## Overview

Shape the Future of QuickSpecs – Your Input Matters

# HPE Aruba Networking 500H Series Unified Hospitality Access Points

**High-performance and cost-effective Wi-Fi 6 (802.11ax) for hospitality, branch, and teleworker deployments**

These economical Wi-Fi 6 access points provide high-performance connectivity for any organization experiencing growing mobile, cloud and IoT requirements. With a wireless aggregate data rate of up 1.5 Gbps and gigabit local wired ports, they deliver the range of connectivity options needed for venues such as hotels, residence halls, and remote offices alike.


**HPE Aruba Networking 500H Series Unified Hospitality Access Points**

## Overview

### Key Features

- Combine wireless and wired access in a single compact form-factor
- Ideal for organizations with work from home or teleworker initiatives
- Up to 1.5 Gbps of maximum wireless throughput
- 4 wired network ports and 1 Smart Rate uplink port
- WPA3 and Enhanced Open security
- Built-in technology that resolves sticky client issues for Wi-Fi 6 and Wi-Fi 5 devices
- OFDMA and MU-MIMO for enhanced multi-user efficiency
- IoT-ready Bluetooth 5 and Zigbee support
- HPE Aruba Networking Fiber Media Converter optional add-on for seamless fiber backhaul

# Standard Features

## Incredible Efficiency

The HPE Aruba Networking 500H Series Unified Hospitality Access Points are designed to optimize user experience by maximizing Wi-Fi efficiency and dramatically reducing airtime contention between clients.

Features include Orthogonal frequency-division multiple access (OFDMA), multi-user MIMO and cellular optimization. With up to 4 spatial streams (4SS) and 80MHz channel bandwidth, the HPE Aruba Networking 500H Series provides groundbreaking wireless capabilities for budget-conscious deployments.

### Advantages of OFDMA

This capability allows HPE Aruba Networking's APs to handle multiple Wi-Fi 6 capable clients on each channel simultaneously, regardless of device or traffic type. Channel utilization is optimized by handling each transaction via smaller sub-carriers or resource units (RUs), which means that clients are sharing a channel and not competing for airtime and bandwidth.

### Wi-Fi 6 and MU-MIMO aware client optimization

HPE Aruba Networking's patented AI-powered ClientMatch technology eliminates sticky client issues by placing Wi-Fi 6 capable devices on the best available AP. Session metrics are used to steer mobile devices to the best AP based on available bandwidth, types of applications being used and traffic type – even as users roam.

### Advanced Cellular Coexistence (ACC)

This feature uses built-in filtering to automatically minimize the impact of interference from cellular networks, distributed antenna systems (DAS), and commercial small cell or femtocell equipment.

### Intelligent Power Monitoring (IPM)

HPE Aruba Networking APs continuously monitor and report hardware energy consumption. They can also be configured to enable or disable capabilities based on available PoE power–ideal when wired switches have exhausted their power budget (AP-505H).

## IoT Platform Capabilties

Like all HPE Aruba Networking Wi-Fi 6 APs, the HPE Aruba Networking 500H Series includes an integrated Bluetooth 5 and 802.15.4 radio (for Zigbee support) to simplify deploying and managing IoT-based location services, asset tracking services, security solutions and IoT sensors. This allows organizations to leverage the HPE Aruba Networking 500H Series as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

### Target Wake Time (TWT)

Ideal for IoTs that communicate infrequently, TWT establishes a schedule for when clients need to communicate with an AP. This helps improve client power savings and reduces airtime contention with other clients.

### Advanced IoT Coexistence (AIC)

This feature uses built-in filtering to automatically minimize the impact of interference from IoT wireless radios like Bluetooth and Zigbee.

## Secure Infrastructure

The HPE Aruba Networking 500H Series Unified Hospitality Access Points includes components of HPE Aruba Networking's 360 Secure Fabric to help protect user authentication and wireless traffic.

### WPA3 and Enhanced Open

Support for stronger encryption and authentication is provided via the latest version of WPA for enterprise protected networks. Enhanced Open offers seamless new protection for users connecting to open networks where each session is automatically encrypted to protect user passwords and data on guest networks.

### WPA2-MPSK

MPSK enables simpler passkey management for WPA2 devices – should the Wi-Fi password on one device or device type change, no additional changes are needed for other devices. This requires ClearPass Policy Manager.

## Standard Features

### VPN Tunnels
In Remote AP (RAP) and IAP-VPN deployments, the HPE Aruba Networking 500H Series can be used to establish a secure SSL/IPSec VPN tunnel to a Mobility Controller that is acting as a VPN concentrator.

### Trusted Platform Module (TPM)
For enhanced device assurance, all HPE Aruba Networking APs have an installed TPM for secure storage of credentials, keys, and boot code.

### Simple and Secure Access
To simplify policy enforcement, the HPE Aruba Networking 500H Series uses HPE Aruba Networking's Policy Enforcement Rirewall (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 dynamic segmentation.

### High-Density Connectivity
Each HPE Aruba Networking 500H Series AP provides connectivity for a maximum of 256 associated clients per radio (512 in total). In real-world scenarios, the maximum recommended client density is dependent on environmental conditions.

## 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 500H 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.

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, HPE Aruba Networking 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 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.

For large installations across multiple sites, APs can be factory-shipped and can be activated with Zero Touch Provisioning through HPE Aruba Networking Central. This reduces deployment time, centralizes configuration, and helps manage inventory.

