Aruba 630 Series Campus Access Points

Installation Guide

The tri-radio Aruba 630 Series access points support the IEEE 802.11ax WLAN standard in the 6GHz band (Wi-Fi 6E) as well as the 5GHz and 2.4GHz bands, delivering high performance and capacity with MIMO (Multiple-Input, Multiple-Output) and OFDMA (Orthogonal Frequency Division Multiple Access) technologies, while also supporting IEEE 802.11a/b/g/n/ac wireless services.

Package Contents

- Aruba 630 Series Campus Access Point (with a pre-installed mount bracket)

NOTE

The AP mount bracket attaches to a variety of mount kits (sold separately).

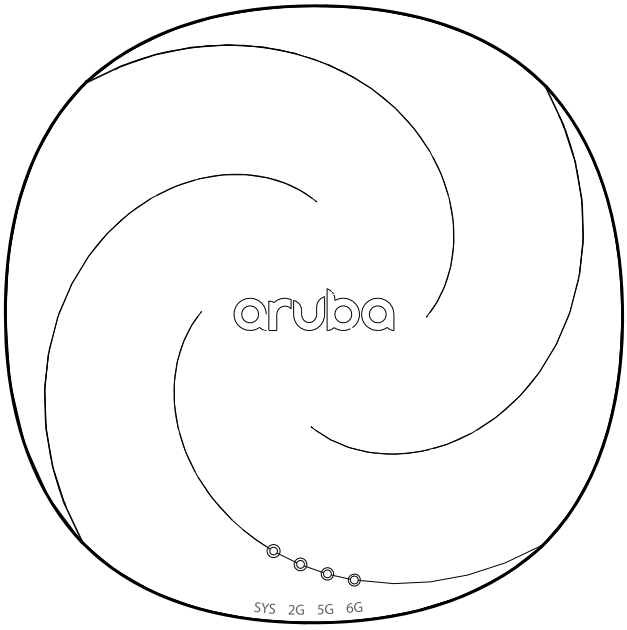
NOTE

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 630 Series access points.

Figure 1 *AP-635 Front View*



LEDs

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

System Status LED

The System Status LED indicates the operating condition of the access point, See Table 1.

Table 1 System Status LED

Color/State	Meaning
Off	Device Powered off
Green- solid	Device ready, fully functional, no network restrictions
Green- blinking [1]	Device booting, not ready
Green- flashing off[2]	Device ready, fully functional, either uplink negotiated in sub-optimal speed (<1Gbps)
Green- flashing on[3]	Device in deep-sleep mode
Amber- solid	Device ready, restricted power mode (limited PoE power available, or IPM restrictions applied), no network restrictions
Amber- flashing off	Device ready, restricted power mode (limited PoE power available, or IPM restrictions applied), uplink negotiated in sub-optimal speed
Red	System error condition - Immediate attention required

1. Blinking: one second on, one second off, 2 seconds cycle.
2. Flashing off: mostly on, fraction of a second off, 2 seconds cycle.
3. Flashing on: mostly off, fraction of a second on, 2 seconds cycle.

2G/5G/6G Radio Status LEDs

The 2G/5G/6G Radio Status LEDs indicate the operating mode of the access point's 2G/5G/6G radios. See Table 2.

Table 2 2G/5G/6G Radio Status LEDs

Color/State	Meaning
Off	Device powered off, or radio disabled
Green- solid	Radio enabled in access mode
Green- flashing off	Radio enabled in uplink or mesh mode
Amber- solid	Radio enabled in monitor or spectrum analysis mode

