Aruba 303 Series Campus Access Points

Installation Guide

The Aruba 303 Series campus access points support IEEE802.11ac Wave 2, delivering high performance with the MU-MIMO (Multi-User Multiple-Input, Multiple-Output) technology, while also supporting 802.11a/b/g /n wireless services. The 303 Series access points can be deployed in either a controller-based (ArubaOS) or controller-less (InstantOS) deployment mode.

The 303 Series access points provide the following capabilities:
- IEEE 802.11a/b/g/n/ac operation as a wireless access point
- IEEE 802.11a/b/g/n/ac operation as a wireless air monitor
- Compatibility with IEEE 802.3af PoE
- Integrated Bluetooth Low Energy (BLE) radio

Package Contents

- 303 Series Access Point
- Ceiling mount bracket (Spare: AP-220-MNT-C1 mount kit)

NOTE

Inform your supplier if there are any incorrect, missing, or damaged parts. If possible, retain the carton, including the original packing materials. Use these materials to repack and return the unit to the supplier if needed.

Hardware Overview

The following sections outline the hardware components of the 303 Series access points.

Figure 1 *303 Series (front view)*
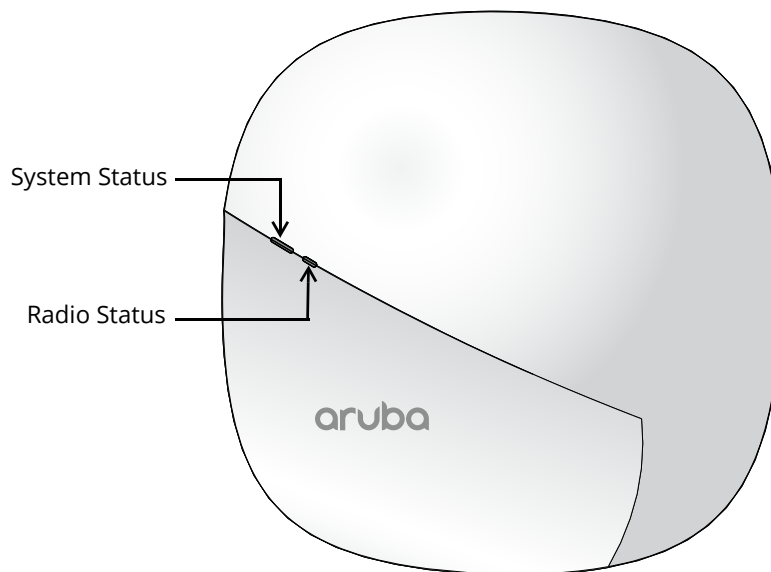
LED

The 303 Series access points have two LEDs that indicate the system and radio status of the device. These two LEDs can be configured via ArubaOS or Aruba Instant software into three separate modes:

- Normal mode (by default): See Table 1
- Both LEDs off
- Blink mode: Both LEDs blink green (synchronized)

**Table 1** *303 Series Access Point LEDs Status in Normal Mode*

LED	Color/State	Meaning
System Status	Off	Device powered off
	Green- Blinking[1]	Device booting, not ready for use
	Green- Solid	Device ready for use, no restrictions
	Green- Flashing[2]	Device ready for use, uplink negotiated in sub optimal speed (<1Gbps)
	Red- Solid	System error condition - immediate action required
Radio Status	Off	Device powered off, or both radios disabled
	Green- Solid	Both radios enabled in access mode
	Green- Blinking	One radio enabled in access mode, other disabled
	Amber- Solid	Both radios enabled in monitor mode
	Amber- Blinking	One radio enabled in monitor mode, other disabled
	Alternating[3]	- Green: one radio in access mode - Amber: one radio in monitor mode

1 blinking: one second on, one second off, 2 seconds cycle
2 flashing: mostly on, fraction of a second off, 2 second cycle
3 alternating: one second each color, 2 second cycle

