

CW9163 Installation Guide

CW9163E-A, CW9163E-B, CW9163E-MR, CW9163E-ROW, CW9163E-Q, CW9163E-Z, CW9163E-E

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The Cisco Wireless CW9163 is an outdoor-rated, enterprise-class 802.11ax cloud-managed access point. The AP is equipped with Tri-Band concurrent radios geared towards low/medium density applications. It will work with different external antennas for required directivity.

About this Guide

This guide provides instructions on how to install and configure your CW9163 access points. This guide also provides mounting instructions and limited troubleshooting procedures. For more wireless installation guides, refer to the wireless installation guides section on our documentation website.

Product Overview

Physical Specifications

CW9163

Interfaces

- 1x 10/100/1000 /2500 BASE-T Ethernet (RJ45)
- Four external N-type female antenna connectors

Power

- 802.3at PoE
- 802.3af in degraded performance mode
- Accurate Current shunt/ Power monitor.
- Power over Ethernet injector sold separately

Note: Actual power consumption may vary depending on the AP usage.

Environment

- Non-Operational mode: Up to 100/165 mph wind (sustained/gust)
- Operating temperature:
 - -40° to +65° C
 - -40° to +55°C (with solar loading)
- Non-operating temperature -40° to +70° C
- IP67 Environmental rating

Security

- ACT2 (Qualify 3 sources: ST/Renesas/Wisekey)
- Supports secure boot

Package Contents

The CW9163 package contains the following:

- CW9163 Cloud-Managed Access Point
- Mount cradle
- Wall screws
- Wall screw anchors
- Grounding screws
- Mounting straps

LED indicator

Your CW9163 is equipped with a multi-color LED light on the bottom edge of the unit to convey information about system functionality and performance:

- Orange - AP is booting (permanent Orange suggests hardware issue)
- Rainbow - AP is initializing/scanning
- Blinking Blue - AP is upgrading
- Green - AP in Gateway mode with no clients
- Blue - AP in Gateway mode with clients
- Blinking Orange - AP can't find uplink

The CW9163 may be operated in "Run Dark" mode for additional security and to reduce the visibility of the access point. In this mode, the LED will not be illuminated. This mode may be enabled through the Meraki dashboard.

Ethernet Port

The CW9163 features one Ethernet port:



This accepts 802.3af power and should be used as the primary uplink to your LAN/WAN.

N-Type antenna attachment ports (4x)

2x N-Type antenna ports are located at the top of the CW9163 and 2x are located at the bottom of the CW9163. The 4 antenna ports are connected to 2.4 GHz and 5 GHz client serving radios respectively. Please see the markings on the AP to verify 2.4GHz and 5GHz ports. In order to ensure the highest performance, ensure antennas connected to the 4 ports have overlapping coverage areas.

Mount plate attachment slots

The mounting slots located on the rear shell of the CW9163 marry to the 4 mounting posts on the mounting plate, securely fastening the CW9163 to the mounting plate.

Factory reset button

The factory reset button is located in a small pin-sized hole just above the PoE Ethernet port of the CW9163. If the button is pressed and held for at least five seconds and then released, the CW9163 will reboot and be restored to its original factory settings by deleting all configuration information stored on the unit.

The Vent

The vent allows pressure equalization between the interior and the environment. This prevents internal condensation and maintains a waterproof seal.

Understanding the CW9163 mount plate

The mount plate is unique to the CW9163. Previous outdoor AP mount plates are not compatible with the CW9163.

Mounting posts (4x)

The mounting slots located in the middle of the mounting plate marry the CW9163 to the mounting plate.

Mounting holes (4x)

The mounting holes located on the 4 outermost corners of the mounting plate allow secure installation of the mounting plate to a surface such as a wall.

Vertical orientation mounting strap slots (2x)

The vertical orientation mounting strap slots located in the middle of the mounting plate secure the mounting plate to a vertical pole using the included mounting straps.

