco 850 series and Cisco 870 series routers:

- CISCO851W-G-J-K9
- CISCO857W-G-J-K9
- CISCO871W-G-J-K9

- CISCO876W-G-J-K9
- CISCO877W-G-J-K9
- CISCO878W-G-J-K9

Access point high-speed WAN interface card:

- HWIC-AP-G-J

Administrative Rules for Cisco Wireless Devices in Taiwan

This section provides administrative rules for operating Cisco wireless access products in Taiwan. The rules are provided in both Chinese and English.

Wireless Devices with IEEE 802.11a or 802.11b/g Radios

Chinese Translation

本設備限於室內使用

English Translation

This equipment is limited for indoor use.

All Access Wireless Products

Chinese Translation

低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

127048

English Translation

Administrative Rules for Low-Power Radio-Frequency Devices

Article 12

For those low-power radio-frequency devices that have already received a type-approval, companies, business units, or users should not change its frequencies, increase its power, or change its original features and functions.

Article 14

The operation of the low-power radio-frequency devices is subject to the conditions that no harmful interference is caused to aviation safety and authorized radio stations; and if interference is caused, the user must stop operating the device immediately and can't re-operate it until the harmful interference is clear.

The authorized radio station means a radio-communication service operating in accordance with the Communication Act.

The operation of the low-power radio-frequency devices is subject to the interference caused by the operation of an authorized radio station, by another intentional or unintentional radiator, by industrial, scientific and medical (ISM) equipment, or by an incidental radiator.

Declaration of Conformity Statements

All the Declaration of Conformity statements related to this product can be found at the following URL:
<http://www.ciscofax.com>

**Note**

If you still have questions regarding the compliance of these products or you cannot find the information you are looking for, please send an e-mail request to Cisco at complianceinfo@cisco.com.

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation DVD

Cisco documentation and additional literature are available in a Documentation DVD package, which may have shipped with your product. The Documentation DVD is updated regularly and may be more current than printed documentation. The Documentation DVD package is available as a single unit.

Registered Cisco.com users (Cisco direct customers) can order a Cisco Documentation DVD (product number DOC-DOCDVD=) from the Ordering tool or Cisco Marketplace.

Cisco Ordering tool:

<http://www.cisco.com/en/US/partner/ordering/>

Cisco Marketplace:

<http://www.cisco.com/go/marketplace/>

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:

<http://www.cisco.com/en/US/partner/ordering/>

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 1 800 553-NETS (6387).

Documentation Feedback

You can send comments about technical documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you can perform these tasks:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories and notices for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you might have identified a vulnerability in a Cisco product, contact PSIRT:

- Emergencies—security-alert@cisco.com
- Nonemergencies—psirt@cisco.com



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.x through 8.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one that has the most recent creation date in this public key server list:

<http://pgp.mit.edu:11371/pks/lookup?search=psirt%40cisco.com&op=index&exact=on>

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

Cisco Technical Support Website

The Cisco Technical Support Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, 365 days a year, at this URL:

<http://www.cisco.com/techsupport>

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

**Note**

Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support Website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

<http://www.cisco.com/go/marketplace/>

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

<http://www.cisco.com/packet>

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

<http://www.cisco.com/ipj>

- World-class networking training is available from Cisco. You can view current offerings at this URL:

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

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