Figure 2 *303 Series (rear view)*

DC Power Socket   E0/POE   Reset   Console

Kensington Lock
Slot
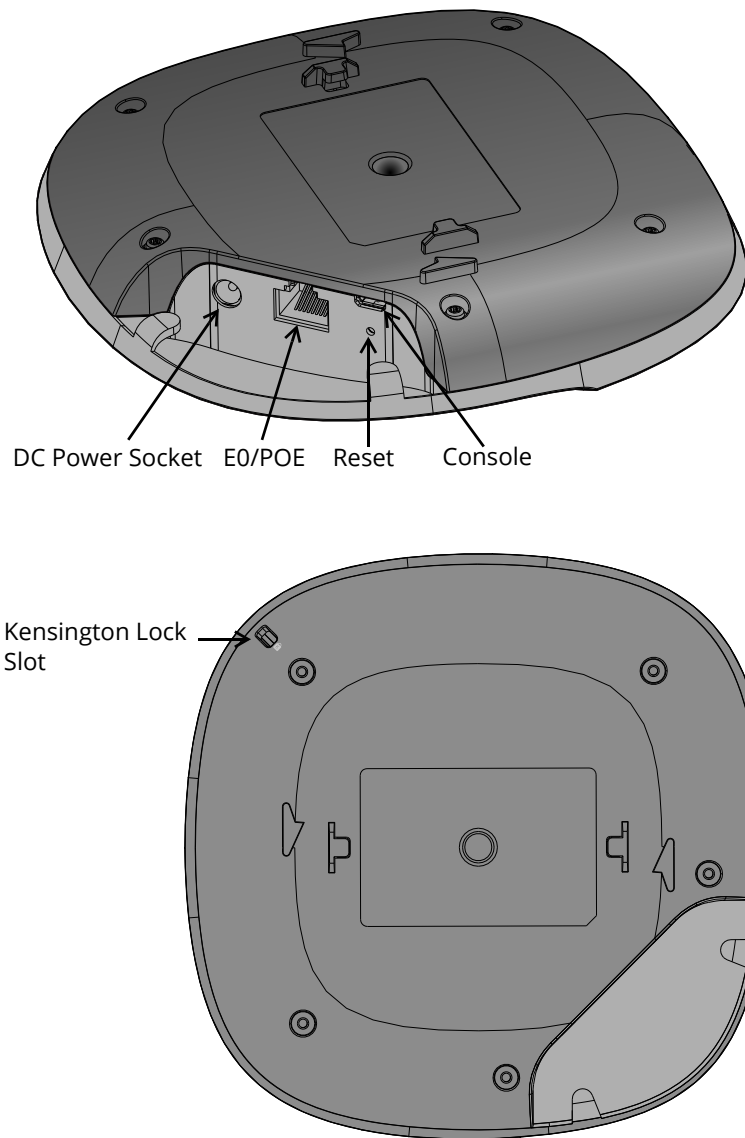
E0/POE Port

The 303 Series access point is equipped with one 10/100/1000Base-T auto-sensing, MDI/MDX Ethernet port (E0) for wired network connectivity. This port supports IEEE 802.3af Power over Ethernet (PoE), accepting 48Vdc (nominal) as a standard defined Powered Device (PD) from a Power Sourcing Equipment (PSE) such as a PoE midspan injector, or network infrastructure that supports PoE.

Console Port

The console port is a Micro-B connector located on the back of this device. A proprietary serial adapter cable (AP-CBL-SERU) is needed to use this interface. It is sold separately to connect the AP to a serial terminal or a laptop for direct local management.

DC Power Socket

If PoE is not available, a proprietary Aruba AP-AC-12V30B power adapter kit (sold separately) can be used to power the 303 Series access points.