Horizontal orientation mounting strap slots (2x)

The horizontal orientation mounting strap slots located in the middle of the mounting plate secure the mounting plate to a horizontal pole using the included mounting straps.

Release tab

The release tab located at the bottom of the mounting plate. It locks the movement of the AP once attached.

Mount plate attachment screw

The mount plate attachment screw is located at the bottom of the mounting plate. It securely attaches the AP to the mounting plate.

Mount plate grounding post

The mount plate grounding post located on the left side of the mounting plate. Using the included grounding strap, the ground post allows you to ground the unit.

Safety and Warnings

These operations are to be taken with respect to all local laws. Please take the following into consideration for safe operation:

- Power off the unit before you begin. Read the installation instructions before connecting the system to the power source.
- Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.
- Read the wall-mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation to people and damage to the system.
- This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 15 A, 125 Vac, or 10A, 240 Vac.
- Please only power the device with the provided power cables or standard PoE to ensure regulatory compliance.

Pre-Install Preparation

You should complete the following steps before going on-site to perform an installation.

Configure Your Network in Dashboard

The following is a brief overview only of the steps required to add an CW9163 to your network. For detailed instructions about creating, configuring and managing Meraki wireless networks, refer to the online documentation (documentation.meraki.com/mr).

1. Login to <http://dashboard.meraki.com>. If this is your first time, create a new account.
2. Find the network to which you plan to add your APs or create a new network.
3. Add your APs to your network. You will need your Meraki order number (found on your invoice) or the serial number of each AP, which looks like Qxxx-xxxx-xxxx, and is found on the bottom of the unit. You will also need your Enterprise license key, which you should have received via email.
4. Go to the map / floor plan view and place each AP on the map by clicking and dragging it to the location where you plan to mount it.

Check and Upgrade Firmware

To ensure your CW9163 performs optimally immediately following installation, it is recommended that you facilitate a firmware upgrade prior to mounting your CW9163.

1. Attach your CW9163 to PoE enabled wired Internet connection. See the "Power the CW9163" section for details.
2. The CW9163 will turn on and the LED will glow solid orange. If the unit does not require a firmware upgrade, the LED will turn either green (no clients associated) or blue (clients associated) within thirty seconds.

* If the unit requires an upgrade, the LED will begin blinking blue until the upgrade is complete, at which point the LED will turn solid green or blue. You should allow at least a few minutes for the firmware upgrade to complete, depending on the speed of your internet connection.

Check and Configure Firewall Settings

If a firewall is in place, it must allow outgoing connections on particular ports to particular IP addresses. The most current list of outbound ports and IP addresses for your particular organization can be found [here](#).

Assigning IP Addresses to CW9163s

All gateway CW9163s (CW9163s with Ethernet connections to the LAN) must be assigned routable IP addresses. These IP addresses can be dynamically assigned via DHCP or statically assigned.

Dynamic Assignment (Recommended)

When using DHCP, the DHCP server should be configured to assign a static IP address for each MAC address belonging to a Meraki AP. Other features of the wireless network, such as 802.1X authentication, may rely on the property that the APs have static IP addresses.

Static Assignment

Static IPs are assigned using the local web server on each AP. The following procedure describes how to set the static IP:

1. Using a client machine (e.g., a laptop), connect to the AP wirelessly (by associating to any SSID broadcast by the AP) or over a wired connection.
2. If using a wired connection, connect the client machine to the CW9163 either through a PoE switch or a PoE Injector. If using a PoE switch, plug an Ethernet cable into the CW9163's Ethernet jack, and the other end into a PoE switch. Then connect the client machine over Ethernet cable to the PoE switch. If using a PoE Injector, connect the CW9163 to the "PoE" port of the Injector, and the client machine to the "LAN" port.
3. Using a web browser on the client machine, access the AP's built-in web server by browsing to <http://my.meraki.com>. Alternatively, browse to <http://10.128.128.128>.
4. Click on the "Uplink Configuration" tab. Log in. The default login is the serial number (e.g. Qxxx-xxxx-xxxx), with no password (e.g., Q2DD-551C-ZYW3).
5. Configure the static IP address, net mask, gateway IP address and DNS servers that this AP will use on its wired connection.
6. If necessary, reconnect the AP to the LAN.

