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HPE Aruba Networking 500 Series Campus Access Points QuickSpecs

Cost-Effective Wi-Fi 6 (802.11ax) For Medium-Density Indoor Environments

These affordable Wi-Fi 6 access points provide high-performance connectivity for any organization experiencing growing numbers of mobile, IoT and mobility requirements. With a maximum real-world aggregate data rate of 1.49 Gbps (HE80/HE20), they deliver the speed and reliability needed for venues and workplaces such as schools, midsize offices and retailers.

Overview



HPE Aruba Networking 500 Series Campus Access Points

Key Features

- 1.49 Gbps maximum real-world speed (HE80/HE20)
- 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
- Flexible management choices

Standard Features

Incredible Efficiency

The HPE Aruba Networking 500 Series Campus Access Points are also 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), bi-directional multi-user MIMO and cellular optimization. With up to 2 spatial streams (2SS) and 80MHz channel bandwidth (HE80), the 500 series provides groundbreaking wireless capabilities for budget-conscious deployments.

Advantages of OFDMA

This capability allows HPE Aruba Networking's access points 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.

Client Optimization

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

Reduce Interference

Unique to HPE Aruba Networking, Advanced Cellular Coexistence (ACC) 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 access points 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.

IoT Platform Capabilities

Like other HPE Aruba Networking Wi-Fi 6 access points, the 500 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 500 series as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

Standard Features

Target Wake Time (TWT)

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

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. Requires ClearPass Policy Manager.

VPN Tunnels

In Remote access point (RAP) and IAP-VPN deployments, the 500 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 access points have an installed TPM for secure storage of credentials and keys, and boot code.

Simple and Secure Access

To simplify policy enforcement, the HPE Aruba Networking 500 series uses HPE Aruba Networking's policy enforcement firewall (PEF) feature to encapsulate all traffic from the access point 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.

High-Density Connectivity

Each 500 series access point 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.

Standard Features

Flexible Operation and Management

Our unified access points can operate as standalone access points or with a gateway for greater scalability, security, and manageability. Access points 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 access points 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.

Configuration Information

BTO Models

Description	SKU
505 Internal Antenna Access Points	
Notes: Add Mount Kit	
HPE Aruba Networking AP-505 (EG) Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H25A
HPE Aruba Networking AP-505 (IL) Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H26A
HPE Aruba Networking AP-505 (JP) Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H27A
HPE Aruba Networking AP-505 (RW) Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H28A
HPE Aruba Networking AP-505 (US) Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H29A
HPE Aruba Networking AP-505 (ID) Dual Radio 2x2 802.11ax Internal Antennas Campus Access Point	S5D85A
505 Internal Antenna Access Points - 10-Pack Eco-Friendly Bundle	
Notes: Add 10 mount kits; eco-pack includes one JY728A console adapter cable	
HPE Aruba Networking AP-505 (RW) Dual Radio 2x2 Wi-Fi 6 10-pack Campus Access Point	S3J27A
HPE Aruba Networking AP-505 (US) Dual Radio 2x2 Wi-Fi 6 10-pack Campus Access Point	S3J28A
504 External Antenna Access Points	
Notes: Add Mount Kit, Antennas	
HPE Aruba Networking AP-504 (EG) Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H19A
HPE Aruba Networking AP-504 (IL) Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H20A
HPE Aruba Networking AP-504 (JP) Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H21A
HPE Aruba Networking AP-504 (RW) Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H22A
HPE Aruba Networking AP-504 (US) Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H23A
505 Internal Antenna Access Points - TAA Models	
Notes: Add Mount Kit	
HPE Aruba Networking AP-505 (EG) TAA Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H35A
HPE Aruba Networking AP-505 (IL) TAA Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H36A
HPE Aruba Networking AP-505 (JP) TAA Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H37A
HPE Aruba Networking AP-505 (RW) TAA Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H38A
HPE Aruba Networking AP-505 (US) TAA Dual Radio 2x2 802.11ax Internal Antennas Unified Campus AP	R2H39A

