

Regulatory Compliance

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Related Documentation

All of the IR1101 documentation can be found online here:

- Product support page: https://www.cisco.com/c/en/us/support/routers/1101-industrial-integrated-services-router/model.html
- Datasheet: https://www.cisco.com/c/en/us/products/collateral/routers/1101-industrial-integrated-services-router/datasheet-c78-741709.html
- Regulatory Compliance and Safety Information: https://www.cisco.com/c/dam/en/us/td/docs/IIOT/compliance/routers/rcsi-0502-book.pdf
- Statement of Volatility: https://trustportal.cisco.com/c/r/ctp/trust-portal.html?search_keyword=1101#/19339541724455836

Installation Warning and Caution Statements

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**

Warning The product is to be connected to a IEC 60950 compliant limited power source (LPS). **Statement 170**

Warning In order to comply with FCC radio frequency (RF) exposure limits, antennas for this product should be located a minimum of 11.8 in. (30 cm) or more from the body of all persons. **Statement 332**

Warning This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 60Vdc minimum, 5A maximum. **Statement 1005**

Warning This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. **Statement 1017**

Warning This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. **Statement 1024**

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 To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 140°F (60°C). **Statement 1047**

Warning Use twisted-pair supply wires suitable for 86°F (30°C) above surrounding ambient temperature outside the enclosure. **Statement 1067**

Warning Installation of the equipment must comply with local and national electric codes. **Statement 1074**

Warning Avoid using or servicing any equipment that has outdoor connections during an electrical storm. There may be a risk of electric shock from lightning. **Statement 1088**

Caution When installed in a Class 1, Division 2 hazardous locations environment, equipment shall be installed in an enclosure suitable for the area. The enclosure shall be accessible by a tool only.

Caution Airflow around the router must be unrestricted. The dimensions (height x width x depth) are 7.70 x 11 x 1.73 in. (19.6 x 27.9 x 4.39 cm). Contact your Cisco Technical Assistance Centre (TAC) if tighter spacing is required.

Caution The equipment shall only be used in an area of at least pollution degree 2, as defined in EN 60664-1. The equipment shall be installed in a certified enclosure that provides a degree of protection not less than IP 54 in accordance with EN IEC 60079-0 and accessible only by the use of a tool.

Note Antennas attached to the equipment must be contained withing the IP54 enclosure.

Note This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or only nonhazardous locations.

Note This equipment is rated as follows: maximum operating range: 9.6V to 60V, marked 12-48Vdc.

Note The maximum ambient operating temperature range is –40 to 140°F (–40 to 60°C).

Hazardous Locations Standards and Marking Strings

The following standards were used for the hazardous locations approvals and certifications:

- CSA C22.2 No. 60079-0:19, 4th Ed., Issued 2019-0
- CAN/CSA-C22.2 No. 60079-7:16, 2nd Ed., Issued 2016-10
- CSA C22.2 No. 213-17, 3rd Ed., Rev. 2019-08-26
- EN IEC 60079-0:2018 EN IEC 60079-7: 2015 +A1:2018
- EN IEC 60079-7: 2015 +A1:2018
- UL 121201, 9th Ed., Rev. 2019-08-26
- UL 60079-0 ,7th Ed., Rev. 2020-04-15
- UL 60079-7 5th Ed. Rev. 2017-04-21

The following hazardous locations strings are provided on the router:

- Class 1, Div 2, Groups A B C D
- Class I, Zone 2, AEx ec IIC T4 Gc
- UL 21 ATEX 2512X
- Ex ec IIC T4 Gc

EMC Information

For EMC and safety information, see the Regulatory Compliance and Safety Information for Cisco IoT Series Routers document.

Class A Notice for FCC

Modifying the equipment without Cisco's authorization may result in the equipment no longer complying with FCC requirements for Class A digital devices. In such an event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

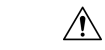
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

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 A 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.