Static IP via DHCP Reservations

Instead of associating to each Meraki AP individually to configure static IP addresses, an administrator can assign static IP addresses on the upstream DHCP server. Through "DHCP reservations," IP addresses are "reserved" for the MAC addresses of the Meraki APs. Please consult the documentation for the DHCP server to configure DHCP reservations.

Collect Tools

You will need the following tools to perform an installation:

Required



Flat-head
screwdriver



Phillips
screwdriver



Drill with appropriate bits
for mounting wall anchors
(if mounting to a wall)

Recommended



Tin snips
(if mounting with hose clamps)



Power screwdriver with 5/16"
(8 mm) nut driver, Phillips & flat heads

Collect Additional Hardware for Installation

You will need the following tools to perform an installation:

- Network cables with RJ45 connectors long enough for your particular mounting location
- 802.3af PoE power source (either PoE switch or Meraki PoE Injector)
- Connection to the internet (if you are setting up your CW9163 as a gateway to the internet)
- Appropriately sized metal straps (if mounting to a pole larger than 3.9" in diameter)
- Specialized mounting hardware if mounting to surface other than wood, stucco or stone

Installation Instructions

Warning: Due to the heat dissipation in the back of APs during normal operation, please do not stack powered on APs on top of each other during pre-installation to avoid heat damage.

Choose Your Mounting Location

A good mounting location is important to getting the best performance out of your CW9163 access point. Keep the following in mind:

1. The device should have unobstructed line of sight to most coverage areas.
2. Power over Ethernet supports a maximum cable length of 300 ft (100 m).
3. If being used in a mesh deployment, the CW9163 should have line of sight to at least two other Meraki devices.
4. The antennas should be as unobstructed as possible. Make sure that there is clearance around the CW9163 for installation of all of your chosen antennas.

Install the CW9163

For most mounting scenarios, the CW9163 mount cradle provides a quick, simple, and flexible means of mounting your device. The installation should be done in two steps. First, install the mount cradle to your selected location. Then, attach the CW9163 to the mount cradle.

Remove the Mount Plate from the Access Point

Before installing the mount plate, you must remove it from the back of the access point.

1. Unscrew the mount plate attachment screw.
2. Lift the mount plate release tab upwards.
3. While holding the mount plate release tab up, slide the mount plate off the access point in the direction shown below.

Attach the mount cradle

The CW9163 mount plate can be used to install your access point in a wide range of scenarios.

Wall or Solid Ceiling Mount Using mount cradle

Using included wall anchors and screws attach the mount plate to your mounting wall or ceiling.

It is recommended that the CW9163 be mounted to a wall or solid ceiling using the mount plate for physical security reasons.

Attaching the antennas to the AP

Attaching the AP to the mounting bracket

Antennas

Choose the antenna based on the install location and designed area of coverage. The datasheet includes a list of certified antennas. 3rd party antennas may be used but it is the responsibility of the end customer/partner to ensure operation is within regulatory compliance.

Reminder: Since the CW9163 requires one antenna for each band please ensure that the antennas are aimed in the same coverage area.

Antenna selection

Meraki offers a number of antenna options for the CW9163 access point. The CW9163 features dual band antenna ports thus dual band antennas should be paired with the AP. Below is a highlight of the different antenna types and their applications. It is always best practice to consult with a Cisco SE or Partner in to select the best antenna for the unique design.

Omni Directional

Omni directional antennas are best for pole mounts applications and for mesh networks. Use omni directional antennas when designing to cover 360 degrees around the Access Point.