Configuration Information

504 External Antenna Access Points - TAA Models

Notes: Add Mount Kit, Antennas

HPE Aruba Networking AP-504 (EG) TAA Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H30A
HPE Aruba Networking AP-504 (IL) TAA Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H31A
HPE Aruba Networking AP-504 (JP) TAA Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H32A
HPE Aruba Networking AP-504 (RW) TAA Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H33A
HPE Aruba Networking AP-504 (US) TAA Dual Radio 2x2 802.11ax External Antennas Unified Campus AP	R2H34A

Mount Accessories

Notes: For 504, 505 Series Std (Min 0 // max 99) User Selection (min 0 // max 99)

Description	SKU
AP Mount Kits	
HPE Aruba Networking AP-MNT-A Campus AP Type A Suspended Ceiling Rail Flat 9/16 Mount Bracket Kit	R3J15A
HPE Aruba Networking AP-MNT-MP10-A Campus AP 10-Pack 9/16 Flat Ceiling Rail Mount Bracket Kit	JZ370A
HPE Aruba Networking AP-MNT-B Campus AP Type B Suspended Ceiling Rail Flat 15/16 Mount Bracket Kit	R3J16A
HPE Aruba Networking AP-MNT-MP10-B Campus AP 10-Pack 15/16 Flat Ceiling Rail Mount Bracket Kit	Q9G69A
HPE Aruba Networking AP-MNT-C Campus AP Type C Suspended Ceiling Rail 9/16 Profile Mnt Bracket Kit	R3J17A
HPE Aruba Networking AP-MNT-MP10-C Campus AP 10-Pack Profile 9/16 Ceiling Rail Mount Bracket Kit	Q9G70A
HPE Aruba Networking AP-MNT-D Campus AP Type D Solid Surface Mount Bracket Kit	R3J18A
HPE Aruba Networking AP-MNT-MP10-D Campus AP 10-Pack Solid Surface Mount Bracket Kit	Q9G71A
HPE Aruba Networking AP-MNT-E Campus AP Type E Wall-Box Mount Bracket Kit	R3J19A
HPE Aruba Networking AP-MNT-MP10-E Campus AP 10-Pack Wall-box Mount Bracket Kit	R1C72A
HPE Aruba Networking AP-MNT-U Campus Access Point Type U Universal Mount Bracket Kit	S4K79A
HPE Aruba Networking AP-MNT-MP10-U Campus AP Universal 10-pack Mount Bracket Kit	S0J40A
HPE Aruba Networking AP-MNT-MP10-X Campus AP 10-Pack Mount Adapter Kit	R3T20A

- *Kit contains mounts for 10 access points
- Access Points do not include a Mount. Qty 1 Mount kits should be selected

Configuration Information

Antennas

For 504 Std (Min 0 // max 1) User Selection (min 0 // max 1)

HPE Aruba Networking AP-ANT-311 Direct-Mount RP-SMA Tri-Band 1x1 Omni Dipole Antenna	S1F79A
HPE Aruba Networking AP-ANT-312 Direct-Mount RP-SMA Tri-Band 1x1 Low-Profile Omni Dipole Antenna	S1F80A
HPE Aruba Networking AP-ANT-313 Cabled RP-SMA Tri-Band 1x1 Omni Dipole Antenna	S1F81A
HPE Aruba Networking AP-ANT-320 Cabled RP-SMA Tri-Band 2x2 Downtilt Omni Ceiling Antenna	S1F85A
HPE Aruba Networking AP-ANT-325 Cabled RP-SMA Tri-Band 2x2 Medium Gain Directional Panel Antenna	S1F86A
HPE Aruba Networking AP-ANT-328 Cabled RP-SMA Tri-Band 2x2 High Gain Directional Panel Antenna	S1F87A

Notes:

- *Must select Qty 0 or Qty 2
- AP-ANT-1W, and AP-ANT-20W are usually direct connect to the chassis
- AP-ANT-25A,AP-ANT-28 ship with hardware for flush mount to a flat surface
- AP-504 has 2x RPSMA female, concurrent dual-band connections

Antenna Mount Kits

For 504 Series Std (Min 0 // max 1) User Selection (min 0 // max 1)