### 500H Remote AP bundles
To simplify the ordering and distribution of HPE Aruba Networking 500H access points, we offer a number of AP bundles that combine an AP variant a desk stand, power adapter, and North American or European power cord. This makes it easier to get remote workers and small branches up and running quickly.

## Configuration Information

**Build To Order:** BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

### BTO Models

| Remarks | Description | SKU |
|---|---|---|
| | **HPE Aruba Networking AP-503H** | |
| **Notes:** | Add Mount Kit (not included) | |
| 3 | HPE Aruba Networking AP-503H (EG) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified Hospitality AP | R3V44A |
| 4 | HPE Aruba Networking AP-503H (IL) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified Hospitality AP | R3V42A |
| 5 | HPE Aruba Networking AP-503H (JP) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified Hospitality AP | R3V40A |
| 1 | HPE Aruba Networking AP-503H (RW) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified Hospitality AP | R3V36A |
| 2 | HPE Aruba Networking AP-503H (US) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified Hospitality AP | R3V38A |
| 6 | HPE Aruba Networking AP-503H (ID) Dual Radio 2x2 802.11ax 1+2 Ethernet Hospitality Access Point | S5D82A |
| | **HPE Aruba Networking AP-503HR** | |
| **Notes:** | Bundle includes Mount Kit, Power Supply and Power Cord | |
| | HPE Aruba Networking AP-503HR (EU) with Desk Mount Power Adapter EU Power Cord Remote AP Bundle | R7G96A |
| | HPE Aruba Networking AP-503HR (US) with Desk Mount Power Adapter NA Power Cord Remote AP Bundle | R7G97A |
| | **HPE Aruba Networking AP-505H** | |
| **Notes:** | Add Mount Kit (not included) | |
| 3 | HPE Aruba Networking AP-505H (EG) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB Hospitality AP | R3V54A |
| 4 | HPE Aruba Networking AP-505H (IL) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB Hospitality AP | R3V52A |
| 5 | HPE Aruba Networking AP-505H (JP) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB Hospitality AP | R3V50A |
| 1 | HPE Aruba Networking AP-505H (RW) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB Hospitality AP | R3V46A |
| 2 | HPE Aruba Networking AP-505H (US) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB Hospitality AP | R3V48A |
| 6 | HPE Aruba Networking AP-505H (ID) Dual Radio 2x2 802.11ax 1+4 Ethernet PSE USB Hospitality AP | S5D84A |
| | **HPE Aruba Networking AP-505HR** | |
| **Notes:** | Bundle includes Mount Kit, Power Supply and EU Power Cord | |
| | HPE Aruba Networking AP-505HR (EU) Remote AP Bundle Desk Mount and Power Hospitality Access Point | R3V56A |
| **Notes:** | Bundle includes Mount Kit, Power Supply and US Power Cord | |
| | HPE Aruba Networking AP-505HR (US) Remote AP Bundle Desk Mount and Power Hospitality Access Point | R3V57A |
| | **HPE Aruba Networking AP-503H TAA** | |
| **Notes:** | Add Mount Kit (not included) | |
| 3 | HPE Aruba Networking AP-503H (EG) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified TAA Hospitality AP | R3V45A |
| 4 | HPE Aruba Networking AP-503H (IL) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified TAA Hospitality AP | R3V43A |

## Configuration Information

| | | |
|---|---|---|
| 5 | HPE Aruba Networking AP-503H (JP) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified TAA Hospitality AP | R3V41A |
| 1 | HPE Aruba Networking AP-503H (RW) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified TAA Hospitality AP | R3V37A |
| 2 | HPE Aruba Networking AP-503H (US) Dual Radio 802.11ax 2x2 1+2 Ethernet Unified TAA Hospitality AP | R3V39A |
| | **HPE Aruba Networking AP-505H TAA** | |
| **Notes:** | Add Mount Kit (not included) | |
| 3 | HPE Aruba Networking AP-505H (EGF1) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB TAA Hospitality AP | R3V55A |
| 4 | HPE Aruba Networking AP-505H (ILF1) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB TAA Hospitality AP | R3V53A |
| 5 | HPE Aruba Networking AP-505H (JPF1) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB TAA Hospitality AP | R3V51A |
| 1 | HPE Aruba Networking AP-505H (RWF1) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB TAA Hospitality AP | R3V47A |
| 2 | HPE Aruba Networking AP-505H (USF1) Dual Radio 802.11ax 2x2 1+4 Ethernet PSE USB TAA Hospitality AP | R3V49A |

**Configuration Rules**

| Rule# | Description |
|---|---|
| 1 | Available everywhere except US, Israel, Egypt, Indonesia and Japan. Partners must have an SOT (Cross border agreement). |
| 2 | Available in US only. Partners must have an SOT (Cross border agreement). |
| 3 | Available in Egypt only. Partners must have an SOT (Cross border agreement). |
| 4 | Available in Israel only. Partners must have an SOT (Cross border agreement). |
| 5 | Available in Japan only. Partners must have an SOT (Cross border agreement). |
| 6 | Available in Indonesia only. Partners must have an SOT (Cross border agreement). |
| **Notes:** | OCA Only Model Selection Form -> HPE Aruba Networking > Wireless > Access Points > Hospitality / Remote:>HPE Aruba Networking 500H Series Unified Hospitality Access Points |