Additionally, a locally-sourced AC-to-DC adapter (or any DC source) can be used to power this device, as long as it complies with all applicable local regulatory requirements and the DC interface meets the following specifications:

- 12 Vdc (+/- 5%) and at least 12W
- 2.1/5.5 mm center-positive circular plug, 9.5 mm length

Reset Button

To reset the 303 Series access points to factory default settings, press and hold down the reset button using a small, narrow object such as a paper clip for several seconds while powering up the AP, or for more than 10 seconds during normal operation.

To turn off all the LED display, press and release the reset button using a small, narrow object, such as a paperclip for less than 10 seconds during normal operation of the access point.
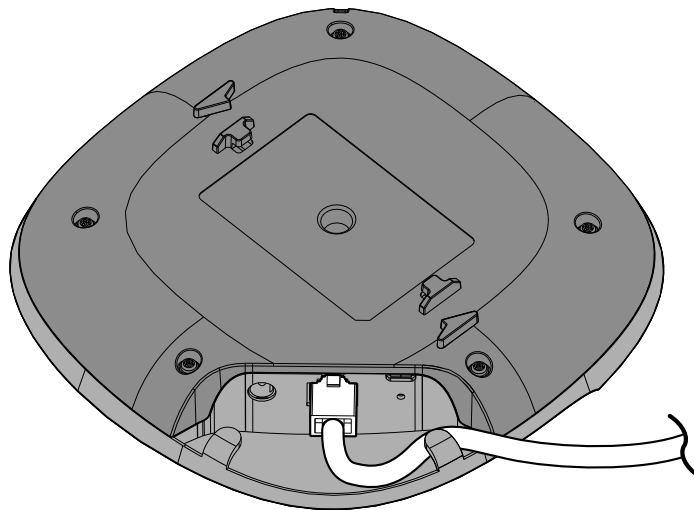
Kensington Lock Slot

The 303 Series access points are equipped with a Kensington lock slot for additional security.

Cable Clips

The cable clips on the rear of the access point is used to organize Ethernet cable, as shown in Figure 3. The use of the cable clips is optional and does not support all types of cables and plugs.

Figure 3 *Cable Clips*

Before You Begin

Refer to the sections below before beginning the installation process.

⚠️ **CAUTION**

FCC Statement: Improper termination of access points installed in the United States configured to non-US model controllers will be in violation of the FCC grant of equipment authorization. Any such willful or intentional violation may result in a requirement by the FCC for immediate termination of operation and may be subject to forfeiture (47 CFR 1.80).

EU Statement:

Lower power radio LAN product operating in 2.4 GHz and 5 GHz bands. Please refer to the *ArubaOS/Instant User Guide* for details on restrictions.

Produit réseau local radio basse puissance operant dans la bande fréquence 2.4 GHz et 5 GHz. Merci de vous referrer au *ArubaOS/Instant User Guide* pour les details des restrictions.

Low Power FunkLAN Produkt, das im 2.4 GHz und im 5 GHz Band arbeitet. Weitere Informationen bezlüglich Einschränkungen finden Sie im *ArubaOS/Instant User Guide.*

Apparati Radio LAN a bassa Potenza, operanti a 2.4 GHz e 5 GHz. Fare riferimento alla *ArubaOS/Instant User Guide* per avere informazioni detagliate sulle restrizioni.

Pre-Installation Checklist

Before installing the 303 Series access point, be sure that you have the following:
- Cat5E or better UTP cable
- One of the following power sources:
    - IEEE 802.3af-compliant Power over Ethernet (PoE) source
    - Aruba AP-AC-12V30B adapter kit (sold separately)

For 303 Series access point running ArubaOS only:
- Aruba controller provisioned on the network
- Layer 2/3 network connectivity to your access point
- One of the following network services:
    - Aruba Discovery Protocol (ADP)
    - DNS server with an "A" record
    - DHCP Server with vendor specific options

Aruba Networks, Inc., in compliance with governmental requirements, has designed this device so that only authorized network administrators can change the settings. For more information about access point configuration, refer to the *ArubaOS Quick Start Guide and ArubaOS User Guide*.