Sector Antenna

Sector antennas are ideal for building mounts as they target the signal away from the interior spaces of the building and focus the energy to the larger outdoor space. This antenna is ideal for exterior building use but may also be used for some mesh network designs.

Patch Antenna

Patch antennas are ideal for Access points mounted on a high ceiling and is intended to cover a large space. This antenna is ideal for warehouses.

Stadium Patch Antenna

A stadium patch antenna is ideal for a high density AP design with expected high user per sqft. Examples of this are in stadiums where 1 AP is designed to cover a section and a event center where there is high user per sqft.

Please select the right antenna in Dashboard when adding the CW9163 to a network. Maximum TX power will depend on the antenna selection made in Dashboard.

Aim Antennas

If you are using directional antennas, aim them appropriately to ensure optimal performance for your specific network topography. Omnidirectional antennas perform best in a mesh network when oriented vertically. Patch and sector antennas should be angled in the direction of the desired coverage area.

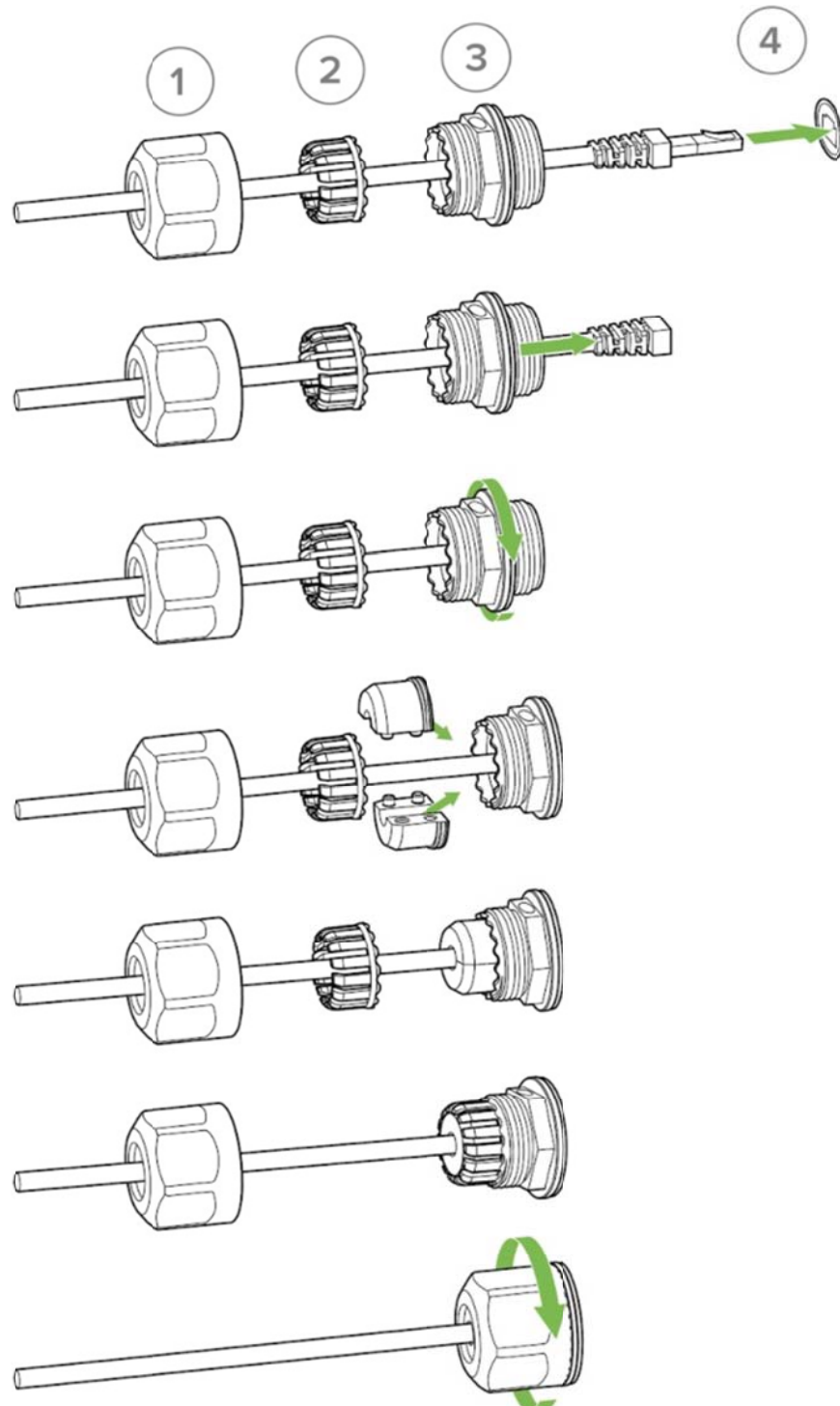
Attach Antennas

Remove protective plastic covers from all four N-type RF connectors. Attach appropriate antennas (and protective boots if included).

Power the CW9163

1. Route the Ethernet cable from the PoE Injector "OUT" port or from a PoE enabled switch to the CW9163.

2. Install a Cable Gland on the CW9163 end of the cable.



3. Plug the Ethernet cable into the Ethernet port of the Meraki CW9163.
 - a. Connect the cable to the Ethernet port on the CW9163.
 - b. Screw the gland body into the threaded hole of the port. Use an adjustable wrench to make sure the gland body is fully seated in the hole.
 - c. Insert the split ring gasket into the gland body.
 - d. Screw the cap tightly onto the gland. You may need a wrench to fully tighten the cap, but take care not to damage the cable in the process.

Powering the CW9163 with the Meraki 802.3at Power over Ethernet Injector (sold separately)

1. Plug the power cord into the PoE Injector and the other end into wall power.
2. Plug an Ethernet cable that is connected to an active Ethernet connection into the "IN" port on the injector.