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

Industry Canada

Canadian Compliance Statement

Cisco® Catalyst IR1101 Rugged Series Router

Cisco® IR1101 Industrial Integrated Services Router PIDS

- IR1101-K9

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

This device complies with Class A 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® Catalyst IR1101 Rugged Series Router are certified to the requirements of RSS-210. 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.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotopically radiated power (EIRP) is not more than that permitted for successful communication.

European Community, Switzerland, Norway, Iceland, and Liechtenstein

Cisco® Catalyst IR1101 Rugged Series Router PIDS.

- IR1101-K9

Declaration of Conformity with Regard to R-ED Directive 2014/53/EU

The following standards were applied:

- EN 62311: 2008
- EN 301 489-1 v 2.1.1; EN 301 489-19 v2.1.0; EN 301 489-52 v1.1.0
- EN 301 511 v12.5.1; 301 908-1 v 11.1.1; EN 301 908-2 v 11.1.2; EN 301 908-13 v11.1.1; EN 303 413 v1.1.1

With regard to the Directive 2014/53/EU, the conformity assessment procedure referred to in Article 17.2(a) and Annex II – module A has been followed.

Note This equipment is intended to be used in all EU and EFTA countries. For more details, contact the Cisco Corporate Compliance team.

The product carries the CE mark:

CE !

Declaration of Conformity for RF Exposure

This section contains information on compliance, with guidelines related to RF exposure.

RF Exposure

Cisco products are designed to comply with the following national and international standards on human exposure to RF:

- US 47 Code of Federal Regulations Part 2 Subpart J
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers / IEEE C 95.1
- International Commission on Non Ionizing Radiation Protection (ICNIRP)
- Ministry of Health (Canada) Safety Code 6. Limits on Human Exposure to Radio Frequency Fields in the range from 3kHz to 300 GHz

- Australia Radiation Protection Standard

Note To ensure compliance with various national and international Electromagnetic Field (EMF) standards, the system should only be operated with Cisco-approved antennas and accessories.

This Device Meets International Guidelines for Exposure to Radio Waves

The IR1101 Series device includes a radio transmitter and receiver. It is designed to not exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by an independent scientific organization (ICNIRP) and include a substantial safety margin designed to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated as to avoid contact with the antennas by the end user. We recommended that you set the system in a location where the antennas can remain at least at a minimum distance, as specified, from a user in accordance with the regulatory guidelines that are designed to reduce the overall exposure to a user or operator.

The World Health Organization has stated that present scientific information does not indicate the need for any special precautions for the use of wireless devices. They recommend that if you are interested in further reducing your exposure, then you can easily do so by reorienting antennas away from users, or by placing he antennas at a greater distance than recommended.

This Device Meets FCC Guidelines for Exposure to Radio Waves

The IR1101 Series device includes a radio transmitter and receiver. It is designed to not exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) as referenced in FCC Part 1.1310. The guidelines are based on IEEE ANSI C 95.1 (92) and include a substantial safety margin designed to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated so as to avoid contact with the antennas by the end user. We recommend that you set the system in a location where the antennas can remain at least at a minimum distance, as specified, from a user in accordance with the regulatory guidelines that are designed to reduce the overall exposure to a user or operator.

The device has been tested and found compliant with the applicable regulations as part of the radio certification process.

The U.S. Food and Drug Administration has stated that present scientific information does not indicate the need for any special precautions for the use of wireless devices. The FCC recommends that if you are interested in further reducing your exposure, you can easily do so by reorienting antennas away from users, or by placing the antennas at a greater distance than recommended, or by lowering the transmitter power output.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Device Meets the Industry Canada Guidelines for Exposure to Radio Waves

The IR1101 Series includes a radio transmitter and receiver. It is designed to not exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) as referenced in Health Canada Safety Code 6. The guidelines include a substantial safety margin designed into the limit to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated so as to avoid contact with the antennas by the end user. We recommend that you set the system in a location where the antennas can remain at least at a minimum distance, as specified, from a user in accordance with the regulatory guidelines that are designed to reduce the overall exposure to a user or operator.

Note Health Canada states that present scientific information does not indicate the need for any special precautions for the use of wireless devices. They recommend that if you are interested in further reducing your exposure, you can easily do so by reorienting antennas away from users by placing the antennas at a greater distance than recommended, or by lowering the transmitter power output.