## Mount Accessories

**HPE Aruba Networking AP-Mount Kits**

| | | |
|---|---|---|
| 1, 2, 3 | HPE Aruba Networking AP-500H-MNTD2 RJ45 Ethernet Jack Desk Mount | S0J41A |
| **Notes:** | For desk | |

**Configuration Rules**

| Rule# | Description | SKU |
|---|---|---|
| 1 | For HPE Aruba Networking 503H Series Std (Min 0 // max 1) User Selection (min 1 // max 1) | |
| 2 | For HPE Aruba Networking 505H Series Std (Min 0 // max 1) User Selection (min 1 // max 1) | |
| 3 | For HPE Aruba Networking 503HR/505HR Series Std (Min 0 // max 0) User Selection (min 0 // max 0) | |

## Power Options

| Rule # | Description | SKU |
|---|---|---|
| | **Power Options** | |
| **Notes:** | Most devices are PoE powered from switch so these are optional | |
| 1, 2, 4 | HPE Aruba Networking AP-AC2-12B 12V/48W AC/DC Desktop Style Power Adapter with 2.1/5.5mm Connector<br>• Add AC power cord, Unrestricted | R3K00A |

## Configuration Information

| | | |
|---|---|---|
| 2, 4 | HPE Aruba Networking AP-AC18-12B 12V/18W Worldwide Wall-Wart 2.1/5.5mm Connector Power Adapter<br>• Add AC power cord, Unrestricted | R9D91A |
| 1, 3, 4 | HPE Aruba Networking AP-AC2-48C 48V/50W AC/DC Desktop Style Power Adapter with 1.35/3.5mm Connector<br>• Add AC power cord, Unrestricted | R3K01A |
| 1, 2, 3, 4 | HPE Aruba Networking AP-POE-AFGE 1-Port GbE 802.3af 15.4W Midspan Injector<br>• Add AC Power Cord, Unrestricted(AP-503H) | R6P68A |
| 1, 3, 4 | HPE Aruba Networking AP-POE-ATSR 1-Port Smart Rate 802.3at 30W Midspan Injector | R6P67A |
| 1, 3, 4 | HPE Aruba Networking AP-POE-BTSR 1-Port Smart Rate 802.3bt 60W Midspan Injector<br>• Add AC power cord, Unrestricted | R1C73A |
| 1, 3, 4 | HPE Aruba Networking AP-POE-BT10 1-port 10G 60W Midspan 802.3bt PoE Injector<br>• Add AC power cord, Unrestricted | S3J26A |

### Configuration Rules

| Rule# | Description | SKU |
|---|---|---|
| 1 | If this Power Supply is selected, bring in (Min 1 // Max 1) Localized power cord based on the HPE Aruba Networking Localization Menu | |
| 2 | For HPE Aruba Networking 503H Series Std (Min 0 // max 1) User Selection (min 0 // max 1) | |
| 3 | For HPE Aruba Networking 505H Series Std (Min 0 // max 1) User Selection (min 0 // max 1) | |
| 4 | For 503HR/505HR Series Std (Min 0 // max 0) User Selection (min 0 // max 0) | |

## Accessories

### Other Accessories

| | | |
|---|---|---|
| | For HPE Aruba Networking 503H/505H Series Std (Min 0 // max 99) User Selection (min 0 // max 99) | |
| | For HPE Aruba Networking 503HR/505HR Series Std (Min 0 // max 99) User Selection (min 0 // max 99) | |
| | HPE Aruba Networking AP-CBL-SERU Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable | JY728A |
| | HPE Aruba Networking AP-MOD-SERU Micro-USB TTL3.3V to RJ45 RS232 AP Console Adapter Module | R6Q99A |
| | HPE Aruba Networking AP-MC-SFP Media Converter Module for WLAN Access Points | R8F89A |
| | HPE Aruba Networking USB LTE Modem for Access Points and Gateways | R8F34A |
| | HPE Aruba Networking USB Extender Cable Kit | R8G76A |

**Notes:** Drivers available on the HPE Aruba Networking Support Center

## Software

### Central

#### Cloud Services / Access Point Foundation Subscriptions

| | | |
|---|---|---|
| 2, 8 | HPE Aruba Networking Central AP Foundation 1-year Subscription E-STU | Q9Y58AAE |
| 2, 8 | HPE Aruba Networking Central AP Foundation 3 year Subscription E-STU | Q9Y59AAE |
| 2, 8 | HPE Aruba Networking Central AP Foundation 5 year Subscription E-STU | Q9Y60AAE |
| 2, 8 | HPE Aruba Networking Central AP Foundation 7 year Subscription E-STU | Q9Y61AAE |
| 2, 8 | HPE Aruba Networking Central AP Foundation 10 year Subscription E-STU | Q9Y62AAE |

#### Cloud Services / Access Point Advanced Subscriptions

| | | |
|---|---|---|
| 2, 8 | HPE Aruba Networking Central AP Advanced 1 year Subscription E-STU | Q9Y63AAE |
| 2, 8 | HPE Aruba Networking Central AP Advanced 3 year Subscription E-STU | Q9Y64AAE |
| 2, 8 | HPE Aruba Networking Central AP Advanced 5 year Subscription E-STU | Q9Y65AAE |
| 2, 8 | HPE Aruba Networking Central AP Advanced 7 year Subscription E-STU | Q9Y66AAE |
| 2, 8 | HPE Aruba Networking Central AP Advanced 10 year Subscription E-STU | Q9Y67AAE |

