Aruba 303H Series Hospitality Access Point
Installation Guide

The Aruba AP-303H access points are high-performance dual-radio wireless devices for hospitality and branch deployments.

These access points use Multiple-Input, Multiple-Output (MIMO) technology to provide secure wireless connectivity for both 2.4GHz 802.11 b/g/n and 5GHz 802.11 a/n/ac WiFi.

Alternatively, the wired Ethernet ports located on the bottom of this access point allow users to connect directly to the device when physically linked by an Ethernet cable.

The AP-303H can be attached to a standard single-gang wall box using the mount provided, or converted into a desk-mounted remote access point for branch office deployments using the AP-303H-MNTD mount kit (sold separately).

The AP-303H access point provides the following capabilities:

- Dual wireless transceivers
- 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/at PoE
- Central management configuration
- Supports PoE-in (E0 port)/PoE-out (E3 port)
- Support for selected USB peripherals
- Integrated Bluetooth Low Energy (BLE) radio

Package Contents

- AP-303H Access Point
- Single gang wall-box mounting bracket
- (2x) #6-32 slotted screws
- T8H Torx security screw
- ArubaOS Quick Start Guide

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.

Software

The AP-303H access point requires ArubaOS 6.5.2 or higher. For additional information, refer to the *ArubaOS User Guide* and *ArubaOS Quick Start Guide*.
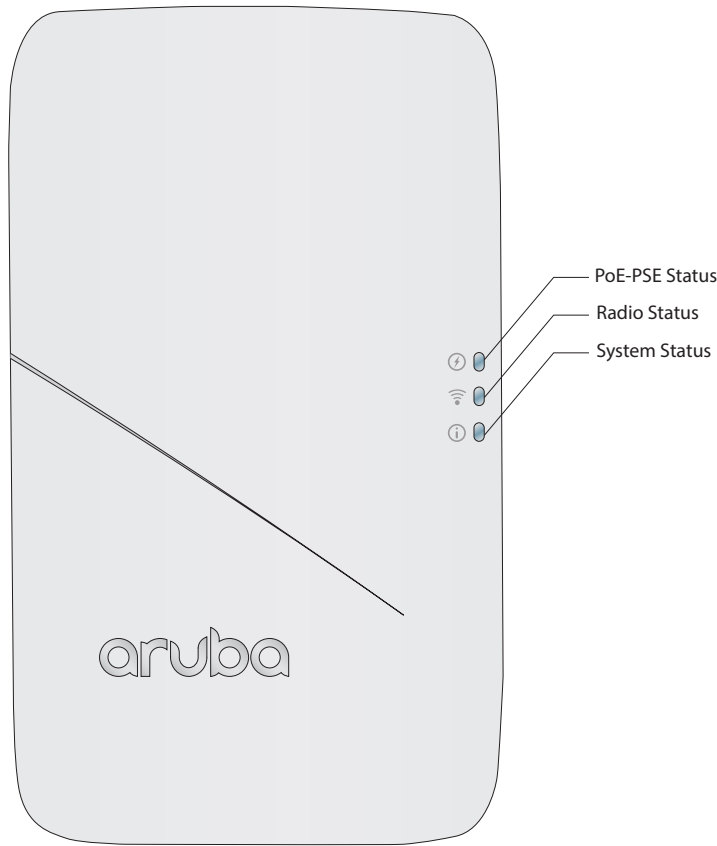
Hardware Overview

The following sections outline the hardware components of the AP-303H access point.

LED

The LED displays located on the front and bottom of the access point indicate the following functions:

Figure 1 *Front*

System Status

The System Status LED indicates the operating condition of the access point, as shown in Table 1.

Table 1 System Status LEDs

Color/State	Meaning
Off	Device is powered off
Green/solid	Device is ready; fully functional
Green/blinking[1]	Device is booting; not ready
Green/flashing[2]	Device is ready; uplink negotiated at suboptimal speed (<1Gbps)
Amber/solid	Device is ready; operating in power-save mode (PoE source: 802.3af).
Amber/flashing	Device is ready; operating in power-save mode, with uplink negotiated at suboptimal speed (<1Gbps)
Red/solid	Error condition

1 blinking: 1s on/1s off
2 flashing: on/off repeated in less than 1s

Radio Status

The Radio Status LED indicates the operating mode of the access point's radios, as shown in Table 2.