Access points are radio transmission devices and as such are subject to government regulations of the host country. The network administrator(s) is/are responsible for ensuring that configuration and operation of this equipment is in compliance with their country's regulations. For a complete list of approved channels in your country, refer to the *Aruba Downloadable Regulatory Table* at www.arubanetworks.com.

Verifying Pre-Installation Connectivity

The instructions in this section are applicable to the 303 Series access points running ArubaOS only.

Before you install access points in a network environment, make sure that the access points will be able to locate and connect to the controller when they are powered on. Specifically, you must verify the following conditions:
- When connected to the network, each access point is assigned a valid IP address.
- Access points are able to locate the controller.

Refer to the *ArubaOS Quick Start Guide* for instructions on locating and connecting to the controller.

Identifying Specific Installation Locations

Use the access point placement map generated by Aruba's RF Plan software application to determine the proper

installation location(s). Each location should be as close as possible to the center of the intended coverage area and should be free from obstructions or obvious sources of interference. These RF absorbers/reflectors/interference sources will impact RF propagation and should be accounted for during the planning phase and adjusted for in RF plan.

Identifying Known RF Absorbers/Reflectors/Interference Sources

Identifying known RF absorbers, reflectors, and interference sources while in the field during the installation phase is critical. Make sure that these sources are taken into consideration when you attach an access point to its fixed location.

RF absorbers include:

- Cement/concrete—Old concrete has high levels of water dissipation, which dries out the concrete, allowing for potential RF propagation. New concrete has high levels of water concentration in the concrete, blocking RF signals.
- Natural Items—Fish tanks, water fountains, ponds, and trees
- Brick

RF reflectors include:

- Metal Objects—Metal pans between floors, rebar, fire doors, air conditioning/heating ducts, mesh windows, blinds, chain link fences (depending on aperture size), refrigerators, racks, shelves, and filing cabinets.
- Do not place an access point between two air conditioning/heating ducts. Make sure that access points are placed below ducts to avoid RF disturbances.

RF interference sources include:

- Microwave ovens and other 2.4 or 5 GHz objects (such as cordless phones)
- Cordless headset such as those used in call centers or lunch rooms

Installing the Access Point

The 303 Series access points ship with a ceiling mount bracket to attach to a 9/16" or 15/16" ceiling rail. Additional ceiling or wall mount kits are sold separately as accessories.

| **NOTE**	Service to all Aruba products should be performed by trained service personnel only.

| **CAUTION**	The installer is responsible for securing the access point onto the ceiling tile rail in accordance with the steps below. Failure to properly install this product may result in physical injury and/or damage to property.

1. Pull the necessary cables through a prepared hole in the ceiling tile near where the access point will be placed.
2. Place the mount bracket against the back of the access point with the mount bracket at an angle of approximately 30 degrees to the tabs (see Figure 4).
   - Twist the mount bracket clockwise until it snaps into place in the tabs (see Figure 4).