3. Route Ethernet cable from the "OUT" port on the injector to the PoE labeled port in the cable bay of the CW9163.

CW9163 requires only 802.3af power to operate in normal mode.

Verify Device Functionality and Test Network Coverage

1. Check LEDs
 - a. The Power LED should be solid green (or blue, if clients are connected). If it is flashing blue, the firmware is automatically upgrading and the LED should turn green when the upgrade is completed (normally within a few minutes). See the "LED Indicators" section for more details. .
 - b. Note: Your CW9163 must have an active route to the Internet to check and upgrade its firmware.
2. Verify access point connectivity

- a. Use any 802.11 client device to connect to the CW9163 and verify proper connectivity using the client's web browser.
3. Check network coverage
4. Confirm that you have good signal strength throughout your coverage area. You can use the signal strength meter on a laptop, smart phone, or other wireless device.

Troubleshooting

Reference the MR Product Page for additional information and troubleshooting tips.

Support and Additional Information

If issues are encountered with device installation or additional help is required, **contact Meraki Support** by logging in to **dashboard.meraki.com** and opening a case by visiting the **Get Help** section.

- The equipment is intended for industrial or other commercial activities.
- The equipment is used in areas without exposure to harmful and dangerous production factors, unless otherwise specified in the operational documentation and/or on the equipment labeling.
- The equipment is not for domestic use. The equipment is intended for operation without the constant presence of maintenance personnel.
- The equipment is subject to installation and maintenance by specialists with the appropriate qualifications, sufficient specialized knowledge, and skills.
- Rules and conditions for the sale of equipment are determined by the terms of contracts concluded by Cisco or authorized Cisco partners with equipment buyers.
- Disposal of a technical device at the end of its service life should be carried out in accordance with the requirements of all state regulations and laws.
- Do not throw in the device with household waste. The technical equipment is subject to storage and disposal in accordance with the organization's disposal procedure.