HPE Aruba Networking AP-ANT-MNT-4 AZ/EL Adjustable Antennas Pole/Wall Mount Kit	JW021A
HPE Aruba Networking AP-ANT-MNT-U Universal AZ/EL Adjustable Antenna Pole Wall Mount Kit	S1J09A

Notes:

- AP-ANT-MNT-3 compatible with AP-ANT-25A and AP-ANT-28
- AP-ANT-MNT-4 compatible with AP-ANT-28a
- AP-ANT-MNT-U compatible with AP-ANT-325 and AP-ANT-328

Power Options

For 504, 505 Series Std (Min 0 // max 1) User Selection (min 0 // max 1)

HPE Aruba Networking AP-AC2-12B 12V/48W AC/DC Desktop Style Power Adapter with 2.1/5.5mm Connector	R3K00A
HPE Aruba Networking AP-POE-AFGE 1-Port GbE 802.3af 15.4W Midspan Injector	R6P68A
HPE Aruba Networking AP-POE-ATSR 1-Port Smart Rate 802.3at 30W Midspan Injector	R6P67A

Notes:

- If this Power Supply is selected, bring in (Min 1 // Max 1) Localized power cord based on the HPE Aruba Networking Localization Menu
- Most devices are PoE powered from switch so these are optional

Configuration Information

Accessories

Snap-on Covers

For 505 Series Std (Min 0 // max 99) User Selection (min 0 // max 99)

HPE Aruba Networking AP-MNT-MP10-B1 Campus AP 10-Pack 15/16 Adj Flat Ceiling Rail Mount Bracket Kit	R6T34A
HPE Aruba Networking AP-505-CVR-20 20pk for AP-505 White Non-glossy Snap-On Covers	R2H24A

Notes: Kit contains 20 optional snap-on covers

Other Accessories

For 504, 505 Series Std (Min 0 // max 99) User Selection (min 0 // max 99)

HPE Aruba Networking AP-MOD-SERU Micro-USB TTL3.3V to RJ45 RS232 AP Console Adapter Module	R6Q99A
HPE Aruba Networking AP-CBL-SERU Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable	JY728A

Software

Central

Cloud Services / Access Point Foundation Subscriptions

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

Cloud Services / Access Point Advanced Subscriptions

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

On-Prem Services / Access Point Foundation Subscriptions

HPE Aruba Networking Central on Prem AP Foundation 1 year Subscription E-STU	R6U63AAE
HPE Aruba Networking Central on Prem AP Foundation 3 year Subscription E-STU	R6U64AAE
HPE Aruba Networking Central on Prem AP Foundation 5 year Subscription E-STU	R6U65AAE
HPE Aruba Networking Central on Prem AP Foundation 7 year Subscription E-STU	R6U66AAE
HPE Aruba Networking Central on Prem AP Foundation 10 year Subscription E-STU	R6U67AAE

Configuration Information

On-Prem Services / Access Point Advanced Subscriptions

HPE Aruba Networking Central On-Premises AP Advanced 1-year Subscription E-STU	R6U68AAE
HPE Aruba Networking Central On-Premises AP Advanced 3-year Subscription E-STU	R6U69AAE
HPE Aruba Networking Central On-Premises AP Advanced 5-year Subscription E-STU	R6U70AAE
HPE Aruba Networking Central On-Premises AP Advanced 7-year Subscription E-STU	R6U71AAE
HPE Aruba Networking Central On-Premises AP Advanced 10 year Subscription E-STU	R6U72AAE

On-Prem Services / Access Point Foundation Government Subscriptions

HPE Aruba Networking COP AP Foundation Government 1-year Subscription E-STU	S1P56AAE
HPE Aruba Networking COP AP Foundation Government 3-year Subscription E-STU	S1P57AAE
HPE Aruba Networking COP AP Foundation Government 5-year Subscription E-STU	S1P58AAE
HPE Aruba Networking COP AP Foundation 7-year Government Subscription E-STU	S1P59AAE
HPE Aruba Networking COP AP Foundation 10-year Government Subscription E-STU	S1P60AAE