**Figure 4** *Attaching the Ceiling Mount Bracket to the AP*
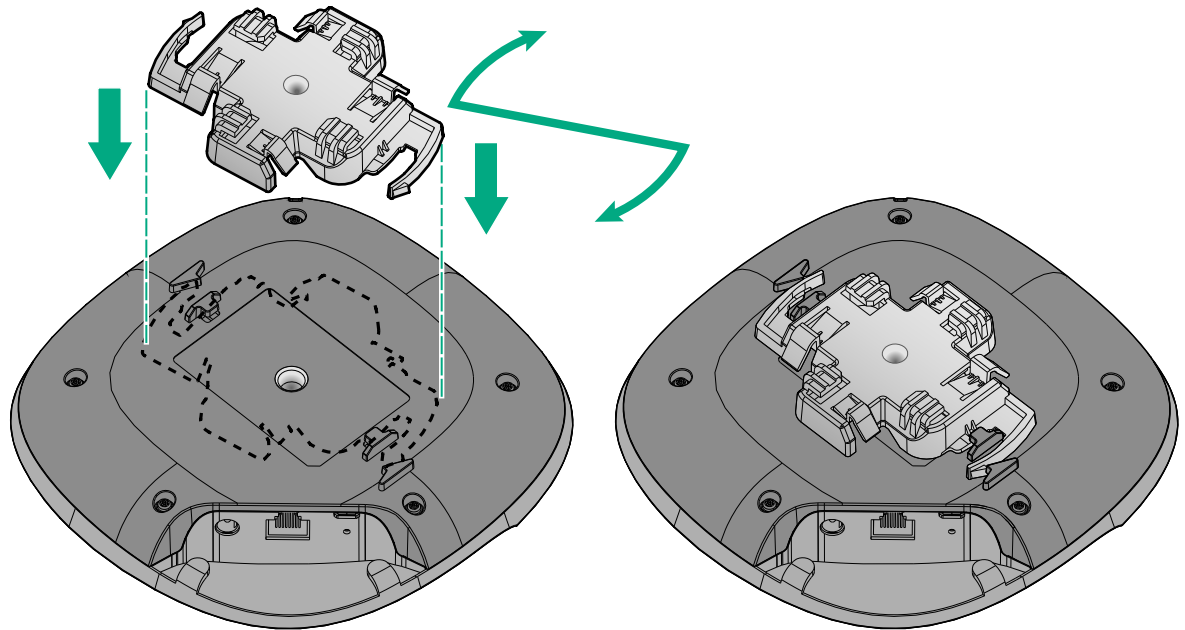
3. Hold the access point next to the ceiling tile rail with the ceiling tile rail mounting slots at approximately a 30-degree angle to the ceiling tile rail (see Figure 5). Make sure that any cable slack is above the ceiling tile.

4. Pushing toward the ceiling tile, rotate the access point clockwise until the device clicks into place on the ceiling tile rail.