## Configuration Information

| | | |
|---|---|---|
| | **On-Prem Services / Access Point Foundation Subscriptions** | |
| 3, 8 | HPE Aruba Networking Central on Prem AP Foundation 1 year Subscription E-STU | R6U63AAE |
| 3, 8 | HPE Aruba Networking Central on Prem AP Foundation 3 year Subscription E-STU | R6U64AAE |
| 3, 8 | HPE Aruba Networking Central on Prem AP Foundation 5 year Subscription E-STU | R6U65AAE |
| 3, 8 | HPE Aruba Networking Central on Prem AP Foundation 7 year Subscription E-STU | R6U66AAE |
| 3, 8 | HPE Aruba Networking Central on Prem AP Foundation 10 year Subscription E-STU | R6U67AAE |
| | **Configuration Rules** | |
| **Rule #** | **Description** | **SKU** |
| 2 | Add the Central Cloud Skus to the HPE Aruba Networking Catalog as Standalone: HPE Aruba Networking > Network Management > Central > Cloud Services | |
| 3 | Add the Central On-Prem Skus to the HPE Aruba Networking Catalog as Standalone: HPE Aruba Networking > Network Management > Central > On-Prem Services | |
| 6 | Add the Central FedRAMP Service Skus to the HPE Aruba Networking Catalog as Standalone: HPE Aruba Networking > Network Management > Central > FedRAMP | |
| 8 | For OCA: When configuring the following AP 10-Pack, selection condition for this Subscription should be 0(default) or 10 | |
| | HPE Aruba Networking AP-503 (RW) 10-Pack Dual Radio 2x2:2 Wi-Fi 6 Campus Access Point | S1E83A |
| | HPE Aruba Networking AP-503 (US) 10-Pack Dual Radio 2x2:2 Wi-Fi 6 Campus Access Point | S1E84A |

### As-a-Service

| | | |
|---|---|---|
| | **Cloud Services / Access Point Foundation Subscriptions** | |
| 7 | HPE Aruba Networking Central AP Foundation 1 year Subscription SaaS | Q9Y58AAS |
| 7 | HPE Aruba Networking Central AP Foundation 3 year Subscription SaaS | Q9Y59AAS |
| 7 | HPE Aruba Networking Central AP Foundation 5 year Subscription SaaS | Q9Y60AAS |
| 7 | HPE Aruba Networking Central AP Foundation 7 year Subscription SaaS | Q9Y61AAS |
| 7 | HPE Aruba Networking Central AP Foundation 10 year Subscription SaaS | Q9Y62AAS |
| | **Cloud Services / Access Point Advanced Subscriptions** | |
| 7 | HPE Aruba Networking Central AP Advanced 1 year Subscription SaaS | Q9Y63AAS |
| 7 | HPE Aruba Networking Central AP Advanced 3 year Subscription SaaS | Q9Y64AAS |
| 7 | HPE Aruba Networking Central AP Advanced 5 year Subscription SaaS | Q9Y65AAS |
| 7 | HPE Aruba Networking Central AP Advanced 7 year Subscription SaaS | Q9Y66AAS |
| 7 | HPE Aruba Networking Central AP Advanced 10 year Subscription SaaS | Q9Y67AAS |
| | **Configuration Rules** | |
| **Rule#** | **Description** | **SKU** |
| 7 | For IRIS reference only. No action required for OCX and Clic | |

## Technical Specifications

| Hardware Variants | |
|---|---|
| **AP type** | AP-503H: Mid-range dual radio Wi-Fi 6 Hospitality AP with 1+2 Ethernet ports<br>AP-505H: High-end dual radio Wi-Fi 6 Hospitality AP with 1+4 Ethernet ports, PSE, USB |
| **Wi-Fi Radio and Platform Specifications** | |
| **5 GHz radio** | Two spatial stream (SU) MIMO for up to 1.2 Gbps wireless data rate (HE80) |
| **2.4 GHz radio** | Two spatial stream (SU) MIMO for up to 287 Mbps wireless data rate (HE20)<br>Note: HE40 operation is supported in 2.4 GHz, but uncommon and not recommended for enterprise deployments |
| **Maximum number of associated client devices** | Up to 256 associated client devices per radio |
| **Maximum number of BSSIDs** | 16 BSSIDs per radio |
| **Supported frequency bands (country-specific restrictions apply)** | 2.400 to 2.4835GHz ISM<br>5.150 to 5.250GHz U-NII-1<br>5.250 to 5.350GHz U-NII-2A<br>5.470 to 5.725GHz U-NII-2C<br>5.725 to 5.850GHz U-NII-3/ISM<br>5.850 to 5.895GHz U-NII-4 |
| **Dynamic frequency selection (DFS) optimizes the use of available RF spectrum** | |
| **Supported radio technologies** | 802.11b: Direct-sequence spread-spectrum (DSSS)<br>802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)<br>802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 8 resource units |
| **Supported modulation types:** | 802.11b: BPSK, QPSK, CCK<br>802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM (proprietary extension)<br>802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM (proprietary extension)<br>802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM |
| **802.11n high-throughput (HT) support** | HT20/40 |
| **802.11ac very high throughput (VHT) support:** | VHT20/40/80 |
| **802.11ax high efficiency (HE) support:** | HE20/40/80 |
| **Supported data rates (Mbps):** | 802.11b: 1, 2, 5.5, 11<br>802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54<br>802.11n: 6.5 to 300 (MCS0 to MCS15, HT20 to HT40), 400 with 256-QAM<br>802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2, VHT20 to VHT80), 1,083 with 1024-QAM<br>802.11ax (2.4GHz): 3.6 to 574 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE40)<br>802.11ax (5GHz): 3.6 to 1,201 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE80) |
| **802.11n/ac/ax packet aggregation:** | A-MPDU, A-MSDU |
| **Transmit power** | Configurable in increments of 0.5 dBm |
| **Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):** | 2.4 GHz band: +20 dBm (17 dBm per chain)<br>5 GHz band: +21 dBm (18 dBm per chain)<br>Note: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain |
| **Minimum configurable transmit power level** | 0dBm (conducted, per chain) |
| **VPN IPSec throughput performance** | 100 Mbps (AP-503H) and 500 Mbps or better (AP-505H) |

