HPE aruba networking

Data sheet



HPE Aruba Networking 303H Hospitality Access Point

High performance 802.11ac Wave 2 (Wi-Fi 5) access point for hospitality and branch offices

HPE

Key features

— Combine wireless and wired access in a single, compact device ideal for hospitality and remote work

— Maximum combined data rate of 1.2 Gbps for high performance even with high bandwidth, low latency applications

— Wall-jack and desk stand mounting options

— Highly secure with threat protection and mitigation and dynamic segmentation capabilities

— HPE Aruba Networking Fiber Media Converter optional add-on for seamless fiber backhaul

The multi-functional Wave 2 303H access point delivers secure Wi-Fi connectivity for hospitality and remote work, enabling an always-on user experience with low Total Cost of Ownership (TCO).

With a maximum concurrent data rate of 867 Mbps in the 5 GHz band and 300 Mbps in the 2.4 GHz band, the 303H AP delivers high-performance Gigabit Wi-Fi for hospitality and branch environments at an attractive price point. It supports multi-user MIMO (MU-MIMO) and 2 spatial streams (2SS) to provide simultaneous data transmission for up to 2 devices, maximizing data throughput and improving network efficiency.

The 303H AP can be easily mounted to a standard data wall-box using the existing structured cabling system or converted to a desk mounted AP using an optional mounting kit. It is ideal for schools (dormitories, classrooms), hotels, medical clinics, branch offices and remote workstations which often require flexible and easy deployment options.

The 303H AP combines wireless and wired access in a single compact device. Three local Gigabit Ethernet ports are available to securely attach wired devices to your network. One of these ports is also capable of supplying PoE power to the attached device.

Like all other HPE Aruba Networking APs, the 303H AP includes the enhanced ClientMatch™ technology that extends the client steering technology with MU-MIMO client awareness. It automatically identifies MU-MIMO capable mobile devices and steers those devices to the closest MU-MIMO capable HPE Aruba Networking access point to achieve the best WLAN performance in a mixed device environment during the technology transition period.

IoT platform capabilities

The 303H Series provides integrated Bluetooth capabilities to enable Meridian and IoT-based location services, asset tracking, and mobile engagement services. For expanded use cases, an IoT expansion radio can be added to support the Zigbee protocol. These features allow organizations to leverage the AP as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

Unique capabilities

Advanced Cellular Coexistence (ACC)

Minimizes the impact from out-of-band interference from sources such as 3G/4G cellular networks.

Intelligent Power Monitoring (IPM)

Enables the AP to continuously monitor and report its actual power consumption and optionally make autonomous decisions to prioritize capabilities when power budget is limited.

For the 303H, the IPM power-save feature applies when the unit is powered by an 802.3af or 802.3at POE source. By default, the USB interface will be the first feature to be turned off by IPM if the AP power consumption would otherwise exceed the available power budget. Specific power-saving options are programmable with IPM.

RF management

Adaptive Radio Management (ARM) technology automatically assigns channel and power settings, provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high performance WLANs.

The 303H 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.

Intelligent app visibility and control

AppRF technology leverages deep packet inspection to classify and block, prioritize, or limit bandwidth for thousands of applications in a range of categories.

Quality of service for unified communication apps

Supports priority handling and policy enforcement for unified communication apps, including Microsoft Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing.

Simple and secure access

To simplify policy enforcement, the HPE Aruba Networking 303H AP uses HPE Aruba Networking's Policy Enforcement Firewall (PEF) to encapsulate all traffic from the AP to the Mobility Controller (or gateway) for end-to-end encryption and inspection. Policies are applied based on user role, device type, applications, and location. This reduces the manual configuration of SSIDs, VLANs and ACLs. PEF also serves as the underlying technology for HPE Aruba Networking Dynamic Segmentation.

Versatile installation options

The APs can be deployed as a wall-mount or, for remote teleworker environments, they can be converted to a desk-mount by using an optional accessory stand.

HPE Aruba Networking also offers a Fiber Media Converter that fits snuggly alongside HPE Aruba Networking 303H Series Hospitality APs. It can transparently convert fiber to copper Ethernet, convert DC power to POE, and extend the reach of the AP.

Flexible operation and management

Our unified APs can operate as standalone access points or with a gateway for greater scalability, security, and manageability. APs can be deployed using zero touch provisioning – without on-site technical expertise – for ease of implementation in

branch offices and for remote work. HPE Aruba Networking APs can be managed using cloud-based or on-premises solutions for any campus, branch, or remote work environment.

[1]256-QAM modulation (802.11ac) supported by the 2.4GHz radio as well.