Table 2 Radio Status LEDs

Color/State	Meaning
Off	Meets one of the following conditions: ● both radios are disabled ● device is powered off
Green/solid	Both radios enabled in access mode
Green/blinking1	One radio enabled in access mode; one radio disabled
Amber/solid	Both radios enabled in monitor mode
Amber/flashing	Device ready; operating in power-save mode, with uplink negotiated at suboptimal speed (<1Gbps)
Alternating[3]	Error condition

Network Status

The Network Status LED, located on the sides of the E1-E3 ports, indicates activity transmitted to/from the wired ports, as shown in Table 3.

Table 3 Network Status LEDs

Color/State	Meaning
Off	Meets one of the following conditions: ● device is powered off ● port is disabled ● no link/activity
Green/solid	Link established at max speed (1Gbps)
Green/blinking	Activity detected across a max speed link
Amber/solid	Link established at reduced speed (10/100Mbps)
Amber/blinking	Activity detected across a reduced speed link

PoE-PSE Status

The PoE-PSE LED are located above ports E1-E3, and indicate when the access point is operating as Power Sourcing Equipment (PSE), providing Power over Ethernet (PoE) to an external device that is physically connected to the E3 port by Ethernet cable, as shown in Table 4.

Table 4 PoE-PSE Status LEDs

Color/State	Meaning
Off	Access point not supplying PoE, or powered off
Green/solid	Access point supplying power to a connected device
Green/blinking	Negotiating PoE power supplied to a connected device

LED Display Settings

The LEDs have three operating modes that can be selected in the system management software:

- Default mode: Refer to Tables 1-3
- Off mode: LEDs are off
- Blink mode: LEDs blink green
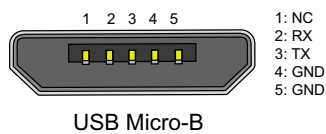
Figure 2 *Back Panel*

⚠️ **CAUTION**
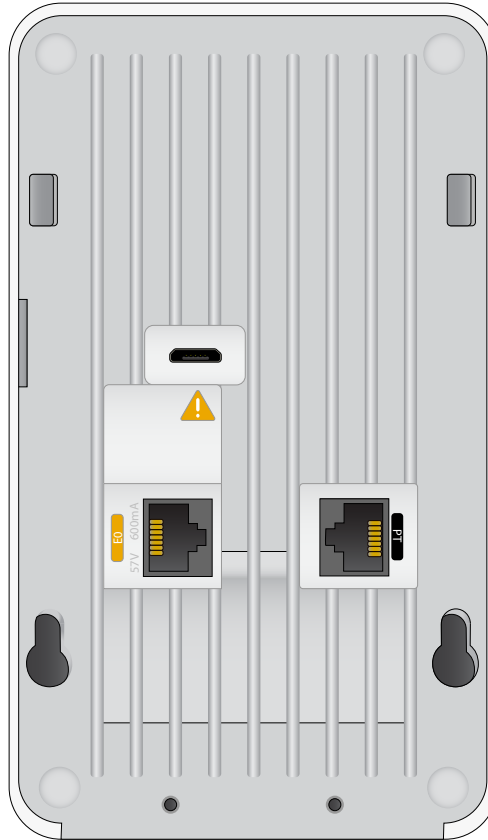
The rear panel of the AP-303H may become hot after extended use.

Console Port

The 5-pin USB Micro-B connector located on the back of the access point allows for direct management of the device when connected to a laptop or serial console. For pin-out details, refer to Figure 3.
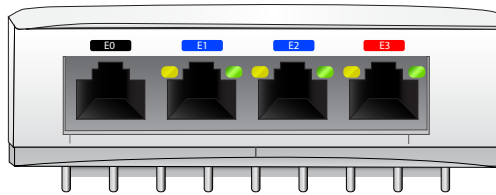
Figure 3 *Console Port Pin-out*


```
1  2  3  4  5      1: NC
                   2: RX
                   3: TX
                   4: GND
                   5: GND
   USB Micro-B
```

Ethernet Ports

The AP-303H access point is equipped with four active Ethernet ports (E0-E3). Refer to Figure 4.

Figure 4 *Bottom*

The E0 port, located at the bottom of the access point is 10/100/1000 Base-T, auto-sensing, MDI/MDX wired-network uplink connectivity RJ45 port. It supports IEEE 802.3af/802.3at PoE as a standard Powered Device (PD) from Power Sourcing Equipment (PSE), such as a midspan injector or a network infrastructure that supports PoE. The E1-E3 ports, located at the bottom of the access point are 10/100/1000 Base-T auto-sensing, MDI/MDX wired-network downlink connectivity RJ45 ports. These ports are used to provide secure network connectivity to wired devices when physically linked using an Ethernet cable. Refer to Figure 5 for port pin-out information.