On-Prem Services / Access Point Advanced Government Subscriptions

HPE Aruba Networking Central On-Premises Access Point Advanced 3-year Government Subscription E-STU	S1P97AAE
HPE Aruba Networking Central On-Premises Access Point Advanced 5-year Government Subscription E-STU	S1P98AAE

As-a-Service

Cloud Services / Access Point Foundation Subscriptions

HPE Aruba Networking Central AP Foundation 1 year Subscription SaaS	Q9Y58AAS
HPE Aruba Networking Central AP Foundation 3 year Subscription SaaS	Q9Y59AAS
HPE Aruba Networking Central AP Foundation 5 year Subscription SaaS	Q9Y60AAS
HPE Aruba Networking Central AP Foundation 7 year Subscription SaaS	Q9Y61AAS
HPE Aruba Networking Central AP Foundation 10 year Subscription SaaS	Q9Y62AAS

Cloud Services / Access Point Advanced Subscriptions

HPE Aruba Networking Central AP Advanced 1 year Subscription SaaS	Q9Y63AAS
HPE Aruba Networking Central AP Advanced 3 year Subscription SaaS	Q9Y64AAS
HPE Aruba Networking Central AP Advanced 5 year Subscription SaaS	Q9Y65AAS
HPE Aruba Networking Central AP Advanced 7 year Subscription SaaS	Q9Y66AAS
HPE Aruba Networking Central AP Advanced 10 year Subscription SaaS	Q9Y67AAS

Additional Wi-Fi features

Each access point also includes the following standards-based technologies:

Transmit beamforming (TxBF)	Increased signal reliability and range
Passpoint Wi-Fi (release 2) (hotspot 2.0)	Seamless cellular-to-Wi-Fi carryover for guests
Dynamic frequency selection (DFS)	Optimized use of available RF spectrum
Maximum ratio combining (MRC)	Improved receiver performance
Cyclic delay/shift diversity (CDD/CSD)	Greater downlink RF performance
Space-time block coding	Increased range and improved reception
Low-density parity check (LDPC)	High-efficiency error correction for increased throughput
802.11mc fine timing measurement (FTM)	For precision distance ranging

Technical Specifications

Model	AP-504	AP-505
Access point type	Indoor, dual radio, 5 GHz and 2.4 GHz 802.11ax 2x2 MIMO	
5 GHz radio	Two spatial stream Single User (SU) MIMO for up to 1.2 Gbps wireless data rate with 2SS HE80 802.11ax client devices	
2.4 GHz radio	Two spatial stream Single User (SU) MIMO for up to 574 Mbps (287 Mbps) wireless data rate with 2SS HE40 (HE20) 802.11ax client devices	
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)	– 2.4 GHz and 5 GHz – 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 – 5.850 to 5.895 GHz	– ISM – U-NII-1 – U-NII-2A – U-NII-2C – U-NII-3/ISM – U-NII-4
Available channels	Dependent on configured regulatory domain	
Supported radio technologies	– 802.11b: Direct-sequence spread-spectrum (DSSS) – 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM) – 802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 8 resource units	
Supported modulation types:	– 802.11b: BPSK, QPSK, CCK – 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM (proprietary extension) – 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM (proprietary extension) – 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	

Technical Specifications

802.11ax high efficiency (HE) support:	HE20/40/80
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, HT20 to HT40), 400 with 256-QAM – 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2, VHT20 to VHT80), 1,083 with 1024-QAM – 802.11ax (2.4 GHz): 3.6 to 574 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE40) – 802.11ax (5 GHz): 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: +21 dBm (18 dBm per chain) 5 GHz band: +21 dBm (18 dBm per chain) **Notes:** Conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain.

Wi-Fi Antennas

AP-504	AP-505
Two (female) RP-SMA connectors for external dual band antennas (A0 and A1, corresponding with radio chains 0 and 1). Worst-case internal loss between radio interface and external antenna connectors: 0.7 dB in 2.4 GHz and 1.3 dB in 5 GHz.	Two integrated dual-band downtilt omni-directional antennas for 2x2 MIMO with peak antenna gain of 4.9 dBi in 2.4 GHz and 5.7 dBi in 5 GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the access point. The downtilt angle for maximum gain is roughly 30 degrees. – Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 4.3 dBi in 2.4 GHz and 5.6 dBi in 5 GHz.