- The equipment should be stored in its original packaging in a room protected from atmospheric precipitation. The permissible temperature and humidity ranges during storage are specified in the Operation (Installation) Manual.
- Transportation of equipment should be carried out in the original packaging in covered vehicles by any means of transport. The temperature and humidity during transportation must comply with the permissible established ranges of temperature and humidity during storage (in the off state) specified in the Operation Manual (Installation).

For additional information on Meraki hardware and for other installation guides, please refer following configuration guides.

Port profiles

Link Aggregation

to [https://documentation.meraki.com/MR/Client Addressing and Bridging/MR Link Aggregation Configuration Guide](https://documentation.meraki.com/MR/Client_Addressing_and_Bridging/MR_Link_Aggregation_Configuration_Guide)

Regulatory Information

Europe – EU/UK Declaration of Conformity

This device complies with the essential requirements of the RED 2014/53/EU and Radio Equipment Regulations 2017

. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the RED 2014/53/EU and Radio Equipment Regulations 2017:

:

Radio: EN 300 328, EN 301 893, EN300 440

EMC: EN 301 489-1, EN 301 489-17, EN 301 489-19

Safety: EN 62368-1

Exposure: EN 505385, EN 50665, EN IEC 62311

Emissions: EN 55032, EN 61000-3-2,

EN 61000-3-3, EN55035

Immunity: EN 61000-4-2, 4-3,

EN 61000-4-4, EN 61000-4-5,
EN 61000-4-6, EN 61000-4-11

see meraki.cisco.com/compliance

2412-2472 MHz max power : 19.98 EIRP

5500-5700 MHz max power : 29.99 EIRP

5745-5825 MHz max power : 13.96 EIRP

2402-2480 MHz max power : 9.91 EIRP

This device is a 2.4 GHz and 5 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries with the following restrictions:

Denmark

The band 5150-5350 MHz is also allowed for outdoor usage.

I Danmark må frekvensbåndet 5150-5350 også anvendes udendørs.

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".

Questo prodotto è conforme alle specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all

l'interno del proprio fondo, l'utilizzo di prodotti Wireless LAN richiede una "Autorizzazione Generale".

Latvia

The outdoor usage of the 2.4 GHz band requires an authorization from the Electronic Communications Office.

2.4 GHz frekvenču joslas izmantošanai ārpus telpām nepieciešama atļauja no Elektronisko sakaru direkcijas.

Български (Bulgarian):

Настоящото Cisco Systems, Inc. декларира, че това безжичното устройство е в съответствие със съществените изисквания и другите приложими разпоредби на Директива 2014/53/EU.

Česky (Czech):

Cisco Systems, Inc. tímto prohlašuje, že tento wireless device je ve shodě se základními požadavky a dalšími příslušným ustanoveními směrnice.

Dansk (Danish):

Undertegnede Cisco Systems, Inc. erklærer herved, at følgende udstyr wireless device overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU.

Deutsch (German):

Hiermit erklärt Cisco Systems, Inc. dass sich das Gerät wireless device in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EU befindet.

Eesti (Estonian):

Käesolevaga kinnitab Cisco Systems, Inc. seadme seadme wireless device vastavust direktiivi 2014/53/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele.

English:

Hereby, Cisco Systems, Inc. declares that this wireless device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

Español (Spanish):

Por medio de la presente Cisco Systems, Inc. declara que el wireless device cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU.

Ελληνική (Greek):

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Cisco Systems, Inc. ΔΗΛΩΝΕΙ ΟΤΙ wireless device ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU.

Français (French):

Par la présente Cisco Systems, Inc. déclare que l'appareil wireless device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU.

Ícelenska (Icelandic):

Hér, Cisco Systems, Inc. yfir að þráðlaus tæki er í samræmi við grunnkröfur og önnur viðeigandi ákvæði tilskipunar 2014/53/EU.

Italiano (Italian):

Con la presente Cisco Systems, Inc. dichiara che questo wireless device è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU.