As the management and orchestration console for HPE Aruba Networking ESP (Edge Services Platform), HPE Aruba Networking Central provides a single pane of glass for overseeing every aspect of wired and wireless LANs, WANs, and VPNs. AI-powered analytics, end-to-end orchestration and automation, and advanced security features are built natively into the solution.

Small office/home office for hybrid work

For hybrid environments, EdgeConnect Microbranch extends the WAN to the small office/home office to deliver a consistent employee experience no matter where users are located. EdgeConnect Microbranch offers a suite of SD-WAN capabilities to optimize performance, security, and manageability via cloud-based HPE Aruba Networking Central and the HPE Aruba Networking AP itself. With EdgeConnect Microbranch, organizations can extend existing remote access point (RAP) capabilities to benefit from policy-based routing, tunnel and route orchestration, and SASE integration to cloud security services such as Zscaler.

Technical specifications

— Unified dual-radio 802.11ac Wave 2 2x2:2 hospitality and branch AP with internal antennas, three local Gigabit Ethernet ports, PoE out and USB host interface

— Supports wall-box and desk mount deployments

Wi-Fi radio specifications

— AP type: Indoor, dual radio, 5 GHz 802.11ac 2x2 MIMO and 2.4 GHz 802.11n 2x2 MIMO1

— Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)

— 5 GHz: Two spatial stream Multi User (MU) MIMO for up to 867 Mbps wireless data rate to up to two (1x1 VHT80) MU-MIMO capable client devices simultaneously

— 5 GHz: Two spatial stream Single User (SU) MIMO for up to 867 Mbps wireless data rate to individual 2x2 VHT80 client devices

— 2.4 GHz: Two spatial stream Single User (SU) MIMO for up to 300 Mbps wireless data rate to individual 2x2 HT40 client devices

— Support for up to 256 associated client devices per radio, Supported frequency bands (country-specific restrictions apply):

  • 2.400 to 2.4835 GHz

  • 5.150 to 5.250 GHz

  • 5.250 to 5.350 GHz

  • 5.470 to 5.725 GHz

  • 5.725 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 0.5 dBm
— Maximum (conducted) transmit power (limited by local regulatory requirements):
  • 2.4 GHz band: +18 dBm per chain, +21 dBm aggregate (2x2)
  • 5 GHz band: +18 dBm per chain, +21 dBm aggregate (2x2)
  • Note: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain
— Advanced Cellular Coexistence (ACC) minimizes 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 20 MHz, 40 MHz and 80 MHz 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 (2.4 GHz): 6.5 to 300 (MCS0 to MCS15)
  • 802.11n (5 GHz): 6.5 to 450 (MCS0 to MCS23)
  • 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80)
— 802.11n high-throughput (HT) support: HT 20/40
— 802.11ac very high throughput (VHT) support: VHT 20/40/80
— 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Wi-Fi antennas

— Two integrated dual-band moderately directional antennas for 2x2 MIMO with maximum individual antenna gain of 4.3 dBi in 2.4 GHz and 6.2 dBi in 5 GHz. Built-in antennas are optimized for vertical orientation of the AP.
  • The horizontal beamwidth is roughly 120°. Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the effective per-antenna pattern is 3.2 dBi in 2.4 GHz and 4.6 dBi in 5 GHz.

Other Interfaces

— Uplink: 10/100/1000BASE-T Ethernet (RJ-45, back)
  • Auto-sensing link speed and MDI/MDX
  • 802.3az Energy Efficient Ethernet (EEE)
  • PoE-PD (input): 48 Vdc (nominal) 802.3af/at PoE
— Local: Three 10/100/1000BASE-T Ethernet (RJ-45, bottom)
  • Auto-sensing link speed and MDI/MDX
  • 802.3az Energy Efficient Ethernet (EEE)
  • One port: PoE-PSE (output): 48 Vdc (nominal) 802.3af PoE
— Passive pass-through interface (two RJ-45, back and bottom)
  • Bluetooth Low Energy (BLE) radio
    ◦ Up to 4 dBm transmit power (class 2) and –93 dBm receive sensitivity
    ◦ Integrated antenna with moderately directional pattern and peak gain of 0.9 dBi
— USB 2.0 host interface (Type A connector)
  • 3G/4G cellular modems
  • Device battery charging port
  • Capable of supplying up to 1A/5 watts of power to an attached device
— DC power interface, accepts 1.35/3.5-mm center-positive circular plug with 9.5-mm length
— Visual indicators (LEDs):
  • Power/system status
  • Radio status
  • PoE-PSE status
  • Local network port status (3x)
  • Reset/LED control button (“paperclip access”)
  • Factory reset (when activated during device power up)
  • LED control: toggle off/normal
  • Serial console interface (custom, USB physical jack)