Figure 5 *Mounting the Access Point* to a 15/16" ceiling rail
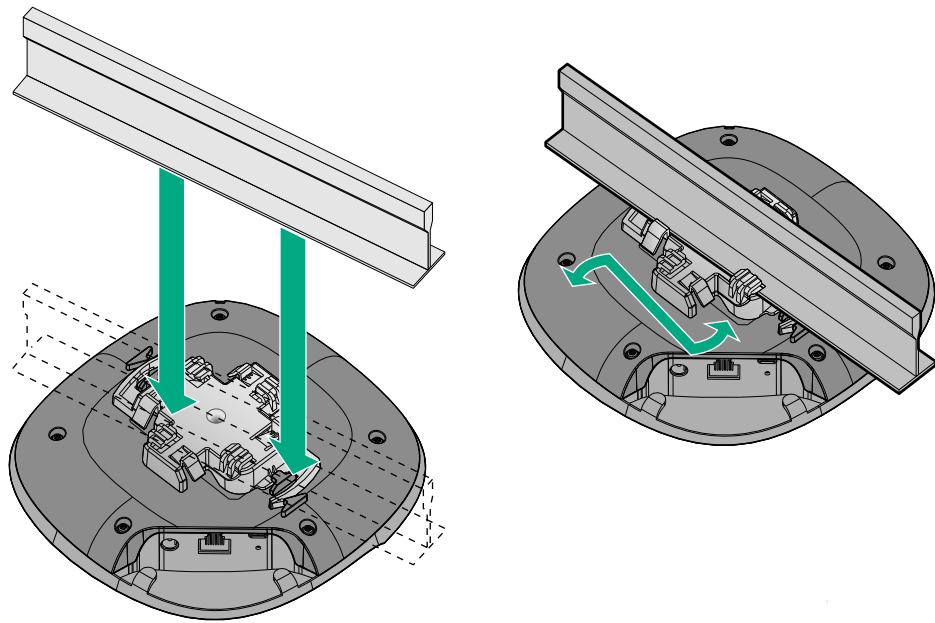
Figure 6 *Mounting the Access Point* to a 9/16" ceiling rail
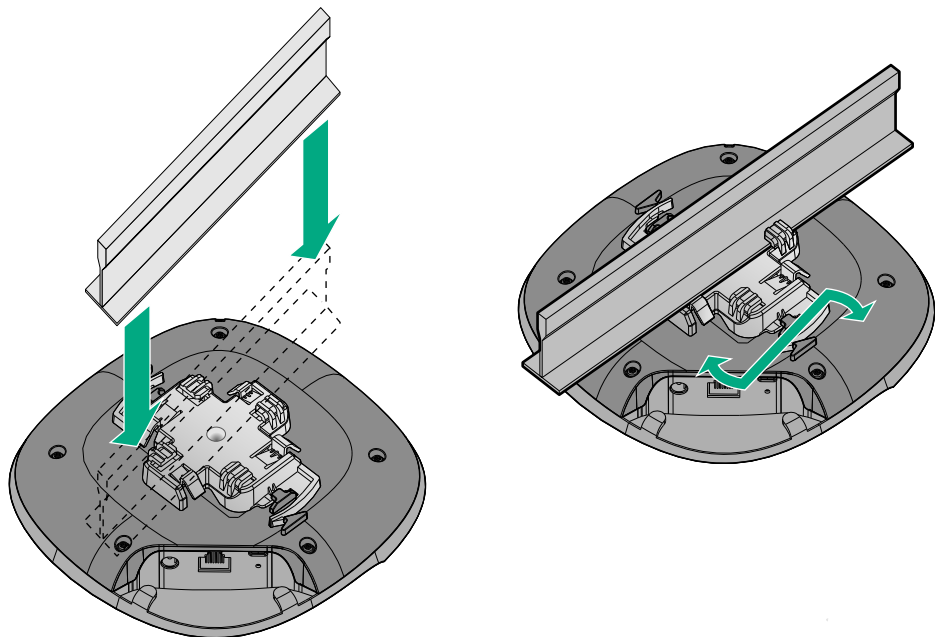
Verifying Post-Installation Connectivity

The integrated LED on the access point can be used to verify that the access point access point is receiving power and initializing successfully (see Table 1). Refer to the *ArubaOS Quick Start Guide* for further details on verifying post-installation network connectivity.

Electrical and Environmental Specifications

For additional specifications on this product, please refer to the product data sheet at www.arubanetworks.com.

Electrical

- Ethernet:
  - One 10/100/1000 Base-T auto-sensing Ethernet interface (RJ-45)
- Power:
  - Direct DC source: 12Vdc nominal, +/- 5%
  - Power over Ethernet (PoE): 802.3af complaint source
  - Connect only to IEC 60950-1 or IEC 60601-1 products and power sources.

> **NOTE:** If a power adapter other than the Aruba-approved adapter is used in the US or Canada, it should be NRTL listed, with an output rated 12Vdc, minimum 1A, marked "LPS" and "Class 2", and suitable for plugging into a standard power receptacle in the US and Canada.

Environmental

- Operating:
  - Temperature: 0°C to +40°C (+32°F to +104°F)
  - Humidity: 5% to 93% non-condensing
- Storage and transport
  - Temperature: -40°C to +70°C (-40°F to +158°F)

Regulatory Information

The following regulatory model names apply to the 303 Series access points:

- AP-303: APIN0303

FCC

> **CAUTION:** **RF Radiation Exposure Statement:** This equipment complies with RF radiation exposure limits. This equipment should be installed and operated with a minimum distance of 13.78 inches (35cm) between the radiator and your body for 2.4 GHz and 5 GHz operations. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

> **CAUTION:** **Déclaration sur les limites d'exposition aux radiofréquences :** cet équipement est conforme aux limites d'exposition aux rayonnements radioélectriques spécifiées par la FCC. Il doit être installé et utilisé à une distance minimale de 35 cm par rapport à votre corps pour les fréquences de 2,4 et 5 GHz. Cet émetteur-récepteur ne doit pas être utilisé ou situé à proximité d'autres antennes ou émetteurs-récepteurs.