Latviski (Latvian):

Ar šo Cisco Systems, Inc. deklarē, ka wireless device atbilst Direktīvas 2014/53/EU būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių (Lithuanian):

Šiuo Cisco Systems, Inc. deklaruoją, kad šis wireless device atitinka esminius reikalavimus ir kitas 2014/53/EU Direktyvos nuostatas.

Nederland (Dutch):

Hierbij verklaart Cisco Systems, Inc. dat het toestel wireless device in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.

Malti (Maltese):

Hawnhekk, Cisco Systems, Inc. jiddikjara li dan wireless device jikkonforma mal-ħtigijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fi d-Direttiva 2014/53/EU.

Magyar (Hungarian):

Alulírott, Cisco Systems, Inc. nyilatkozom, hogy a wireless device megfelel a vonatkozó alapvető követelményeknek és az 2014/53/EU irányelv egyéb előírásainak.

Norsk (Norwegian):

Erklærer herved Cisco Systems, Inc. at denne trådløse enheten er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EU.

Polski (Polish):

Niniejszym Cisco Systems, Inc. deklaruje że to urządzenie bezprzewodowe jest zgodne z zasadniczymi wymaganiami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2014/53/EU

Português (Portuguese):

Cisco Systems, Inc. declara que este wireless device está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU.

Română (Romanian):

Prin prezenta, Cisco Systems, Inc. declară că acest dispozitiv fără fir este în conformitate cu cerințele esențiale și alte prevederi relevante ale Directivei 2014/53/EU.

Slovensko (Slovenian):

Cisco Systems, Inc. izjavlja, da je ta wireless device v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/EU.

Slovensky (Slovak):

Cisco Systems, Inc. týmto vyhlasuje, že wireless device splna základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/EU.

Suomi (Finnish):

Cisco Systems, Inc. vakuuttaa täten että wireless device tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svenska (Swedish):

Härmed intygar Cisco Systems, Inc. att denna wireless device står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår direktiv 2014/53/EU

CE Marking

The following CE Mark is affixed to the equipment and its packaging:



EU/UK Radiation Exposure Statement

This equipment complies with EU/UK radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm

between the radiator and your body.

U.S. Regulatory Wireless Notice

FCC Compliance Statement

This device complies with 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.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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 the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 59 cm between the radiator & your body.
-

FCC Caution

Any changes or modifications not expressly approved by Cisco Systems, Inc. could void the user's authority to operate this equipment. This Transmitter must not be co-located or operation in conjunction with any other antenna or transmitter.

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 59 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IEEE 802.11b or 802.11g operation of this product in the USA is firmware-limited to channels 1 through 11.

The operation of this device is prohibited on oil platforms, cars, trains, boats, and aircraft. Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.

Attn: U-NII Coordination

or online at <https://www.fcc.gov/labhelp>

Canadian Regulatory Wireless Notice

Industry Canada Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-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.

Cet appareil contient des émetteurs / récepteurs exempts de licence qui sont conformes au (x) RSS (s) exemptés de licence d'Innovation, Sciences et Développement économique Canada.

L'opération est soumise aux deux conditions suivantes:

- (1) Cet appareil ne doit pas provoquer d'interférences.*
- (2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.*

Industry Canada Caution

- (i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Avertissement:

- (i) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

This radio transmitter [6961A-600191010] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio (6961A-600191010) a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal d'antenne. Les types d'antennes non inclus dans cette liste qui ont un gain supérieur au gain maximal indiqué pour tout type listé sont strictement interdits pour une utilisation avec cet appareil.

The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit.

le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5250-5350 MHz et 5470-5725 MHz doit se conformer à la limite de p.i.r.e.

The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.

le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5725-5850 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

Devices shall not be used for control of or communications with unmanned aircraft systems.

Les appareils ne doivent pas être utilisés pour contrôler ou communiquer avec des systèmes d'aéronefs sans pilote.

Operation on oil platforms, automobiles, trains, maritime vessels and aircraft shall be prohibited.