LED Display Settings

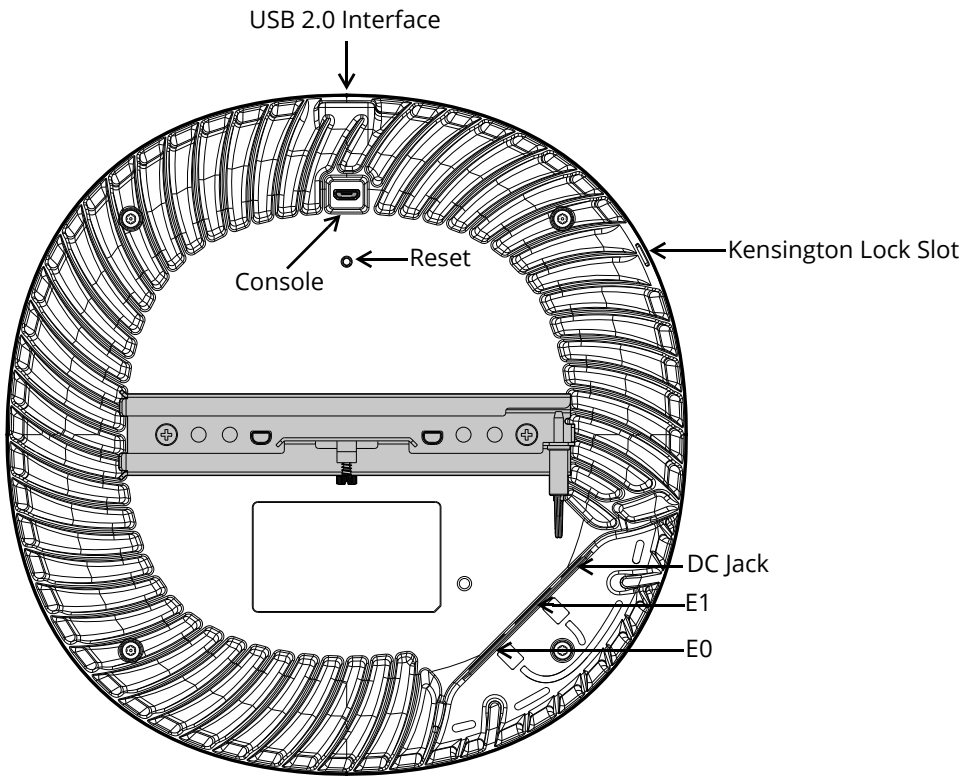
The LEDs have three operating modes that can be selected in the system management software:

- Default mode: refer to Table 1and Table 2
- Off mode: all LEDs are off
- Blink mode: all LEDs blink green (synchronized)

To force the LEDs into off mode or back to software defined mode, press the reset button for a short duration (less than 10 seconds).

Pressing the reset button for longer than 10 seconds may cause the AP to reset and return to factory default state.

Figure 2 AP-635 *Rear View*



Bluetooth 5.0 Low Energy and 802.15.4 Radio

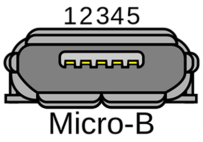
The 630 Series is equipped with an integrated BLE 5.0 and 802.15.4 radio that provides the following capabilities:

- location beacon applications
- wireless console access
- IOT gateway applications

Console Port

The console port is a Micro-B connector located on the back of the 630 Series. Use the proprietary AP-CBL-SERU cable or AP-MOD-SERU module (sold separately) for direct local management of the 630 Series when connected to a serial terminal or laptop. For pin-out details, refer to Figure 3.

Figure 3 *Micro-B Port Pin-out*



1: N/C
2: RXD
3: TXD
4: GND
5: GND

Ethernet Ports

The 630 Series is equipped with two 100/1000/2500Base-T auto-sensing MDI/MDX wired RJ45 Ethernet ports (E0 and E1). The 2.5bps speed complies with NBase-T and 802.3bz specifications. Both ports are compliant with 802.3ab 1000Base–T Gigabit Ethernet and 802.3az (Energy Efficient Ethernet) standards. Both ports support 802.3af, 802.3at and 802.3bt Power over Ethernet compliance to accept power from a POE source, such as a PoE midspan injector, or a network switch.

Kensington Lock Slot

The 630 Series is equipped with a Kensington lock slot for additional physical security.

USB 2.0 Interface

The USB 2.0 interface located on the top of the 630 Series is compatible with selected cellular modems and other peripherals. When active, this interface can supply up to 5W/1A to a connected device.

Reset Button

The reset button can be used to reset the access point to factory default settings or turn off/on the LED display.

- Use one of the following methods to reset the access point to factory default settings:
  - To reset during normal operation:
    1. Hold the reset button for more than 10 seconds while the access point is running.
    2. Release the reset button.
  - To reset during power up, hold the reset button while the access point is powering up.

  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 toggle the LED display between Off and Blinking:

During the normal operation of the access point, shortly press and release the reset button for less than 10 seconds using a small, narrow object, such as a paperclip.

