

### Overview

#### Aruba 303 Series Campus Access Points

Low-cost 802.11ac wave 2 enterprise AP

#### Product overview

The affordable mid-range Aruba 303 Series campus access point delivers high performance 802.11ac with MU-MIMO (wave 2) for medium density enterprise environments. With the integrated BLE and supporting 802.3af power, the Aruba 303 Series AP enables enterprises to improve their work efficiency and productivity with the lowest TCO.

The compact Aruba 303 Series AP delivers a maximum concurrent data rate of 867 Mbps in the 5GHz band and 300 Mbps in the 2.4GHz band (for an aggregate peak data rate of 1.2Gbps). Featuring 2x2:2SS, the Aruba 303 is designed for medium device density environments, such as schools, retail branches, warehouses, hotels and enterprise offices, where the environment is cost sensitive.

The 303 Series AP has an integrated Bluetooth Low-Energy (BLE) radio, which can be used as an Aruba beacon for advanced locationing, indoor wayfinding, asset tracking, and to enable proximity-based push notification services. The integrated beacon radio also enables the remote management of battery-powered and other standalone beacons in a large-scale network of Aruba beacons. It enables businesses to leverage mobility context to develop applications that will deliver an enhanced user experience and increase the value of the wireless network for organizations.

#### Unique Benefits

- Unified AP - deploy with or without controller
  - The 303 Series access points can be deployed in either controller-based (ArubaOS) or controller-less (InstantOS) deployment mode
- Dual Radio 2x2 802.11ac access point with Multi-User MIMO (wave 2)
  - Supports up to 867Mbps in the 5GHz band (with 2SS/VHT80 client devices) and up to 300Mbps in the 2.4GHz band (with 2SS/HT40 clients)
- Built-in Bluetooth Low-Energy (BLE) radio
  - Enables location based services with BLE-enabled mobile devices receiving signals from multiple Aruba Beacons at the same time
  - Enables asset tracking when used with Aruba Asset Tags
- Advanced Cellular Coexistence (ACC)
  - Minimizes interference from 3G/4G cellular networks, distributed antenna systems and commercial small cell/femtocell equipment
- Quality of service for unified communications applications
  - Supports priority handling and policy enforcement for unified communication apps, including Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing
- Aruba AppRF technology leverages deep packet inspection to classify and block, prioritize or limit bandwidth for over 2,500 enterprise apps or groups of apps
- RF Management
  - Adaptive Radio Management (ARM) technology with AirMatch automatically assigns channel, width and power settings based on environment and client density. It also provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs
  - The Aruba 303 Series Access Points can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available
- Spectrum analysis
  - Capable of part-time or dedicated air monitoring, the spectrum analyzer remotely scans the 2.4GHz and 5GHz radio bands to identify sources of RF interference from HT20 through VHT80 operation

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- Aruba Secure Core
  - Device assurance: Use of Trusted Platform Module (TPM) for secure storage of credentials and keys as well as secure boot
  - Integrated wireless intrusion protection offers threat protection and mitigation, and eliminates the need for separate RF sensors and security appliances
  - IP reputation and security services identify, classify, and block malicious les, URLs and IPs, providing comprehensive protection against advanced online threats

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## Choose your operating mode

The Aruba 303 Series Access Points offer a choice of deployment and operating modes to meet your unique management and deployment requirements:

- The 303 Series AP is a unified AP that supports both controller-based and controller-less deployment modes, providing maximum flexibility.
- Controller-based mode - When deployed in conjunction with an Aruba Mobility Controller, Aruba 303 Series Access Points offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Controller-less (Instant) mode - The controller function is virtualized in a cluster of APs in Instant mode. As the network grows and/or requirements change, Instant deployments can easily migrate to controller-based mode.
- Remote AP (RAP) mode for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer (SA), dedicated or hybrid, for identifying sources of RF interference
- Secure enterprise mesh portal or point

For large installations across multiple sites, the Aruba Activate service significantly reduces deployment time by automating device provisioning, firmware upgrades, and inventory management. With Aruba Activate, the APs can be factory-shipped to any site and configure themselves when powered up.

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## Specifications

### Hardware Variants

- AP-303: Internal antenna models.

