

## DATA SHEET

# ARUBA 303 SERIES CAMPUS ACCESS POINTS

Low-cost 802.11ac Wave 2 enterprise AP

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
- 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

Daisy-chain your wired network to connect and power any network device (IP camera, IOT gateway, or even a second Access Point) to the E1 Ethernet port of the AP-303P. Simplify and cost-reduce the installation of multiple devices by sharing switch ports and cabling.

### 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.

### SPECIFICATIONS

#### Hardware Variants

- AP-303 models: single Ethernet
- AP-303P models: second Ethernet with PoE out

#### 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 867 Mbps wireless data rate to individual 2SS VHT80 client devices
  - Two spatial stream Multi User (MU) MIMO for up to 867 Mbps 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 300 Mbps 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
  - 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: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
  - 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 omnidirectional antennas for 2x2 MIMO with peak antenna gain of 3.3dBi (2.4GHz) and 5.9dBi (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 4.6dBi in 5GHz.

### Other Interfaces

- E0: One 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48Vdc (nominal) 802.3af PoE
- DC power interface
- E1 (AP-303P models only): One 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PSE (output): 48Vdc (nominal) 802.3af/at PoE
- Bluetooth Low Energy (BLE) radio
- Visual indicators (tri-color LEDs): for System and Radio status
  - Zigbee 802.15.4 radio (AP-303P models only)
- Reset button: factory reset (during device power-up), LED mode control (normal/off)
- Serial console interface (proprietary,  $\mu$ USB physical jack)
- Kensington security slot

### 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

### AP-303 models:

- Direct DC source: 12Vdc nominal, +/- 5%
- DC power interface accepts 2.1/5.5-mm center-positive circular plug with 9.5-mm length
- 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)

### AP-303P models:

- Direct DC source: 48Vdc nominal, +/- 5%
- DC power interface accepts 1.35/3.5-mm center-positive circular plug with 9.5-mm length
- Power over Ethernet (PoE-PD) on E0: 48Vdc (nominal) 802.3af/at/bt compliant source
- PoE-PSE function on E1 disabled when powered by 802.3af PoE
- Maximum (worst-case) power consumption: 11.3 (PoE) or 11.5 (DC)
- Maximum (worst-case) power consumption in idle mode: 6.8 (PoE) or 7.0 (DC)
- Power consumption numbers exclude power to support PoE-PSE function on E1

### 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)
  - AP-303 models: 260g or 9.2oz
  - AP-303P models: 280g or 9.9oz
- Dimensions and weight (shipping):
  - 190mm (W) x 180mm (D) x 60mm (H) or 7.4" (W) x 7.0" (D) x 2.4" (H)
  - AP-303 models: 410g or 14.5oz
  - AP-303P models: 430g or 15.2oz

### 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 (at +25C operating temperature)

- AP-303 models MTBF: 795khrs (91yrs)
- AP-303P models MTBF: 518khrs (59yrs)

### 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

For more country-specific regulatory information and approvals, please see your Aruba representative.

### Regulatory Model Numbers

- AP-303: APIN0303
- AP-303P: APINP303

### 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
- Passpoint® (Release 2) with ArubaOS and Instant 8.3+

### WARRANTY

- [Aruba limited lifetime warranty](#)

### MINIMUM SOFTWARE VERSIONS

- AP-303 models: ArubaOS & Aruba InstantOS 8.3.0.0
- AP-303P models: ArubaOS & Aruba InstantOS 8.4.0.0