> **CAUTION:** The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

FCC Class B Part 15

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. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause interference harmful to radio communications.

Operation is subject to the following conditions:

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

If this equipment does cause interference, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or TV technician for help.

> **CAUTION** — Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

> **CAUTION** — Toute modification effectuée sur cet équipement sans l'autorisation expresse de la partie responsable de la conformité est susceptible d'annuler son droit d'utilisation.

Canada

This Class B digital apparatus meets all of the requirements of the Canadian Interference-Causing Equipment Regulations.
In accordance with Industry Canada regulations, this radio transmitter and receiver may only be used with an antenna, the maximum type and gain of which must be approved by Industry Canada. To reduce potential radio interference, the type of antenna and its gain shall be chosen so that the equivalent isotropic radiated power (EIRP) does not exceed the values necessary for effective communication.
This device complies with Industry Canada's license-exempt RSS regulations. Operation of this device is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation.
When operated in the 5.15 to 5.25 GHz frequency range, this device is restricted to indoor use to reduce the potential for harmful interference with co-channel Mobile Satellite Systems.

Déclaration d'Industrie Canada

Conformément aux réglementations d'Industrie Canada, cet émetteur-récepteur radio doit être utilisé uniquement avec une antenne dont le type et le gain maximal doivent être approuvés par Industrie Canada. Pour réduire les interférences radio potentielles, le type d'antenne et son gain doivent être choisis de façon à ce que la puissance isotrope rayonnée équivalente (PIRE) ne dépasse pas les valeurs nécessaires à une communication efficace.
Ce périphérique est conforme aux règlements RSS exempts de licence d'Industrie Canada. L'utilisation de ce périphérique est soumise aux deux conditions suivantes : (1) ce périphérique ne doit pas provoquer d'interférences, et (2) ce périphérique doit accepter toute interférence, y compris les interférences susceptibles de provoquer un dysfonctionnement.
En cas d'utilisation dans la plage de fréquences de 5,15 à 5,25 GHz, cet appareil doit uniquement être utilisé en intérieur afin de réduire les risques d'interférence avec les systèmes satellites mobiles partageant le même canal.

> **CAUTION** — This equipment complies with IC RSS-102 RF exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 35 cm between the radiator and your body.

> **CAUTION** — 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 35 cm de distance entre la source de rayonnement et votre corps.

> **CAUTION** — Under Industry Canada regulations, when operated in 5150 to 5350 MHz frequency range, this device is restricted to indoor use to reduce the potential for harmful interference with co-channel Mobile Satellite Systems. Users are advised that high power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850MHz and that these radars could cause interference and/or damage to LE-LAN devices.

CAUTION

Conformément aux réglementations d'Industrie Canada, en cas d'utilisation dans la plage de fréquences de 5150 à 5250 MHz, cet appareil doit uniquement être utilisé en intérieur afin de réduire les risques d'interférence avec les systèmes satellites mobiles partageant le même canal. Les utilisateurs êtes avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL

CE EU Regulatory Conformance

Aruba Networks Inc., hereby declares that the 303 Series Wireless Access Points are in compliance with directives listed below:

- Radio Equipment Directive 2014/53/EU
- REACH Regulation (EC) No 1907/2006
- RoHS Directive 2011
- WEEE Directive 2002

The Declaration of Conformity made under Radio Equipment Directive 2014/53/EU is available for viewing at: www.hpe.com/eu/certificates. Select the document that corresponds to your device's model number as it is indicated on the product label.