Technical Specifications

Other Interfaces		
Model	**AP-504**	**AP-505**
E0: Ethernet wired network port (RJ-45)	– Auto-sensing link speed (10/100/1000BASE-T) and MDI/MDIX – PoE-PD: 48Vdc (nominal) 802.3af/at PoE (class 3 or 4) – 802.3az Energy Efficient Ethernet (EEE)	
DC power interface	12 Vdc (nominal, +/- 5%), accepts 2.1 mm/5.5 mm center-positive circular plug with 9.5 mm length	
USB 2.0 host interface (type A connector)	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 -93 dBm receive sensitivity (1 Mbps) – Zigbee: up to 6 dBm transmit power and -96 dBm receive sensitivity Integrated vertically polarized omnidirectional antenna with roughly 30 degrees downtilt and peak gain of 3.3 dBi	
Visual indicators (two multi-color LEDs):	For system and radio status	
Reset button:	Factory reset, LED mode control (normal/off)	
Serial console interface	Proprietary, micro-B USB physical jack	
Security slot	Kensington security slot	

Power Sources and Power Consumption		
Model	**AP-504**	**AP-505**
Power sources: The AP supports direct DC power and Power over Ethernet	– The access point supports direct DC power and Power over Ethernet – When both DC and PoE power sources are available, DC power takes priority over PoE – Power sources are sold separately; see the 500 Series Ordering Guide for details – When powered by DC or 802.3at (class 4) PoE, the access point will operate without restrictions – When powered by 802.3af (class 3) PoE and with the IPM feature disabled, the access point will disable the USB port. In the same configuration but with IPM enabled, the access point will start up in unrestricted mode, but may dynamically apply restrictions depending on the PoE budget and actual power. The feature restrictions and order can be programmed.	
Maximum (worst-case) power consumption (without/with a USB device attached):	– DC powered: 8.9W / 14.2W – PoE powered (802.3at): 11.0W / 16.5W – PoE powered (802.3af): 11.0W / 13.5W – This assumes that up to 5W is supplied to the attached USB device	
Maximum (worst-case) power consumption in idle mode:	4.3W (DC) or 6.2W (PoE)	
Maximum (worst-case) power consumption in deep-sleep mode:	1.7W (DC) or 3.7W (PoE)	

Technical Specifications

Mechanical Specifications	
Model	**AP-505**
Dimensions/weight (AP-505; unit, excluding mount bracket):	160 mm (W) x 161 mm (D) x 37 mm (H)/500g
Dimensions/weight (AP-505; shipping):	193 mm (W) x 183 mm (D) x 63 mm (H)/645g
Mounting details	A mounting bracket has been pre-installed on the back of the access point. This bracket is used to secure the access point to any of the mount kits (sold separately); see the 500 Series Ordering Guide for details.

Environmental Specifications		
Model	**AP-504**	**AP-505**
Operating conditions	– Temperature: 0°C to +50°C / +32°F to +122°F – Humidity: 5% to 93% non-condensing – AP is plenum rated for use in air-handling spaces – ETS 300 019 class 3.2 environments	
Storage and transportation conditions	– Temperature: -40°C to +70°C / -40°F to +158°F – Humidity: 5% to 93% non-condensing – ETS 300 019 classes 1.2 and 2.3 environments	

Reliability		
Model	**AP-504**	**AP-505**
Mean time between failure (MTBF):	1.3 Mhrs (148yrs) at +25°C operating temperature	