## Technical Specifications

- Advanced Cellular Coexistence (ACC) minimizes the impact of interference from cellular networks
- Advanced IOT Coexistence (AIC) allows concurrent operation of multiple radios in the 2.4 GHz band (AP-505H)
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance
- 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
- 802.11ax Target Wait Time (TWT) to support low-power client devices
- 802.11mc Fine Timing Measurement (FTM) for precision distance ranging

| Wi-Fi Antennas |
|---|
| **AP-503H** |
| Two integrated semi-directional antennas for 2x2 MIMO with peak single antenna gain of 2.5 dBi in 2.4 GHz and 5.6 dBi in 5 GHz. Built-in antennas are optimized for vertical wall or desk mounted orientation of the AP. Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 1.7 dBi in 2.4 GHz and 5.0 dBi in 5 GHz. |
| **AP-505H** |
| Two integrated semi-directional antennas for 2x2 MIMO with peak single antenna gain of 5.2dBi in 2.4GHz and 5.4dBi in 5GHz. Built-in antennas are optimized for vertical wall or desk mounted orientation of the AP. Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 3.3 dBi in 2.4 GHz and 2.9 dBi in 5 GHz |

| Other Interfaces |
|---|
| **Uplink (E0)** |
| AP-503H: Ethernet wired network port (RJ45)<br>Auto-sensing link speed (10/100/1000BASE-T) and MDI/MDIX<br>802.3az Energy Efficient Ethernet (EEE)<br>PoE-PD: 802.3af PoE (class 3)<br><br>AP-505H: Smart Rate Ethernet wired network port (RJ45)<br>Auto-sensing link speed (100/1000/2500BASE-T) and MDI/MDIX<br>2.5 Gbps speed complies with NBase-T and 802.3bz specifications<br>802.3az Energy Efficient Ethernet (EEE)<br>PoE-PD: 48Vdc (nominal) 802.3af/at/bt PoE (class 3, 4 or 6) |
| **Local** |
| AP-503H (E1-E2): Two Ethernet wired network ports (RJ45)<br>Auto-sensing link speed (10/100/1000BASE-T) and MDI/MDIX<br>802.3az Energy Efficient Ethernet (EEE)<br><br>AP-505H (E1-E4): Four Ethernet wired network ports (RJ45)<br>Auto-sensing link speed (10/100/1000BASE-T) and MDI/MDIX<br>802.3az Energy Efficient Ethernet (EEE)<br>E1 & E2: PoE-PSE: 802.3af/at PoE output; dual 802.3af (both ports) or single 802.3at (E1 only) |
| **DC power interface** |
| AP-503H:<br>12Vdc (nominal, +/- 5%), accepts 2.1mm/5.5mm center-positive circular plug with 9.5mm length<br><br>AP-505H<br>48Vdc (nominal, +/- 5%), accepts 1.35mm/3.5mm center-positive circular plug with 9.5mm length |

## Technical Specifications

| |
|---|
| **USB 2.0 host interface (Type A connector)** |
| AP-505H<br>Cellular modems<br>IOT or other plug-in accessories<br>Device battery charging port<br>Capable of sourcing up to 1A / 5W to an attached device |
| **Bluetooth Low Energy (BLE5.0) and Zigbee (802.15.4) radio** |
| BLE: up to 7 dBm transmit power (class 1) and -100 dBm receive sensitivity (125 kbps)<br>Zigbee: up to 7 dBm transmit power and -97 dBm receive sensitivity (250 kbps)<br>Integrated semi-directional antenna with peak gain of 2.5 dBi (AP-503H) or 1.2dBi (AP-505H) |
| **Visual indictors (two multi-color LEDs):** |
| Power/System status<br>Radio status<br>Local network port status (2x on AP-503H, 4x on AP-505H)<br>PoE-PSE status (2x) (applies to AP-505H only) |
| **Reset button:** |
| Factory reset, LED mode control (normal/off) |
| **Serial console interface** |
| Proprietary, micro-B USB physical jack |
| **Crypto performance** |
| Up to 500 Mbps |