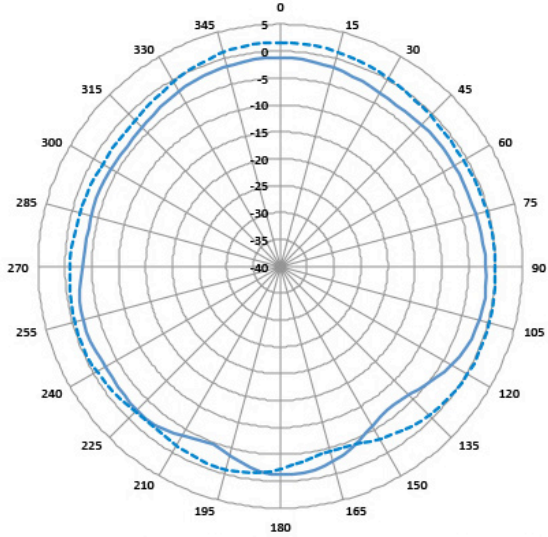
RF PERFORMANCE TABLE		
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
<b>802.11b 2.4GHz</b>		
1 Mbps	18.0	-93.0
11 Mbps	18.0	-87.0
<b>802.11g 2.4GHz</b>		
6 Mbps	18.0	-90.0
54 Mbps	16.0	-73.0
<b>802.11n HT20 2.4GHz</b>		
MCS0/8	18.0	-90.0
MCS7/15	14.0	-71.0
<b>802.11n HT40 2.4GHz</b>		
MCS0/8	18.0	-87.0
MCS7/15	14.0	-68.0
<b>802.11a 5GHz</b>		
6 Mbps	18.0	-90.0
54 Mbps	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.

### ANTENNA PATTERN PLOTS

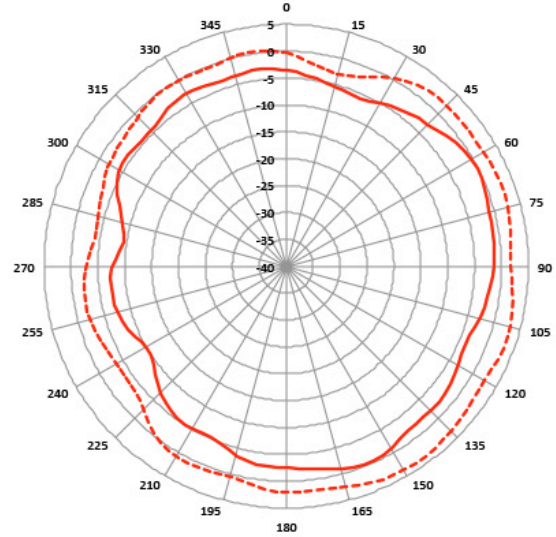
#### Horizontal planes (top view, AP facing forward)

Showing both azimuth (0 degrees) and 30 degrees downtilt patterns



— 2.44GHz WiFi Average Azimuth    - - - 2.44GHz WiFi Average Downtilt

2.44GHz Wi-Fi (radio 1)

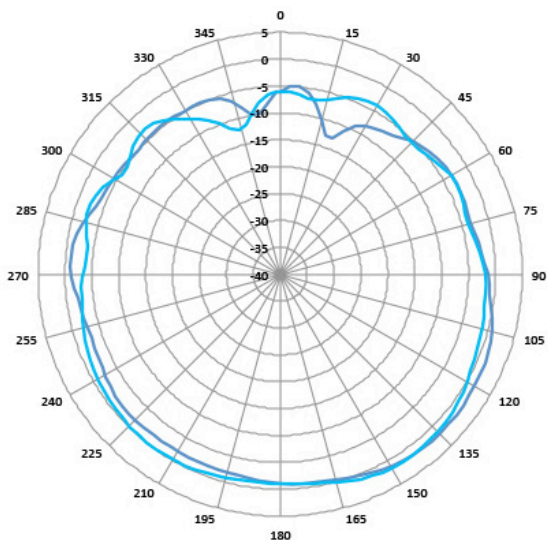


— 5.5GHz Average Azimuth    - - - 5.5GHz Average Downtilt

5.5GHz Wi-Fi (radio 0)