Power

Both E0 and E1 ports support PoE-in (AP is a PoE-PD device), allowing the device to draw power from compliant PoE power sources. If PoE is not available, a proprietary AP-AC2-12B power adapter (sold separately) can be used to power the access point. When both PoE and DC power sources are available, the DC power source takes precedence. In that case, the access point simultaneously draws a minimal current from the PoE source. In the event that the DC source fails, the access point switches to the PoE sources.

The Intelligent Power Monitoring (IPM) feature may also be used to manage the power consumption preferences for this device. When enabled, the user may enable/disable power restrictions for the access point using Aruba's AP management software.
Table 3 lists operational restrictions when the access point is powered by different power options.

Table 3 Power Options and Operational Restrictions

Power Source	IPM	Restrictions
DC power	n/a	No restrictions, all capabilities available
PoE 802.3bt	n/a	No restrictions, all capabilities available
PoE 802.3at	disabled	USB disabled (can be overruled in software)
PoE 802.3af	disabled	USB disabled (can be overruled in software), AP in dual radio mode, E1 or E0 disabled (one without PoE or E1), remaining wired port limited to 1Gbps.
PoE 802.3at	enabled	All capabilities available (features may be disabled per IPM configuration)
PoE 802.3af	enabled	All capabilities available (features may be disabled per IPM configuration)

Before You Begin

Refer to the sections below before beginning the installation process.

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).

Pre-Installation Checklist

Before installing the 630 Series, be sure that you have the following (not included with the AP):

- A mount kit compatible with the AP and mount surface
- Cat5E or better UTP cable with network access
- (Optional) a compatible 12V AC-to-DC power adapter with power cord
- (Optional) a compatible PoE midspan injector with power cord
- (Optional) a compatible snap-on front cover (for easy aesthetic customization)
- (Optional) an AP-CBL-SERU console cable or an AP-MOD-SERU RS232 serial interface module

Also make sure that (at least) one of the following network services is supported:

- Aruba Discovery Protocol (ADP)
- DNS server with an “A” record
- DHCP Server with vendor-specific options

The Aruba 630 Series access point is designed in compliance with governmental requirements so that only authorized network administrators can change the settings. For more information about access point configuration, refer to the *AP Software Quick Start Guide*.

Identifying Specific Installation Locations

Use the access point placement map generated by Aruba 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.

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

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

Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the access point. Otherwise, degradation of the performance of this equipment could result.

Access Point Installation

the Aruba 630 Series access points are designed for ceiling or wall mounted deployments. Several optional mount kits are available to attach the 630 Series to a variety of surfaces. These mount kits are available as

accessories and must be ordered separately. Refer to the online ordering guide at https://www.arubanetworks.com

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. Failure to properly install this product may result in physical injury and/or damage to property.

CAUTION

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. Le fait de ne pas installer correctement ce produit peut entraîner des blessures corporelles et / ou des dommages matériels.

CAUTION

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

CAUTION

Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

CAUTION

Software

For instructions on choosing operating modes and initial software configuration, refer to the AP Software Quick Start Guide.

Aruba access points are classified as radio transmission devices, and 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 https://asp.arubanetworks.com.

CAUTION

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-Table 2). Refer to the **AP Software 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:
  - E0 port: 100/1000/2500Base-T auto-sensing MDI/MDX wired RJ45 network connectivity port
  - E1 port: 100/1000/2500Base-T auto-sensing MDI/MDX wired RJ45 network connectivity port
- Power:
  - 12V DC power interface, support powering through AC-to-DC power adapter (AP-AC2-12B)
  - Power over Ethernet (PoE): 802.3af, 802.3at or 802.3bt compliant source

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 12V DC, minimum 0.75A, marked "LPS" and "Class 2," and suitable for plugging into a standard power receptacle in the US and Canada.

NOTE

Environmental

- Operating:

  - Temperature: 0°C to +50°C (+32°F to +122°F)
  - Humidity: 5% to 93% non-condensing
- Storage and transport:
  - Temperature: -40°C to +70°C (-40°F to +158°F)
  - Humidity: 5% to 93% non-condensing

CAUTION

The Aruba 630 Series access points are for indoor use only. The access point, AC adapter, and all connected cables are not designed for outdoor use.

CAUTION

This device is intended for stationary use in partly temperature controlled weather-protected environments.