Technical Specifications

Regulatory and Safety Compliance		
Model	**AP-504**	**AP-505**
Regulatory model numbers	APIN0504	APIN0505
Minimum OS release	– HPE Aruba Networking Wireless Operating System and HPE Aruba Networking InstantOS 8.6.0.0 – HPE Aruba Networking Wireless Operating System 10.1.0.0	
Regulatory compliance (For more country-specific regulatory information and approvals, please see your HPE Aruba Networking representative.)	– FCC/ISED – CE Marked – RED Directive 2014/53/EU – EMC Directive 2014/30/EU – Low Voltage Directive 2014/35/EU – UL/IEC/EN 62368-1 – EN 60601-1-1, EN60601-1-2	– Railway Certs (AP-505 only): – EN 50155:2017 — Railway Applications – EN 50121-1:2017 — Railway EMC – EN 50121-3-2 — Railway EMC – EN 50121-4:2016 — Railway Immunity – IEC 61373 ed2:2008 — Railway Shock and Vibration
Certifications	– UL2043 plenum rating – Wi-Fi Alliance: – Wi-Fi CERTIFIED a, b, g, n, ac – Wi-Fi CERTIFIED 6 (ax) – WPA, WPA2 and WPA3 — Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE) – WMM, WMM-PS, Wi-Fi Agile Multiband – Wi-Fi CERTIFIED Location™ – Bluetooth SIG – Ethernet Alliance (PoE, PD device, class 4)	

Technical Specifications

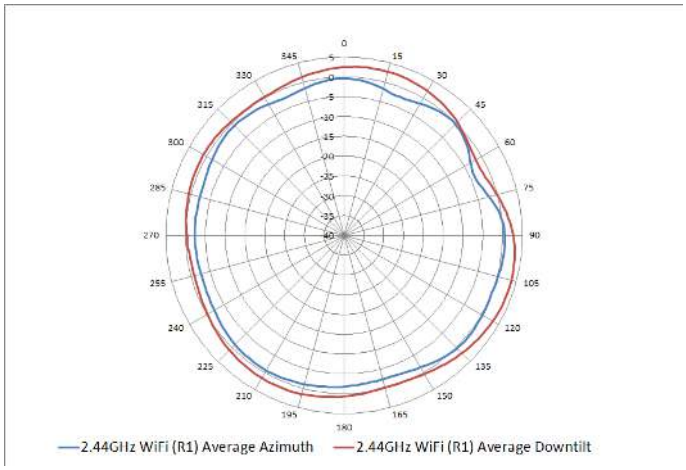
RF performance table		
Band, rate	**Maximum transmit power (dBm) per transmit chain**	**Receiver sensitivity (dBm) per receive chain**
2.4GHz, 802.11b		
1Mbps	18	-98
11Mbps	18	-90
2.4GHz, 802.11g		
6Mbps	18	-93
54Mbps	18	-76
2.4GHz, 802.11n HT20		
MCS0	18	-93
MCS7	16	-75
2.4GHz, 802.11ax HE20		
MCS0	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	-92
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

Technical Specifications

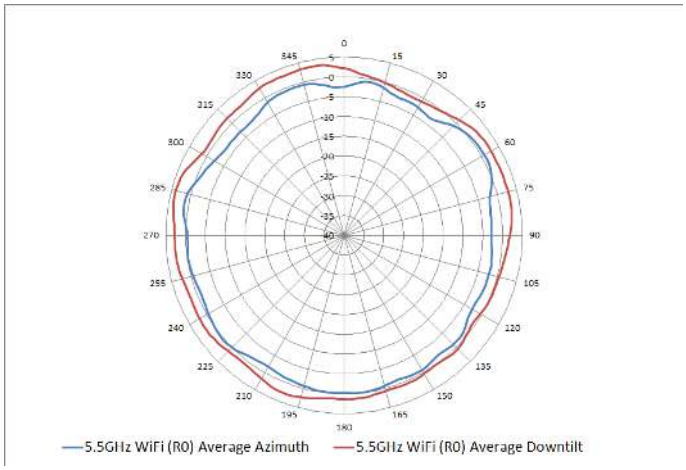
Antenna Patterns

Horizontal planes (top view)

Showing azimuth (0 degrees) and 30 degrees downtilt patterns (averaged patterns for all applicable antennas)