### Wi-Fi Radio Specifications

- AP type: Indoor, dual radio, 5GHz 802.11ac 2x2 MIMO and 2.4GHz 802.11n 2x2 MIMO
- 5GHz (radio 0):
  - Two spatial stream Single User (SU) MIMO for up to 867Mbps wireless data rate to individual 2SS VHT80 client devices
  - Two spatial stream Multi User (MU) MIMO for up to 867Mbps wireless data rate to two 1SS MU-MIMO capable client devices simultaneously
- 2.4GHz (radio 1):
  - Two spatial stream Single User (SU) MIMO for up to 300Mbps wireless data rate to individual 2SS HT40 client devices
- Support for up to 256 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835GHz
  - 5.150 to 5.250GHz
  - 5.250 to 5.350GHz

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- 5.470 to 5.725GHz
- 5.725 to 5.850GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4GHz band: +21dBm (18dBm per chain)
  - 5GHz band: +21dBm (18dBm per chain)
  - **NOTE: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain**
- Advanced Cellular Coexistence (ACC) minimizes the impact of interference from cellular networks
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance
- Short guard interval for 20MHz, 40MHz and 80MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Transmit beam-forming (TxBF) for increased signal reliability and range
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 300 (MCS0 to MCS15)
  - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2)
  - 802.11n high-throughput (HT) support: HT20/40
  - 802.11ac very high throughput (VHT) support: VHT20/40/80
  - 802.11n/ac packet aggregation: A-MPDU, A-MSDU

## Wi-Fi Antennas

- AP-303: Internal antenna models.
  - Two vertically polarized dual-band downtilt omni-directional antennas for 2x2 MIMO with peak antenna gain of 3.5dBi (2.4GHz) and 6.9dBi (5GHz) per antenna.
  - The antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30 degrees.
  - Combining the patterns of both antennas per radio, the peak gain of the average (effective) pattern is 2.1dBi in 2.4GHz and 5.7dBi in 5GHz.

## Other interfaces

- E0: One 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - POE-PD: 48Vdc (nominal) 802.3af POE
- DC power interface, accepts 2.1/5.5-mm center-positive circular plug with 9.5-mm length
- Bluetooth Low Energy (BLE) radio
  - Up to 3dBm transmit power (class 2) and -93dBm receive sensitivity
  - Integrated vertically polarized omnidirectional antenna with roughly 30 degrees downtilt and peak gain of 4.5dBi
- Visual indicators (tri-color LEDs): for System and Radio status
- Reset button: factory reset (during device power-up), LED mode control (normal/off)
- Serial console interface (proprietary, USB physical jack)
- Kensington security slot

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### Power Sources and Consumption

- The AP supports direct DC power and Power over Ethernet (POE)
- When both power sources are available, DC power takes priority over POE
- Power sources are sold separately
- Direct DC source: 12Vdc nominal, +/- 5%
- Power over Ethernet (POE): 48Vdc (nominal) 802.3af compliant source
- Maximum (worst-case) power consumption: 10.1W (POE) or 8.8W (DC)
- Maximum (worst-case) power consumption in idle mode: 4.2W (POE) or 4.0W (DC)

### Mounting

- The AP ships with a (black) mount clips to attach to a 9/16-inch or 15/16-inch flat T-bar drop-tile ceiling.
- Several optional mount kits are available to attach the AP to a variety of surfaces; see the Ordering Information section below for details

### Mechanical

- Dimensions and weight (unit, excluding mount accessories):
  - 150mm (W) x 150mm (D) x 35mm (H) or 5.9" (W) x 5.9" (D) x 1.4" (H)
  - 260g or 9.2oz
- Dimensions and weight (shipping):
  - 190mm (W) x 180mm (D) x 60mm (H) or 7.4" (W) x 7.0" (D) x 2.4" (H)
  - 410g or 14.5oz

### Environmental

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

### Reliability

- MTBF: 795khrs (91yrs) at +25C operating temperature

### Regulatory

- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

### Regulatory model numbers

- AP-303: APIN0303

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### Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac
- Wi-Fi Alliance certified (WFA) 802.11ac with Wave 2 features

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### Warranty

- **Aruba limited lifetime warranty**

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### Minimum Software Versions

- ArubaOS & Aruba InstantOS 8.3.0.0
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## Configuration

## Ordering Information

### Step 1: Select AP Model

Description	Part Number	Configuration impact
Aruba AP-303 (EG) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP	JZ317A	Add POE or DC power source
Aruba AP-303 (IL) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP	JZ318A	Add POE or DC power source
Aruba AP-303 (JP) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP	JZ319A	Add POE or DC power source
Aruba AP-303 (RW) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP	JZ320A	Add POE or DC power source
Aruba AP-303 (US) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP	JZ321A	Add POE or DC power source

**NOTE:** All models ship with suspended ceiling rail adapter in the box (for 9/16" and 15/16" flat rails)

### Step 2: Add powering accessories (optional)

Description	Part Number	Configuration impact
PD-3501G-AC 15.4W 802.3af PoE 10/100/1000 Ethernet indoor midspan injector	JW627A	Add AC power cord
AP-AC-12V30B 12V/30W AC/DC desktop style level power adapter with type B plug	JX990A	Add AC power cord