| **Power sources and power consumption** |
|---|
| **Power Sources: The AP supports direct DC power and Power over Ethernet** |
| The AP supports direct DC power and Power over Ethernet (PoE)<br>When both DC and PoE power sources are available, DC power takes priority over PoE1<br>Power sources are sold separately; see the HPE Aruba Networking 500H Series Ordering Guide for details<br>**AP-505H**<br>When powered by DC or 802.3bt (class 6) PoE, the AP will operate without restrictions<br>When powered by 802.3at (class 4) PoE and with the IPM feature disabled, the AP will disable the USB port (only) if PoE-PSE is enabled, and support (802.3af) PoE-PSE power on E1 only (no PSE on E2)<br>When powered by 802.3af (class 3) PoE with the IPM feature disabled, the AP will disable the USB port and PoE-PSE capability<br>With IPM enabled, the AP will start up without restrictions, but may dynamically apply additional restrictions depending on the PoE budget and actual power consumption. The feature specific restrictions and order in which they are applied can be configured |
| **Maximum (worst-case) power** |
| **AP-503H:**<br>DC powered: 10.0W<br>PoE powered (802.3af): 11.4W<br><br>**AP-505H:**<br>DC powered: 14W / 50W<br>PoE powered (802.3bt): 14W / 51W<br>PoE powered (802.3at): 14W / 25.5W<br>PoE powered (802.3af): 13.5W / 13.5W |
| **Maximum (worst-case) power consumption in idle mode (without USB or PSE)** |
| AP-503H: 4.5W (PoE)<br>AP-505H: 6.2W (PoE) |

## Technical Specifications

| Mechanical Specifications |
|---|
| **Dimensions/weight (unit, excluding mount bracket):** |
| **AP-503H:**<br>86mm (W) x 40mm (D) x 150mm (H)<br>290g<br>**AP-505H:**<br>86mm (W) x 47mm (D) x 150mm (H)<br>360g |
| **Dimensions/weight (shipping):** |
| **AP-503H:**<br>111mm (W) x 54mm (D) x 167mm (H)<br>380g<br>**AP-505H:**<br>111mm (W) x 54mm (D) x 167mm (H)<br>450g |
| **Mounting details** |
| Using one of the (separate orderable) mount kits, the AP can be attached to a single or dual gang wall-box, directly to a wall, or desk mounted. See the 500H Series Ordering Guide for details. |

| Environmental Specifications |
|---|
| **Operating conditions** |
| Temperature: 0C to +40C / +32F to +104F<br>Humidity: 5% to 93% non-condensing<br>ETS 300 019 class 3.2 environments |
| **Storage and transportation conditions** |
| Temperature: -40C to +70C / -40F to +158F<br>Humidity: 5% to 93% non-condensing<br>ETS 300 019 classes 1.2 and 2.3 environments |

| Reliability |
|---|
| **Mean time between failure** |
| AP-503H: 1,360 khrs (155 yrs) at +25C operating temperature |
| AP-505H: 780 khrs (88 yrs) at +25C operating temperature. |

## Technical Specifications

| Regulatory And Safety Compliance |
| --- |
| **Regulatory model numbers** |
| AP-503H (all variants): APINH503<br>AP-505H (all variants): APINH505 |
| **Minimum software release** |
| HPE Aruba Networking Operating System and HPE Aruba Networking InstantOS 8.7.1.0 (AP-503H) and 8.7.0.0 (AP-505H) |
| HPE Aruba Networking Operating System 10.3.0.0 (AP-503H), 10.2.0.0 (AP-505H) |
| **Regulatory compliance (for more country-specific regulatory information and approvals, please see your HPE Aruba Networking representative.)** |
| FCC/ISED<br>CE Marked<br>RED Directive 2014/53/EU<br>EMC Directive 2014/30/EU<br>Low Voltage Directive 2014/35/EU<br>UL/IEC/EN 62368-1<br>EN 60601-1-1, EN60601-1-2 |
| **Certifications** |
| • Wi-Fi Alliance:<br>– Wi-Fi CERTIFIED a, b, g, n, ac<br>– Wi-Fi CERTIFIED 6 (ax)<br>– WPA, WPA2 and WPA3–Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE)<br>– WMM, WMM-PS, Wi-Fi Agile Multiband<br>– Wi-Fi CERTIFIED LocationTM (AP-505H Only)<br>• Bluetooth SIG<br>• Ethernet Alliance (PoE) |

## Technical Specifications

| RF Performance Table | | |
|---|---|---|
| | **Maximum transmit power (dBm) per transmit chain** | **Receiver sensitivity (dBm) per receive chain** |
| **2.4GHz, 802.11b** | | |
| 1Mbps | 18 | -98 |
| 11Mbps | 18 | -90 |
| **2.4GHz, 802.11g** | | |
| 6Mbps | 18 | -93 |
| 54Mbps | 18 | -76 |
| **2.4GHz, 802.11n HT20** | | |
| MCS0 | 18 | -93 |
| MCS7 | 16 | -75 |
| **2.4GHz, 802.11ax HE20** | | |
| MCS0 | 18 | -93 |
| MCS11 | 14 | -62 |
| **5GHz, 802.11a** | | |
| 6Mbps | 18 | -92 |
| 54Mbps | 18 | -75 |
| **5GHz, 802.11n HT20** | | |
| MCS0 | 18 | -92 |
| MCS7 | 16 | -74 |
| **5GHz, 802.11n HT40** | | |
| MCS0 | 18 | -90 |
| MCS7 | 16 | -71 |
| **5GHz, 802.11ac VHT20** | | |
| MCS0 | 18 | -90 |
| MCS9 | 16 | -69 |
| **5GHz, 802.11ac VHT40** | | |
| MCS0 | 18 | -90 |
| MCS9 | 16 | -65 |
| **5GHz, 802.11ac VHT80** | | |
| MCS0 | 18 | -87 |
| MCS9 | 16 | -62 |
| **5GHz, 802.11ax HE20** | | |
| MCS0 | 18 | -93 |
| MCS11 | 14 | -62 |
| **5GHz, 802.11ax HE40** | | |
| MCS0 | 18 | -90 |
| MCS11 | 14 | -59 |
| **5GHz, 802.11ax HE80** | | |
| MCS0 | 18 | -87 |
| MCS11 | 14 | -56 |

