HPE aruba networking

Data sheet



HPE Aruba Networking 303 Series Campus Access Points

Low-cost 802.11ac Wave 2 (Wi-Fi 5) enterprise connectivity

HPE

Key features

— Up to 1.2 Gbps aggregate peak data rate

— Daisy-chain another AP using the secondary PoE-out port

— Integrated Zigbee and Bluetooth 5 radio for IoT connectivity

— Resolve sticky client issues with MU-MIMO-aware ClientMatch

— Participates in HPE Aruba Networking's dynamic segmentation solution

The affordable mid-range HPE Aruba Networking 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 303 Series AP enables enterprises to improve their work efficiency and productivity with the lowest TCO.

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

IoT platform capabilities

The 303 Series includes an integrated Bluetooth 5 and 802.15.4 radio (for Zigbee support) to simplify deploying and managing Meridian and IoT-based location services, asset tracking services, security solutions and IoT sensors. This allows organizations to leverage the AP as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

Unique benefits

— Unified AP — deploy with or without controller

  • The 303 Series access points can be deployed in either controller-based (HPE Aruba NetworkingOS) 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 5 GHz band (with 2SS/VHT80 client devices) and up to 300Mbps in the 2.4 GHz 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 HPE Aruba Networking Beacons at the same time

  • Enables asset tracking when used with HPE Aruba Networking 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

— HPE Aruba Networking 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 HPE Aruba Networking 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 2.4 GHz and 5 GHz radio bands to identify sources of RF interference from HT20 through VHT80 operation

— HPE Aruba Networking 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 HPE Aruba Networking 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 HPE Aruba Networking Mobility Controller, HPE Aruba Networking 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 HPE Aruba Networking Activate, the APs can be factory-shipped to any site and configure themselves when powered up.

Technical 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, 5 GHz 802.11ac 2x2 MIMO and 2.4 GHz 802.11n 2x2 MIMO

— 5 GHz (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

— 2.4 GHz (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 GHz to 2.4835 GHz

  • 5.150 GHz to 5.250 GHz

  • 5.250 GHz to 5.350 GHz

  • 5.470 GHz to 5.725 GHz

  • 5.725 GHz to 5.850 GHz

— 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):
  • 2.4 GHz band: +21dBm (18dBm per chain)
  • 5 GHz 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

— Two vertically polarized dual-band downtilt omni-directional antennas for 2x2 MIMO with peak antenna gain of:
— 3.3 dBi in 2.4 GHz and 5.8 dBi in 5 GHz for AP-303
— 3.3 dBi in 2.4 GHz and 5.8 dBi in 5 GHz for AP-303
— The antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30°.
— Combining the patterns of both antennas per radio, the peak gain of the average (effective) pattern is:
  • 2.1 dBi in 2.4 GHz and 5.7 dBi in 5 GHz for AP-303
  • 2.1 dBi in 2.4 GHz and 5.9 dBi in 5 GHz for AP-303P

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/at/bt 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
— Zigbee 802.15.4 radio (AP-303P models only)
— 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, µUSB 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, limited to class 3 when powered by 802.3at PoE, unrestricted when powered by 802.3bt PoE or DC
— 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 +25°C operating temperature)

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

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
— EN 50155 (AP-303)

For more country-specific regulatory information and approvals, please see your HPE Aruba Networking 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
— WPA, WPA2 and WPA3 — Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE)
— Wi-Fi Alliance certified (WFA) 802.11ac with Wave 2 features
— Passpoint® (Release 2) with ArubaOS and Instant 8.3+

Warranty

— HPE Aruba Networking's hardware limited lifetime warranty

Minimum software versions

— AP-303 models: HPE Aruba Networking Operating System & HPE Aruba Networking InstantOS 8.3.0.0
— AP-303P models: HPE Aruba Networking Operating System & HPE Aruba Networking InstantOS 8.4.0.0
— Both models: HPE Aruba Networking Operating System 10.0.0.0

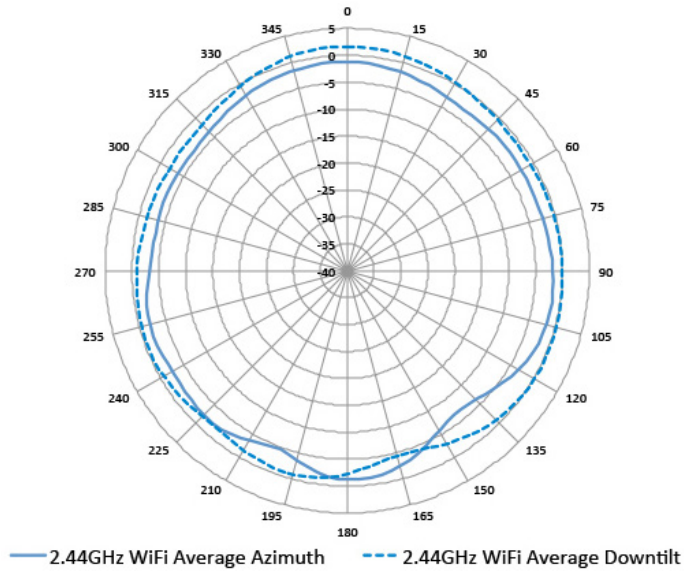
RF performance table		
	Maximum transmit power (dBm) per transmit chain	**Receiver sensitivity (dBm) per receive chain**
802.11b 2.4 GHz		
1 Mbps	18.0	–93.0
11 Mbps	18.0	–87.0
802.11g 2.4 GHz		
6 Mbps	18.0	–90.0
54 Mbps	16.0	–73.0
802.11n HT20 2.4 GHz		
MCS0/8	18.0	–90.0
MCS7/15	14.0	–71.0
802.11n HT40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