Additionally, the E3 port supports PoE-out functionality, and is capable of supplying up to 13W to PSE when the access point is operating in 802.3at PoE mode, or powered by a DC source.
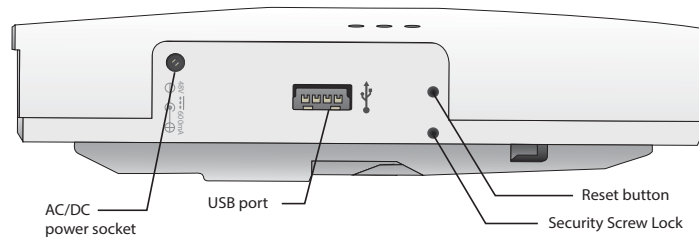
Figure 5 *Gigabit Ethernet Port Pin-Out*
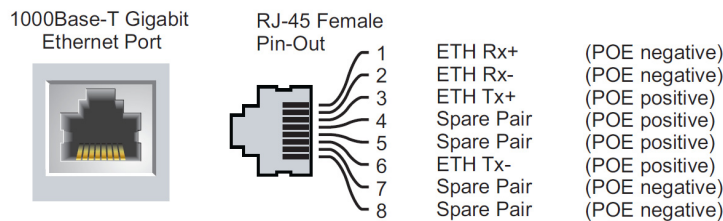
USB Interface

The AP-303H access point is equipped with a USB port that is compatible with cellular modems and Bluetooth Low Energy (BLE) dongles. When active, the USB port can supply up to 5W/1A to a connected device.

Figure 6 *Side*

Push Button

The push button located on the right side of the device can be used to reset the access point to factory default settings or turn off/on the LED display.

- To reset the access point to factory default settings:
  1. Power off the access point.
  2. Press and hold the push button using a small, narrow object, such as a paperclip.
  3. Power-on the access point without releasing the push button. The system status LED will flash within 5 seconds.
  4. Release the push button.

  The system status LED will flash again within 15 seconds indicating that the reset is completed. The access point will now continue to boot with the factory default settings.

- To turn off/on the system status LED:

  During the normal operation of the access point, press the push button using a small, narrow object, such as a paperclip. The system status LED will be turned off/on immediately.

Power Supply

The AP-303H access point has a single 48V DC power connector to
support AC-to-DC power using an AP-AC-48V36C power adapter (sold separately). The power connector port is located on the side of the device, as shown in Figure 6.
The AP-303H access point supports both PoE-in and PoE-out functionality.
The PoE-in (PoE-PD) allows the E0 port to draw power from an 802.3at (preferred) source, or an 802.3af (optional) source.
When powered by an 802.3at or DC power source, the PoE-out (PoE-PSE) functionality is enabled on port E3, supplying a maximum output of 15W to a wired device.
Refer to Table 4 for power output details. PoE-PSE and USB settings can be enabled/disabled through the software's WebUI and CLI.

Table 5 *Power Mode Output*

Power Source	Restrictions
DC (AP-AC-48V36C)	PoE-PSE enabled; USB enabled
802.3at	PoE-PSE enabled; USB disabled
802.3af	PoE-PSE disabled; USB disabled

When both DC and PoE power are simultaneously available, the access point will default to using DC power, while continuing to draw a minimal current from the PoE source. If DC power source is removed, the access point will begin drawing power from the PoE source, allowing for a hitless fail-over when switching between power sources.

Before You Begin

Refer to the sections below before beginning the installation process.

CAUTION

This device must be professionally installed and serviced by a trained ACMP or similar Aruba-certified technician.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.

Tous les points d'accès Aruba doivent être installés professionnellement par un Professionnel en mobilité certifié par Aruba (ACMP). Il incombe au technicien d'installation de veiller à ce qu'une borne de raccordement à la terre conforme avec tous les codes électriques nationaux applicables puisse être utilisée.

Pre-Installation Checklist

Before installing the AP-303H access point, be sure that you have the following:
- Pre-installed wall box
- Cat5E UTP cable with network access installed in the wall box
- One of the following power sources:
    - IEEE 802.3af/at-compliant Power over Ethernet (PoE) source
    - Aruba AP AC-DC adapter kit (sold separately)

One of the following network services:
- Aruba Discovery Protocol (ADP)
- DNS server with an "A" record
- DHCP Server with vendor-specific options

NOTE

Aruba Networks, Inc., in compliance with governmental requirements, has designed the AP-303H access points so that only authorized network administrators can change the settings. For more information about AP configuration, refer to the *ArubaOS Quick Start Guide and ArubaOS User Guide*.