L'exploitation sur les plates-formes pétrolières, les automobiles, les trains, les navires maritimes et les aéronefs est interdite.

The antenna height shall be determined by the installer or operator of the standard-power access point or fixed client device, or by automatic means. This information shall be stored internally in the device.

Provision of accurate device information is mandatory.

La hauteur de l'antenne doit être déterminée par l'installateur ou l'opérateur du point d'accès à puissance standard ou de l'appareil client fixe, ou par des moyens automatiques. Ces informations doivent être stockées en interne dans l'appareil. La fourniture d'informations précises sur l'appareil est obligatoire.

Ant.	2.4GHz Port	5GHz Port	Bluetooth	GPS	Brand	Model Name	Antenna Type	Connector	Remark	Gain (dBi)
1	2	2	-	-	CISCO	CW-ANT-O1-NS	Dipole		External Antenna	Note 1
2	1	1	-	-	CISCO	CW-ANT-O1-NS	Dipole		External Antenna	
3	-	-	-	-	CISCO	CW-ANT-O1-NS	Dipole		External Antenna	
4	-	-	-	-	CISCO	CW-ANT-O1-NS	Dipole		External Antenna	
5	1	1	-	-	AWAN	A8M6P-100005	PIFA		Internal Antenna	
6	-	-	1	-	AWAN	A8M6P-100003	PIFA		Internal Antenna	
7	-	-	-	1	AWAN	A8M6P-100004	PIFA		Internal Antenna	
8	-	-	-	2	CISCO	CW-ANT-GPS2	Patch		External Antenna	

Note1:

Ant.	Gain (dBi)							
	2.4GHz	5GHz UNII 1	5GHz UNII 2A	5GHz UNII 2C	5GHz UNII 3	6GHz UNII 5 ~ UNII 8	Bluetooth	GPS
1	4	8	8	8	8	-	-	-
2	4	8	8	8	8	-	-	-
3	-	-	-	-	-	8	-	-
4	-	-	-	-	-	8	-	-
5	4.9	3	3	3.1	3	-	-	-
6	-	-	-	-	-	-	5.7	-
7	-	-	-	-	-	-	-	3.7
8	-	-	-	-	-	-	-	3.18

Industry Canada Radiation Exposure

Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 37 cm between the radiator & your body.

Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 37 cm de distance entre la source de rayonnement et votre corps.

Australia Radiation Exposure Statement

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

VCCI Statement for Japan

警告 この装置は、クラスB情報技術装置で

す。この装置は、家庭環境で使用するこ

を目的としていますが、この装置がラ

ジオやテレビジョン受信機に近接して使

用されると、受信障害を引き起こすこ

とがあります。取扱説明書に従って正し

い取り扱いをしてください。VCCI-B

Warning This is a Class B product based on

the standard of the Voluntary Control

Council for Interference from
Information Technology Equipment
(VCCI). If this is used near a radio
or television receiver in a domestic
environment, it may cause radio
interference. Install and use the
equipment according to the
instruction manual.

Taiwan Wireless Statements

取得審驗證明之低功率射頻器材，非經核准，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。低功率射頻器材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。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材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。

應避免影響附近雷達系統之操作

Brazil Wireless Statement

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

This equipment operates on a secondary basis and

consequently must accept harmful interference, including interference from stations of the same kind. This equipment may not cause harmful interference to systems operating on a primary basis.

1) Brazil RF Statement

"Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Para maiores informações, consulte o site da ANATEL – www.anatel.gov.br")

2) MX Statement

La operación de este equipo está sujeta a las siguientes dos condiciones:

- (1) Es posible que este equipo o dispositivo no cause interferencia perjudicial y
- (2) Este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

3) For Mexico, in case of this equipment uses external antennas for BT/WIFI you need to add this other legend:

Gx dBi: antenna power in dBi.

Zy ohms: antenna impedance.

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de Gx dBi.

El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que Gx dBi quedan prohibidas. La impedancia requerida de la antena es de Zy ohms