#### Add 3-prong AC power cord for injector or AC adapter:

Description	Part Number
PC-AC-ARG Argentina 220V AC 10A 2-meter AC Power Cord	JW113A
PC-AC-AUS Australian AC Power Cord	JW114A
PC-AC-BR Brazil AC Power Cord	JW115A
PC-AC-CHN China AC Power Cord	JW116A
PC-AC-DEN Denmark 220V AC 10A 2-meter AC Power Cord	JW117A
PC-AC-EC Continental European/Schuko AC Power Cord	JW118A
PC-AC-IN India AC Power Cord	JW119A
PC-AC-IL Israel 250V AC 10A 2-meter AC Power Cord	JW120A
PC-AC-IT Italian AC Power Cord	JW121A
PC-AC-JP Japanese AC Power Cord	JW122A
PC-AC-KOR Korea AC Power Cord	JW123A
PC-AC-NA North America AC Power Cord	JW124A
PC-AC-SWI Switzerland 220V AC 10A 2-meter AC Power Cord	JW125A
PC-AC-TW Taiwan AC Power Cord	JW126A
PC-AC-UK UK AC Power Cord	JW127A
PC-AC-ZA South Africa 250V AC 10A 2-meter AC Power Cord	JW128A

### Step 3: Add mount accessories (optional)

Description	Part Number
AP-220-MNT-C2 2x Ceiling Grid Rail Adapter for Interlude and Silhouette Mt Kit	JW045A
AP-MNT-CM1 Industrial Grade Indoor Access Point Metal Suspended Ceiling Rail Mount Kit	JX961A
AP-220-MNT-W1 Flat Surface Wall/Ceiling Black AP Basic Flat Surface Mount Kit	JW046A

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AP-220-MNT-W1W Flat Surface Wall/Ceiling White AP Basic Flat Surface Mount Kit	JW047A
AP-200-MNT-W3 White Low Profile Box Style Secure Small Indoor AP Flat Surface Mount Kit	JY705A
AP-MNT-W4 White Low Profile Basic AP Flat Surface Mount Kit	Q9U25A

Step 4: Add cosmetic snap-on cover (optional)

Description	Part Number	Comments
AP-303-CVR-20 Kit of 20 snap-on covers for AP-303. Plain white, non-glossy, with holes for LED indicators.	JZ327A	One kit per 20 access points

Step 5: Add other accessories (optional)

Description	Part Number	Comments
AP-CBL-SERU Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable	JY728A	Adapter cable for custom micro-USB AP console interface. Software driver is available on the HPE Aruba Support website

Step 6: Add spare parts (optional)

Description	Part Number	Comments
AP-220-MNT-C1 2x Ceiling Grid Rail Adapter for Basic Flat Rails Mount Kit	JW044A	

## Technical Specifications

### RF Performance Table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
<b>802.11b 2.4GHz</b>		
1Mbps	18.0	-93.0
11Mbps	18.0	-87.0
<b>802.11g 2.4GHz</b>		
6Mbps	18.0	-90.0
54Mbps	16.0	-73.0
<b>802.11n HT20 2.4GHz</b>		
MCS0/8	18.0	-90.0
MCS7/15	14.0	-71.0
<b>802.11n HT40 2.4GHz</b>		
MCS0/8	18.0	-87.0
MCS7/15	14.0	-68.0
<b>802.11a 5GHz</b>		
6Mbps	18.0	-90.0
54Mbps	16.0	-73.0
<b>802.11n HT20 5GHz</b>		
MCS0/8	18.0	-90.0
MCS7/15	14.0	-71.0
<b>802.11n HT40 5GHz</b>		
MCS0/8	18.0	-87.0
MCS7/15	14.0	-68.0
<b>802.11ac VHT20 5GHz</b>		
MCS0	18.0	-90.0
MCS9	12.0	-67.0
<b>802.11ac VHT40 5GHz</b>		
MCS0	18.0	-87.0
MCS9	12.0	-62.0
<b>802.11ac VHT80 5GHz</b>		
MCS0	18.0	-84.0
MCS9	12.0	-59.0

**NOTE:** Table shows the maximum hardware capability of the AP (excluding antenna and MIMO/MRC gain). Actual maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements.



## Summary of Changes

Date	Version History	Action	Description of Change
07-May-2018	Version 3	Added	SKU added: Q9U25A
18-Dec-2017	Version 2	Changed	Multiple changes made on Technical Specifications
04-Dec-2017	Version 1	Created	Document creation.



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