Encrypted throughput

— Maximum IPsec encrypted wired throughput: 100 Mbps

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 power source: 48Vdc nominal, +/– 5%
— Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af/802.3at compliant source
  • Unrestricted functionality with direct DC power. When using an 802.3af PoE source, the PoE out (PSE) capability of the 303H is always disabled.
  • Without IPM, both the USB port and PoE out (PSE) capability are disabled when the AP is powered by an 802.3af PoE source, and either the USB port or the PoE out (PSE) capability is disabled when powered by an 802.3at PoE source (PSE capability is disabled by default).
  • When using IPM, the AP may enter power-save mode with reduced functionality when powered by a PoE source (see details on Intelligent Power Monitoring elsewhere in this data sheet)
— Maximum (worst-case) power consumption: 9.7W
  • Excludes power consumed by external USB and/or PoE-PD device (and internal losses); this could add up to 6.1W (PoE) for a 5W/1A USB device and up to 15.6W for a max load (15.4W) 802.3af PoE-PD device
— Maximum (worst-case) power consumption in idle mode: 4.9W (PoE) or 4.8W (DC)

Mounting

— The AP ships with a mounting plate to attach the AP to a single-gang wall-box (most international variations covered). A security screw (T8H) is provided to ensure that the AP cannot (easily) be removed from its mount without a specialized tool.
— Several optional mount kits are available to attach the AP to a dual-gang wall-box, directly to the wall, or to support desk mounting.

Mechanical

— Dimensions/weight (unit, including single-gang wall box mount plate):
  • 86 mm (W) x 40 mm (D) x 150 mm (H)
  • 310g
— Dimensions/weight (shipping):
  • 128 mm (W) x 63 mm (D) x 168 mm (H)
  • 470g

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)

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.

Reliability

— MTBF: 1,090,000 hours (124 years) at +25°C operating temperature

Regulatory model number

— AP-303H-xx (all variants): APINH303

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)

Warranty

— HPE Aruba Networking limited lifetime warranty

Minimum software Versions

— HPE Aruba Networking ArubaOS™: 6.5.2.0/8.2.0.0
— HPE Aruba Networking ArubaOS™: 6.5.2.0/8.2.0.0
— ArubaOS 10.0.0.0

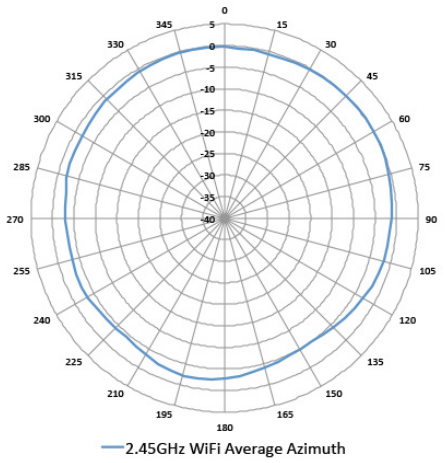
RF performance table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz		
802.11b		
1 Mbps	18.0	–96.0
11 Mbps	18.0	–88.0
802.11g		
6 Mbps	18.0	–91.0
54 Mbps	16.0	–74.0
802.11n HT20		
MCS0/8	18.0	–90.0
MCS7/15	14.0	–71.0
802.11n HT40		
MCS0/8	18.0	–87.0
MCS7/15	14.0	–69.0
5 GHz		
802.11a		
6 Mbps	18.0	–90.0
54 Mbps	16.0	–73.0
802.11n HT20		
MCS0/8	18.0	–90.0
MCS7/15	14.0	–71.0
802.11n HT40		
MCS0/8	18.0	–87.0
MCS7/15	14.0	–68.0
802.11ac VHT20		
MCS0	18.0	–90.0
MCS8	13.0	–67.0
802.11ac VHT40		
MCS0	18.0	–87.0
MCS9	12.0	–62.0
802.11ac VHT80		
MCS0	18.0	–84.0
MCS9	12.0	–59.0

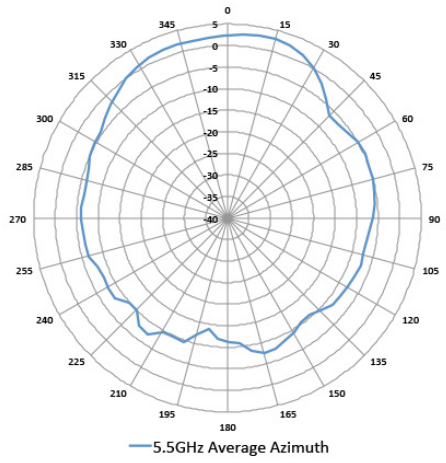
Table shows the maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