Identifying Specific Installation Locations

When installing the AP-303H access point must be secured to an Aruba-approved wall or to a desk mount kit. This access point should be oriented vertically, with Ethernet ports facing downward to facilitate maximum antenna gain. 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 ar 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 AP-303H is designed to mount into a variety of electrical gang boxes.

1. Begin by removing the existing data wall plate (if applicable).
2. Remove any existing RJ45 connectors (typically snap-in) or cut/remove the UTP cable.
3. Use a short Ethernet cable (sold separately) to connect the E0 port to an RJ45 connector or crimp an RJ45 plug (not supplied) on the cable and insert in the E0 port. Do the same for the PT port, if used.
4. Align the mounting holes of the AP-303H mounting bracket with mounting holes in you gang box, as shown in Figure 7and Figure 8. For worldwide single gang outlet box, the mounting bracket has two sets of mounti holes to meet the individual installation position requirement.

   The applicable standards for the wall boxes are:

   - IEC 60670-1, GB17466, BS4662 and DIN49073 for Worldwide
   - ANSI/NEMA OS 1 and OS 2 for US

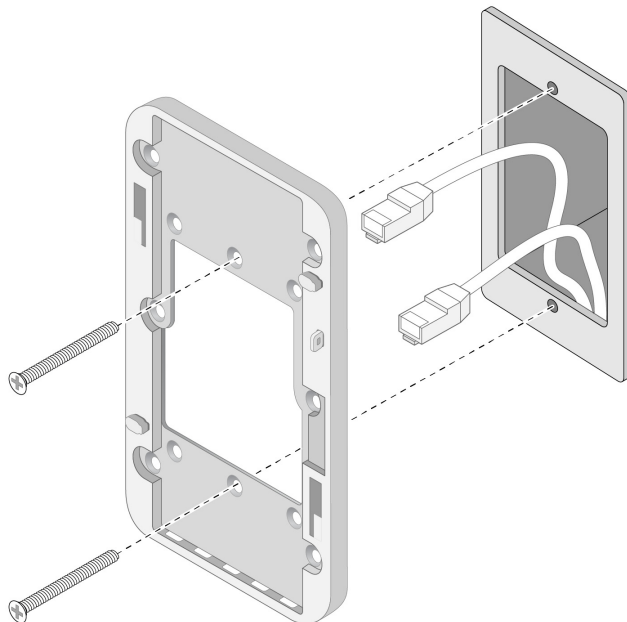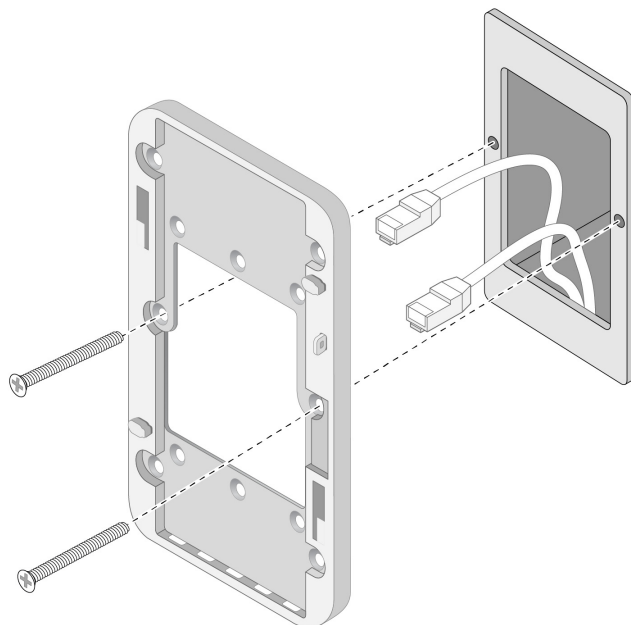**Figure 7** *Bracket to Gang Box (US Single Gang Outlet Box Shown)*

Figure 8 *Bracket to Gang Box (Worldwide Single Gang Outlet Box Shown)*

5. Insert the two included machine screws and tighten them to secure the mounting bracket.
6. Connect any required cables to the rear of the AP-303H.
7. Align the mounting slots on the back of the AP-303H with the corresponding mounting posts on the wall mount as shown in Figure 9.
8. Push the access point against the posts and downward until the posts engage the slots at the top of the slots.