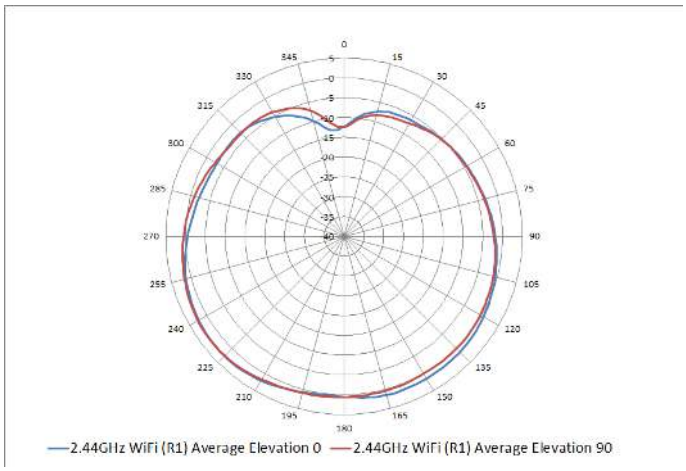
2.44 GHz Wi-Fi (antennas 1, 2)



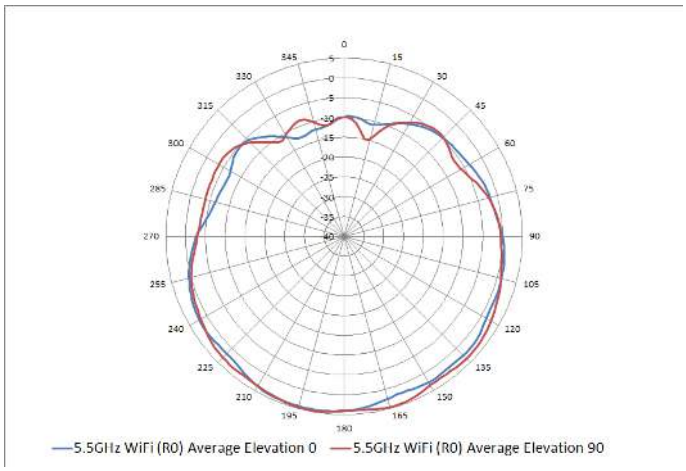
5.5 GHz Wi-Fi (antennas 1, 2)

Vertical (elevation) planes (side view, accesspoint facing down)

Showing side view with access point rotated 0 and 90 degrees (averaged patterns for all applicable antennas)



2.44 GHz Wi-Fi (antennas 1, 2)



5.5 GHz Wi-Fi (antennas 1, 2)

Summary of Changes

Date	Version History	Action	Description of Change
17-Aug-2026	Version 19	Changed	New Central SKUs were added in Configuration Information section: S1P97AAE, S1P98AAE.
27-Feb-2026	Version 18	Changed	New branding applied to document
28-Jul-2025	Version 17	Changed	Update survey link.
07-Apr-2025	Version 16	Changed	Standard Features, Configuration Information, and Technical Specifications sections were updated.
03-Feb-2025	Version 15	Changed	Configuration Information section was updated
16-Dec-2024	Version 14	Changed	Configuration Information section was updated
02-Dec-2024	Version 13	Changed	Overview and Standard Features sections were updated.
01-Jul-2024	Version 12	Changed	Configuration Information section was updated
04-Dec-2023	Version 11	Changed	Series name was updated.
05-Sep-2023	Version 10	Changed	Configuration Information section was updated
07-Aug-2023	Version 9	Changed	Configuration Information section was updated.
01-May-2023	Version 8	Changed	Configuration Information section was updated, new SKU added.
01-Aug-2022	Version 7	Changed	Configuration Information was updated.
05-Jul-2022	Version 6	Changed	Configuration Information was updated and new SKU were added.
15-Mar-2021	Version 5	Changed	SKUs were added in Configuration Information section.
08-Sep-2020	Version 4	Changed	Configuration Information was updated. SKU description were updated New SKU was added.
01-Jun-2020	Version 3	Changed	Configuration Information was updated. SKU description were updated New SKU was added.
04-Nov-2019	Version 2	Changed	Configuration Information section was updated. New SKUs were added.
14-Oct-2019	Version 1	New	New QuickSpecs

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