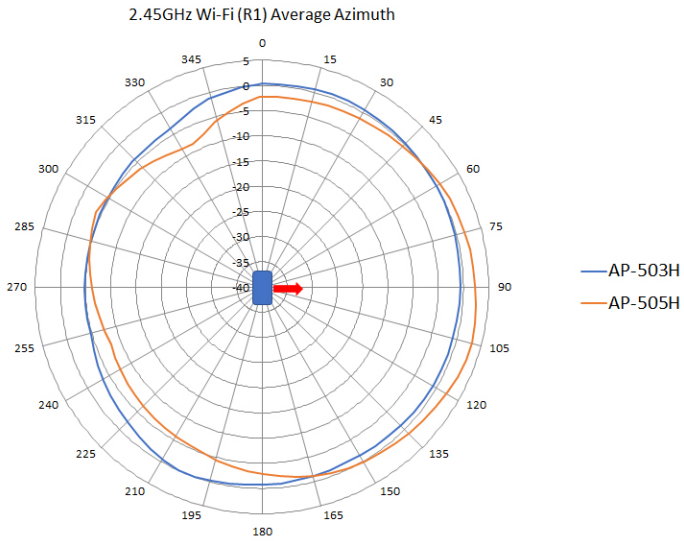
**Notes:** Table shows the maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

# Technical Specifications

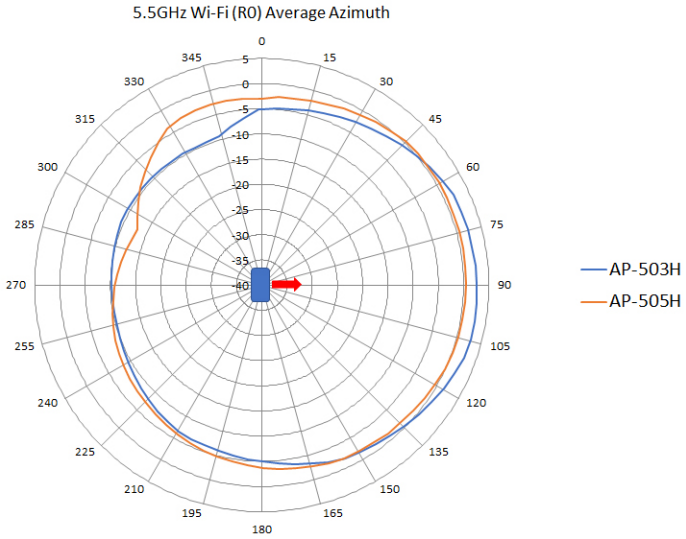
## Antenna Patterns

### Horizontal or azimuth plane (looking at the top of the AP, front facing to the right)

(averaged patterns for all applicable antennas)



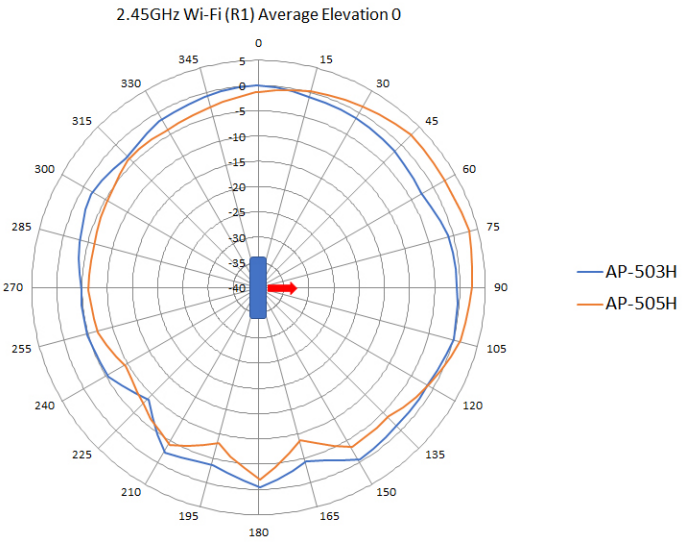

**2.45 GHz Wi-Fi (antennas 0, 1)**



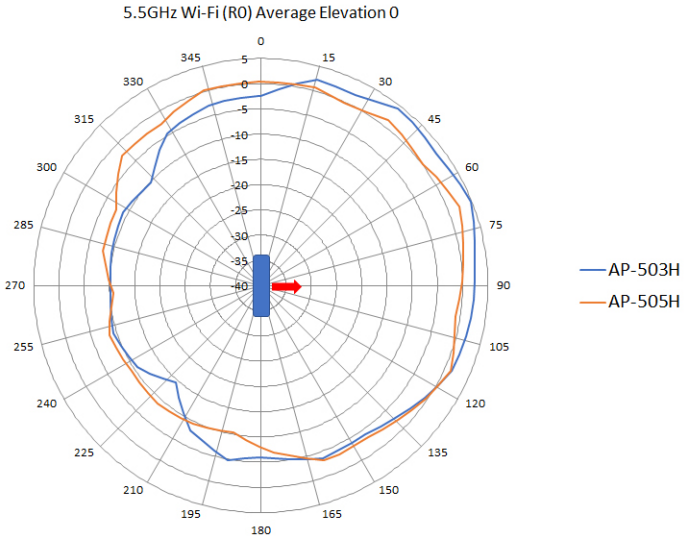

**5.5 GHz Wi-Fi (antennas 0, 1)**

### Vertical (elevation) plane 0 (looking at the side of the AP, front facing to the right)

(averaged patterns for all applicable antennas)