Figure 9 *Attaching AP-303H to Bracket*
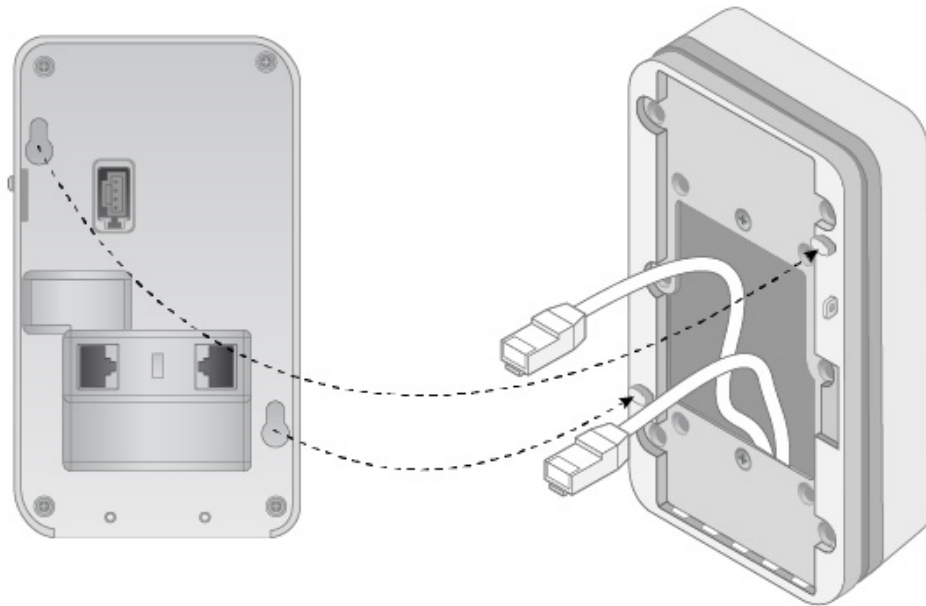
9. Once the access point is fastened onto the wall mount, insert the T8H Torx security screw into the hole located on the upper-right edge of the wall mount and tighten.
10. If not using PoE, connect the AC-DC power adapter (sold separately) to the DC power socket located on the bottom of the AP-303H.

Verifying Post-Installation Connectivity

The integrated LED on the Access point can be used to verify that the access point access point is receiving pow 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/safety_addendum.

CAUTION

All Aruba access points should be professionally installed by an Aruba Certified Mobility Professional (ACMP). The installer is responsible for ensuring that grounding is available and meets applicable national and electrical codes.

Tous les points d'accès Aruba doivent impérativement être installés par un professionnel agréé. Ce dernier doit s'assurer que l'appareil est mis à la terre et que le circuit de mise à la terre est conforme aux codes électriques nationaux en vigueur.

Electrical

- Ethernet:
  - 100/1000 Base-T auto-sensing Ethernet RJ45 interface
  - IEEE 802.3u (100 Base-T). IEEE 802.3ab (1000 Base-T)
  - Power over Ethernet IEEE 802.3at 56VDC (nominal) and 802.3af 48VDC (maximum).
- Power:
  - 48VDC power interference, support powering through an AC-to-DC power adapter (AP-AC-48V36)

- Maximum power consumption with a full PoE-PSE and USB load: 25W (PoE) or 31W (DC)

| NOTE | If a power adapter other than the Aruba-approved adapter is used in the US or Canada, it should be NRTL listed, without an output rated 48VDC, minimum 2A, 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 regulatory model name for AP-303H/IAP-303H access point is **Regulatory model name**.
Aruba Networks provides a multi-language document that contains country-specific restrictions and additional safety and regulatory information for all Aruba access points. This document can be viewed or downloaded at www.arubanetworks.com.

| CAUTION | **RF Radiation Exposure Statement:** This equipment complies with FCC RF radiation exposure limits. This equipment should be installed and operated with a minimum distance of 10.63 inches (27cm) 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. When operated in 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. |

| 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 27 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. 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. |

Medical

1. Equipment not suitable for use in the presence of flammable mixtures.
2. Connect to only IEC 60950-1 or IEC 60601-1 3rd edition certified products and power sources. The end user is responsible for the resulting medical system complies with the requirements of IEC 60601-1 3rd edition.
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.

Taiwan

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. |

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.

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.

Proper Disposal of Aruba Equipment

Dispose of Aruba products per local regulation. For the most current information about Global Environmental Compliance and Aruba products, see our website at www.arubanetworks.com.

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