ISED Radiation Exposure Statement

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20cm de distance entre la source de rayonnement et votre corps

Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne.

CAN ICES-3 (A)/NMB-3(A)

The Country Code Selection feature is disabled for products marketed in the US/Canada.

Additional Information on RF Exposure

You can find additional information on RF exposure in the following links:

- FCC Bulletin 56: Questions and Answers about Biological Effects and Potential Hazards of Radio Frequency Electromagnetic Fields
- FCC Bulletin 65: Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields
- FCC Bulletin 65C (01-01): Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields: Additional Information for Evaluating Compliance for Mobile and Portable Devices with FCC limits for Human Exposure to Radio Frequency Emission

You can obtain additional information from the following organizations:

- World Health Organization Internal Commission on Non-Ionizing Radiation Protection at this URL: https://www.icnirp.org
- United Kingdom, Wi-fi radio waves and health at this URL: https://www.gov.uk/government/publications/wireless-networks-wi-fi-radio-waves-and-health/wi-fi-radio-waves-and-health
- Cellular Telecommunications Association at this URL: https://www.ctia.org/
- The Mobile Manufacturers Forum at this URL: https://www.mwfai.org/

EMC Class A Notices and Warnings

Statement 340—Class A Warning for CISPR 32

Danger Warnung	**Danger** Dies ist ein Produkt der Klasse A. Bei der Verwendung dieses Produkts im Haus- oder Wohnungsbereich kann es zu Funkstörungen kommen. In diesem Fall muss der Benutzer u. U. angemessene Maßnahmen ergreifen.

Declaration of Conformity with Regard to EU Directive 2014/53/EU

The information in this document is applicable to the Cisco IR1101 Series wireless LAN products.

The equipment operates in the following frequency ranges:

- FDD LTE 700 MHz, 850 MHz, 900 MHz, 1700 MHz, 1800 MHz, 2100 MHz, and 2600 MHz
- GPS 1575.42 +/- 1.023, GLONASS 1597.52 - 1605.92, Galileo 1575.42 +/- 2.046, and BeiDou 1561.098 +/- 2.046

National regulations may require operations to be limited to portions of the frequency ranges identified above or at reduced power levels, or both. See the National Restrictions section for complete details.

This declaration is only valid for configurations (combinations of software, firmware and hardware), provided or supported by Cisco Systems for use within the EU or countries that have implemented the EU directives. The use of software or firmware not supported or provided by Cisco Systems may result in the equipment not being compliant with the regulatory requirements.

Table 1: Country Statements

Country	Statement
Български [Bulgarian]	Това оборудване отговаря на съществените изисквания и приложими клаузи на Директива 2014/53/EC.
Česky [Czech]:	Toto zařízení je v souladu se základními požadavky a ostatními odpovídajícími ustanoveními Směrnice 2014/53/EU.
Dansk [Danish]:	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 2014/53/EU.
Deutsch [German]:	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 2014/53/EU.
Eesti [Estonian]:	See seade vastab direktiivi 2014/53/EL olulistele nõuetele ja teistele asjakohastele sätetele.
English:	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
Español [Spanish]:	Este equipo cumple con los requisitos esenciales asi como con otras disposiciones de la Directiva 2014/53/UE.
Ελληνική [Greek]:	Αυτός ο εξοπλισμός είναι σε συμμόρφωση με τις ουσιώδεις απαιτήσεις και άλλες σχετικές διατάξεις της Οδηγίας 2014/53/EE.
Français [French]:	Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 2014/53/UE.
Hrvatski:[Croatian]	Ova oprema je u sukladnosti s bitnim zahtjevima i drugim relevantnim odredbama Direktive 2014/53/EU
Íslenska [Icelandic]:	Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 2014/53/EU.
Italiano [Italian]:	Questo apparato é conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 2014/53/UE.
Latviski [Latvian]:	Šī iekārta atbilst Direktīvas 2014/53/ES būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]:	Šis įrenginys tenkina 2014/53/ES Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.
Nederlands [Dutch]:	Dit apparaat voldoet aan de essentiele eisen en andere van toepassing zijnde bepalingen van de Richtlijn 2014/53/EU.
Malti [Maltese]:	Dan l-apparat huwa konformi mal-ħtiġiet essenzjali u l-provedimenti l-oħra rilevanti tad-Direttiva 2014/53/UE.
Magyar [Hungarian]:	Ez a készülék teljesíti az alapvető követelményeket és más 2014/53/EU irányelvben meghatározott vonatkozó rendelkezéseket.