**2.45 GHz Wi-Fi (antennas 0, 1)**

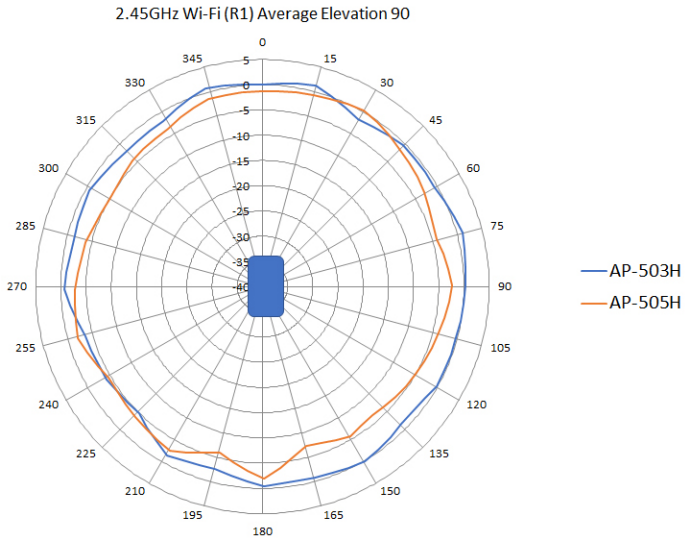



**5.5 GHz Wi-Fi (antennas 0, 1)**

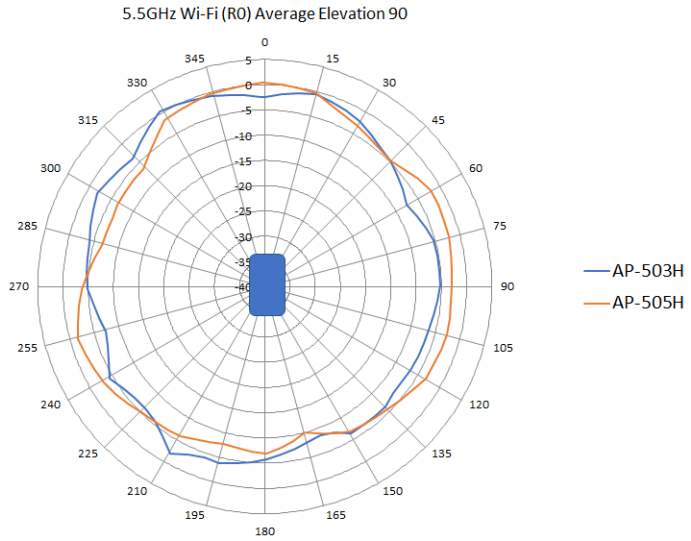
# Technical Specifications

## Vertical (elevation) plane 90 (looking at the front of the AP)

(averaged patterns for all applicable antennas)




**2.45 GHz Wi-Fi (antennas 0, 1)**




**5.5 GHz Wi-Fi (antennas 0, 1)**

## Summary of Changes

| Date | Version History | Action | Description of Change |
|---|---|---|---|
| 28-Jul-2025 | **Version 19** | Changed | Update survey link. |
| 07-Apr-2025 | **Version 18** | Changed | Overview, Standard Features, Configuration Information, and Technical Specifications sections were updated. |
| 21-Jan-2025 | **Version 17** | Changed | Technical Specifications section was updated. |
| 16-Dec-2024 | **Version 16** | Changed | Overview, Standard Features and Configuration Information sections were updated. |
| 19-Aug-2024 | **Version 15** | Changed | Configuration Information section was updated. |
| 08-Apr-2024 | **Version 14** | Changed | Configuration Information section was updated. |
| 18-Mar-2024 | **Version 13** | Changed | Configuration Information section was updated. |
| 04-Dec-2023 | **Version 12** | Changed | Series name was updated. |
| 07-Aug-2023 | **Version 11** | Changed | Configuration Information section was updated. |
| 06-Mar-2023 | **Version 10** | Changed | Configuration Information section was updated. |
| 21-Nov-2022 | **Version 9** | Changed | Updates worked through out the document. |
| 15-Aug-2022 | **Version 8** | Changed | Configuration Information section was updated. |
| 05-Jul-2022 | **Version 7** | Changed | Configuration Information section was updated, new SKUs were added. |
| 06-Dec-2021 | **Version 6** | Changed | SKUs were added in Configuration Information section was updated. |
| 15-Mar-2021 | **Version 5** | Changed | Configuration Information section was updated. |
| 01-Feb-2021 | **Version 4** | Changed | Configuration Information section was updated. |
| 04-Jan-2021 | **Version 3** | Changed | Standard Features and Configuration Information sections were updated.<br>New SKUS were added. |
| 08-Sep-2020 | **Version 2** | Changed | Configuration Information section was updated.<br>New SKUS were added. |
| 04-May-2020 | **Version 1** | New | New QuickSpecs |

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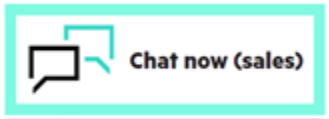


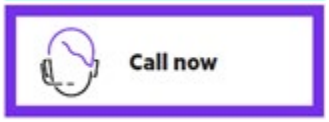



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