Regulatory Model Name

The following regulatory model numbers (RMN) apply to the 630 Series:

- AP-635 RMN: APIN0635

Safety and Regulatory Compliance

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. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CAUTION

Déclaration de la concernant l'exposition aux rayonnements à fréquence radioélectrique (FR) : Cet appareil est conforme aux limites d'exposition aux rayonnements FR établies. Il doit être installé et utilisé à une distance minimale de 35 cm (13,78 pouces) entre le radiateur et votre corps. Cet émetteur ne doit pas être installé ou utilisé à proximité immédiate d'une autre antenne ni d'un autre transmetteur.

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.

Federal Communication Commission

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.
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 manufacturer's 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 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.

FCC regulations restrict the operation of this device to indoor use only.

The operation of this device is prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet.

Operation in the 5.9725-7.125GHz band is prohibited for control of or communication with unmanned aircraft systems.

Industry 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.

European Union Regulatory Conformance

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.

Wireless Channel Restrictions

5150-5350MHz band is limited to indoor only in the following countries; Austria (AT), Belgium (BE), Bulgaria (BG), Croatia (HR), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), Germany (DE), Greece (GR), Hungary (HU), Iceland (IS), Ireland (IE), Italy (IT), Latvia (LV), Liechtenstein (LI), Lithuania (LT), Luxembourg (LU), Malta (MT), Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Romania (RO), Slovakia (SK), Slovenia (SL), Spain (ES), Sweden (SE), Switzerland (CH), Turkey (TR), United Kingdom (UK).

Radio	Frequency Range MHz	Max EIRP
BLE/Zigbee	2402-2480	9 dBm

Radio	Frequency Range MHz	Max EIRP
Wi-Fi	2412-2472	20 dBm
	5150-5250	23 dBm
	5250-5350	23 dBm
	5470-5725	30 dBm
	5725-5850	14 dBm
	5945-6425	23 dBm

CAUTION

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

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.

NOTE

This device is intended for indoor use in professional healthcare facilities.

NOTE

This device has no IEC/EN60601-1-2 essential performance.

CAUTION

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

NOTE

Compliance is based on the use of Aruba approved accessories. Refer to the ordering guide for this access point at https://www.arubanetworks.com

CAUTION

Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

CAUTION

Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the access point. Otherwise, degradation of the performance of this equipment could result.

Brazil

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

Japan

ご使用になっている装置に VCCI マークが付いていましたら、次の説明文を
お読み下さい。

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と
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下さい。

VCCI-B

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.

Morocco

Нормативные требования Евразийского Экономического Союза

Russia

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

'HPE Kazakhstan': ТОО «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, 16А блок 3, Телефон: +7 499 403 4248 Факс: +7 499 403 4677

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

Ukraine

Hereby, Hewlett Packard Enterprise Company declares that the radio equipment type [The Regulatory Model Number [RMN] for this device can be found in the Regulatory Model Name section of this document] is in compliance with Ukrainian Technical Regulation on Radio Equipment, approved by resolution of the CABINET OF MINISTERS OF UKRAINE dated May 24, 2017, No. 355. The full text of the UA declaration of conformity is available at the following internet address: https://certificates.ext.hpe.com/public/certificates.html

Х'ЮЛЕТТ ПАКАРД ЕНТЕРПРАЗ, 6280 АМЕРИКА ЦЕНТР Д-Р, САН-ХОСЕ, КАЛІФОРНІЯ 95002, США

Taiwan

第十二條

取得審驗證明之低功率射頻器材，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。

1. 應避免影響附近雷達系統之操作。

2. 高增益指向性天線只得應用於固定式點對點系統

3. 電磁波暴露量 MPE 標準值 1 mW/cm2, 送測產品實測值為 : 0.2044mW/cm2

Contact Aruba

Main Site	https://www.arubanetworks.com
Support Site	https://asp.arubanetworks.com
Airheads Social Forums and Knowledge Base	https://community.arubanetworks.com/
North America Telephone	1-800-943-4526 1-408-754-1200
International Telephone	https://www.arubanetworks.com/support-services/contact-support/
Software Licensing Site	https://www.hpe.com/networking/support
End-of-Life Information	https://www.arubanetworks.com/support-services/end-of-life/
Security Incident Response Team (SIRT)	https://www.arubanetworks.com/support-service/security-bulletins/ Email: aruba-sirt@hpe.com

Copyright

Open Source Code

This product includes code licensed under the GNU General PublicLicense, 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

6280 America Center Drive

San Jose, CA 94089

USA

Warranty

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