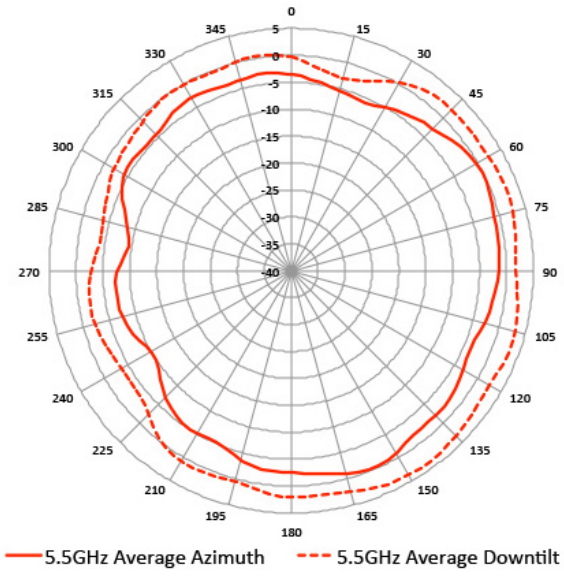
Antenna Pattern Plots

Horizontal planes (top view, AP facing forward)

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



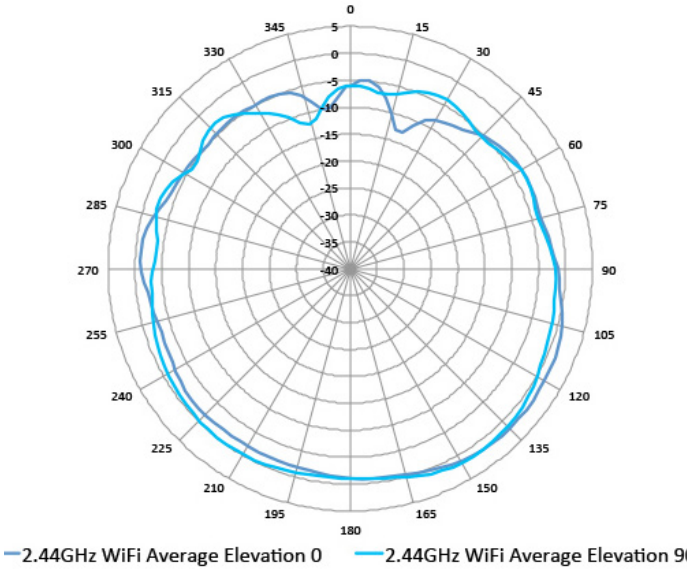
2.44 GHz Wi-Fi (radio 1)



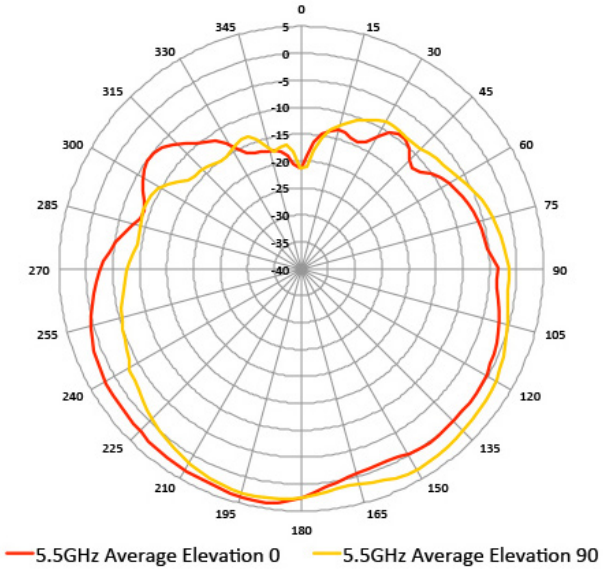
5.5 GHz Wi-Fi (radio 0)

Elevation planes (side view, AP facing down)

Showing side view with AP rotated 0 and 90°



2.44 GHz Wi-Fi (radio 1)



5.5 GHz Wi-Fi (radio 0)

Ordering information	
Part Number	**Description**
HPE Aruba Networking 303 Series Campus Access Points	
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
JZ320ACM	Aruba CM AP-303 (RW) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
JZ321ACM	Aruba CM AP-303 (US) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
HPE Aruba Networking 303P Series Campus Access Points	
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
R2H41A	Aruba AP-303P (EG) TAA Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R2H42A	Aruba AP-303P (IL) TAA Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R2H43A	Aruba AP-303P (JP) TAA Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R2H44A	Aruba AP-303P (RW) TAA Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
R2H45A	Aruba AP-303P (US) TAA Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet

Note: All hardware SKUs can be managed by HPE Aruba Networking Central. Central Managed (CM) SKUs are used for simplified ordering within US and Canada only.

For more ordering information and compatible accessories, please refer to the ordering guide.

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