Antenna pattern plots

Horizontal or azimuth plane (looking at the top of the AP, front facing up)

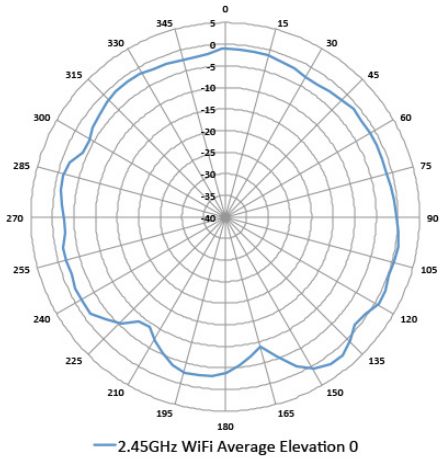


2.45 GHz

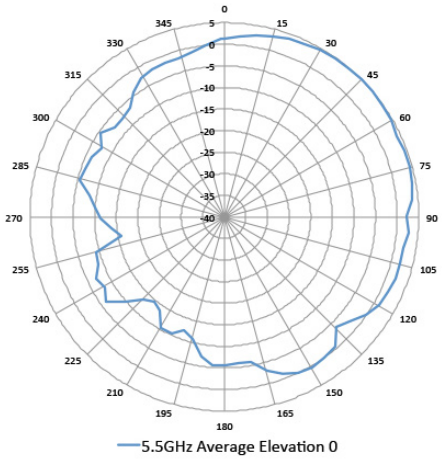


5.5 GHz

Elevation plane 0 (looking at the side of the AP, front facing to the right)

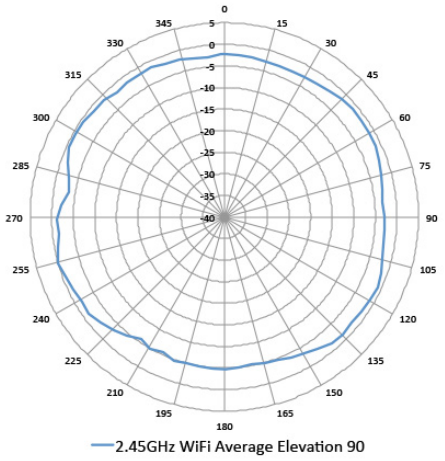


2.45 GHz

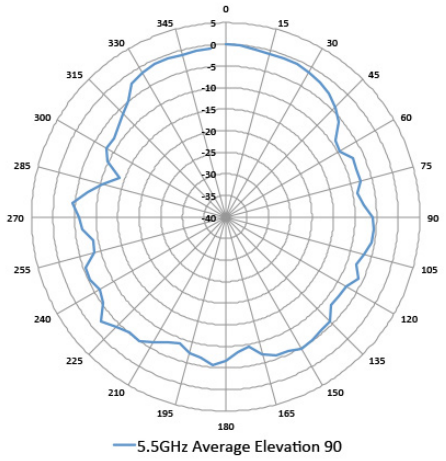


5.5 GHz

Elevation plane 90 (looking at the front of the AP)



2.45 GHz



5.5 GHz

Ordering information

Part Number	Description
303H Series Access Points	
JY678A	Aruba AP-303H (RW) Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY679A	Aruba AP-303H (RW) TAA Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY680A	Aruba AP-303H (US) Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY681A	Aruba AP-303H (US) TAA Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY682A	Aruba AP-303H (JP) Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY683A	Aruba AP-303H (JP) TAA Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY684A	Aruba AP-303H (IL) Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY685A	Aruba AP-303H (IL) TAA Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY862A	Aruba AP-303H (EG) Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY863A	Aruba AP-303H (EG) TAA Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY678ACM	Aruba CM AP-303H (RW) Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JY680ACM	Aruba CM AP-303H (US) Dual-radio 802.11ac 2x2 Unified Hospitality AP with Internal Antennas
JZ087A	Aruba AP-303HR (EU) 802.11ac Dual 2x2:2 Radio Remote AP Bundle. Contains AP-303H (RW), desk stand (assembled, attached), RJ45 jumper cable (installed), power adapter European AC power cord (europlug)
JZ088A	Aruba AP-303HR (US) 802.11ac Dual 2x2:2 Radio Remote AP Bundle. Contains AP-303H (US), desk stand (assembled, attached), RJ45 jumper cable (installed), power adapter North America AC power cord

Note: All hardware SKUs can be managed by Aruba 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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