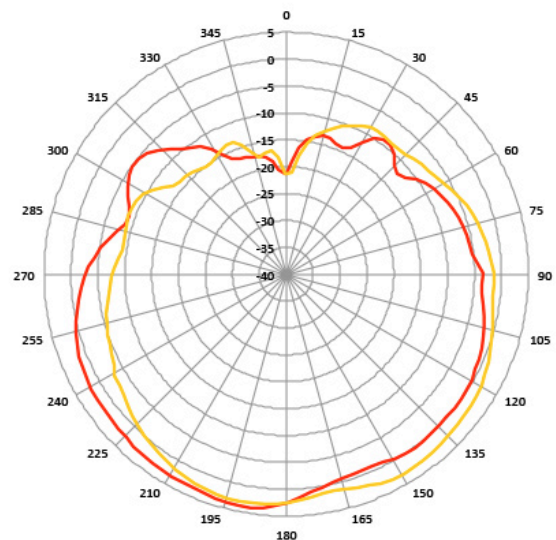
#### Elevation planes (side view, AP facing down)

Showing side view with AP rotated 0 and 90 degrees



— 2.44GHz WiFi Average Elevation 0    - - - 2.44GHz WiFi Average Elevation 90

2.44GHz Wi-Fi (radio 1)



— 5.5GHz Average Elevation 0    - - - 5.5GHz Average Elevation 90

5.5GHz Wi-Fi (radio 0)

ORDERING INFORMATION	
Part Number	Description
<b>Aruba 303 Series Campus Access Points</b>	
JZ317A	Aruba AP-303 (EG) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
JZ318A	Aruba AP-303 (IL) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
JZ319A	Aruba AP-303 (JP) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
JZ320A	Aruba AP-303 (RW) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
JZ321A	Aruba AP-303 (US) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
<b>Aruba 303P Series Campus Access Points</b>	
R0G65A	Aruba AP-303P (EG) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R0G66A	Aruba AP-303P (IL) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R0G67A	Aruba AP-303P (JP) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R0G68A	Aruba AP-303P (RW) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R0G69A	Aruba AP-303P (US) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
<b>Mount Kits – Spares</b>	
JW044A	AP-220-MNT-C1 2x Ceiling Grid Rail Adapter for Basic Flat Rails Mount Kit
<b>Mount Kits – Accessories</b>	
JW045A	AP-220-MNT-C2 Kit with two suspended ceiling grid rail adapters for Interlude and Silhouette style rails
JX961A	AP-MNT-CM1 Industrial grade indoor Access Point metal suspended ceiling rail mount kit
JW046A	AP-220-MNT-W1 Flat surface wall/ceiling basic flat surface AP mount kit (black)
JW047A	AP-220-MNT-W1W Flat surface wall/ceiling basic flat surface AP mount kit (white)
JY705A	AP-200-MNT-W3 Low profile box style secure small flat surface AP mount kit (white)
Q9U25A	AP-MNT-W4 White Low Profile Basic AP Flat Surface Mount Kit
<b>Cosmetic Covers</b>	
JZ327A	AP-303-CVR-20 20-pack for AP-303 with Holes for LED Indicators White Non-glossy Snap-on Covers
<b>Power Accessories (AP-303 models)</b>	
JW627A	PD-3501G-AC 15.4W 802.3af PoE 10/100/1000Base-T Ethernet Midspan Injector
JX990A	AP-AC-12V30B 12V/30W AC/DC Desktop Style 2.1/5.5/9.5mm Circular 90 Deg Plug DoE Level VI Adapter
<b>Power Accessories (AP-303P models)</b>	
JW629A	PD-9001GR-AC 30W 802.3at PoE+ 10/100/1000 Ethernet Indoor Rated Midspan Injector
JX991A	AP-AC-48V36C 48V/36W AC/DC Desktop Style 1.35/3.5/9.5mm Circular 90 Deg Plug Adapter
<b>Other Accessories</b>	
JY728A	AP-CBL-SERU Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable



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[www.arubanetworks.com](http://www.arubanetworks.com)

3333 SCOTT BLVD | SANTA CLARA, CA 95054

1.844.473.2782 | T: 1.408.227.4500 | FAX: 1.408.227.4550 | [INFO@ARUBANETWORKS.COM](mailto:INFO@ARUBANETWORKS.COM)

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