Country	Statement
Norsk [Norwegian]:	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 2014/53/EU.
Polski [Polish]:	Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi warunkami określonymi Dyrektywą UE: 2014/53/UE.
Português [Portuguese]:	Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 2014/53/UE.
Română [Romanian]	Acest echipament este in conformitate cu cerintele esentiale si cu alte prevederi relevante ale Directivei 2014/53/EU.
Slovensko [Slovenian]:	Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi pogoji Direktive 2014/53/UE.
Slovensky [Slovak]:	Toto zariadenie je v zhode so základnými požiadavkami a inými príslušnými nariadeniami direktív: 2014/53/EÚ.
Suomi [Finnish]:	Tämä laite täyttää direktiivin 2014/53/EU 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 2014/53/EU.
Türk [Turkish]	Bu cihaz 2014/53/EU Direktifi'nin temel gereklerine ve ilgili diğer hükümlerine uygundur.

National Restrictions

In the EU and other European countries, the 2.4-GHz and 5-GHz bands have been made available for use by wireless LANs.

The IR1800 Series is intended for outdoor usage. The equipment operates in the following frequency ranges:

- FDD LTE 700 MHz, 850 MHz, 900 MHz, 1700 MHz, 1800 MHz, 2100 MHz, and 2600 MHz
- GPS 1575.42 +/- 1.023, GLONASS 1597.52 - 1605.92, Galileo 1575.42 +/- 2.046, and BeiDou 1561.098 +/- 2.046

The following sections identify the countries having additional requirements or restrictions.

Italy

This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless this wireless LAN product is operating within the boundaries of the owner's property, its use requires a "general authorization". For details, see:

http://www.comunicazioni.it/it/

Questo prodotto è conforme alla specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all'interno del proprio fondo, l'utilizzo di prodotti Wireless LAN richiede una "Autorizzazione Generale". Consultare

http://www.mise.gov.it/index.php/it/comunicazioni

Latvia

The outdoor usage of the 2.4-GHz band requires an authorization from the Electronic Communications Office. For details, see: http://www.esd.lv.

2,4 GHz frekvenču joslas izmantošanai ārpus telpām nepieciešama atļauja no Elektronisko sakaru direkcijas. Vairāk informācijas: http://www.esd.lv .

Note Although Norway, Switzerland, Liechtenstein, and Turkey are not EU member states, the EU Directive 2014/53/EU has also been implemented in those countries.

Note The antenna gain mentioned does not include cable loss.

Taiwan

BSMI Class A warning

此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策

Statement 1008—Class 1 Laser Product

Warning **Statement 1008—**Class 1 Laser Product

This product is a Class 1 laser product.

Changing Output Power

Changing the power output is allowed only by a trained service professional.

Antennas

The Cisco Catalyst 1101 Rugged Router is a next generation modular industrial router which has a base module with additional pluggable modules that can be added. The plug-in module is referred to as the Pluggable Interface Module (PIM), or the pluggable. The pluggable provides the flexibility of adding different interfaces to the IR1101 platform, for example, a cellular module. These modules are equipped with antenna connectors to allow the use of dedicated (external) antennas available from Cisco.

The following link to the data sheet lists the antennas that can be used by IR1101. All antennas where assessed together with the equipment against the requirements of the R&TTE directive.

https://www.cisco.com/c/en/us/products/collateral/routers/1101-industrial-integrated-services-router/datasheet-c78-741709.html

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.

Note The antenna gain mentioned does not include the cable loss.