Users are advised that high power Radars are allocated as primary users of the bands 5250-5350 MHz and 5650-5850 MHz and these Radars could cause interference and/or damage to Licensed Exempt WLAN devices.

Medical

1. Equipment not suitable for use in the presence of flammable mixtures.
2. Connect to only IEC 60950-1 or IEC 60601-1 certified products and power sources. The end user is responsible for the resulting medical system complies with the requirements of IEC 60601-1.
3. Wipe with a dry cloth, no additional maintenance required.
4. No serviceable parts, the unit must be sent back to the manufacturer for repair.
5. No modifications are allowed without Aruba approval.

CAUTION

This device is intended for indoor use, in hallways, breakrooms, office areas of professional medical facilities. This device should not be installed in rooms housing patients.

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通信。

　　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。

NOTE

Expected Service Life 10 years. For additional compliance information, refer to the label on the side of this device.

Brazil

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.

México

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 debeaceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Нормативные требования Евразийского Экономического Союза

HPE Russia: OOO "Хьюлетт Паккард Энтерпрайз" Российская Федерация, 125171, г. Москва, Ленинградское шоссе, 16A, стр.3, Телефон: +7 499 403 4248 Факс: +7 499 403 4677

'HPE Belarus': ИOOO «Хьюлетт-Паккард Бел», Республика Беларусь, 220030, г. Минск, ул. Интернациональная, 36-1, Телефон/факс: +375 17 392 28 20

'HPE Kazakhstan': ТOO «Хьюлетт-Паккард (К)», Республика Казахстан, 050040, г. Алматы, Бостандыкский район, проспект Аль-Фараби, 77/7, Телефон/факс: + 7 727 355 35 50

Kazakhstan

ЖШС "Хьюлетт Паккард Энтерпрайз" Ресей Федерациясы, 125171, Мәскеу, Ленинград тас жолы, 16A блок 3, Телефон: +7 499 403 4248 Факс: +7 499 403 4677

«HEWLETT-PACKARD Bel» ЖШС, Беларусь Республикасы, 220030, Минск қ., Интернациональная көшесі, 36/1, Телефон/факс: +375 17 392 28 20

ЖШС «Хьюлетт-Паккард (К)», Қазақстан Республикасы, 050040, Алматы к., Бостандык ауданы, Әл-Фараби даңғылы, 77/7, Телефон/факс: +7 (727) 355 35 50

Oman

OMAN - TRA
D080320
R/5543/18
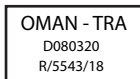
Philippines

NTC

Type-Approval No.
ESD-1817237C

Singapore

Complies with
IDA Standards
DB100427

Contacting Support

Table 2 *Contact Information*

Main Site	arubanetworks.com
Support Site	support.arubanetworks.com
Airheads Social Forums and Knowledge Base	community.arubanetworks.com
North American Telephone	1-800-943-4526 (Toll Free) 1-408-754-1200
International Telephones	arubanetworks.com/support-services/contact-support/
Software Licensing Site	hpe.com/networking/support
End of Support information	arubanetworks.com/support-services/end-of-life-products/end-of-life-policy/
Security Incident Response Team (SIRT)	Site: arubanetworks.com/support-services/security-bulletins/ Email: sirt@arubanetworks.com

Copyright

Open Source Code

This product includes code licensed under the GNU General Public License, the GNU Lesser General Public License, and/or certain other open source licenses. A complete machine-readable copy of the source code corresponding to such code is available upon request. This offer is valid to anyone in receipt of this information and shall expire three years following the date of the final distribution of this product version by Hewlett Packard Enterprise Company. To obtain such source code, send a check or money order in the amount of US $10.00 to:

Hewlett Packard Enterprise Company
Attn: General Counsel
3000 Hanover Street
Palo Alto, CA 94304
USA

Warranty

This hardware product is protected by an Aruba warranty. For more details visit www.hpe.com/us/en/support.html