Overview

HPE Aruba Networking 550 Series Campus Access Points

Extreme Wi-Fi 6 (802.11ax) Performance with Tri-Radios and Green AP Energy Efficiency
HPE Aruba Networking Wi-Fi 6 access points provide high-performance connectivity for any organization experiencing growing numbers of IoT and mobility requirements. With a maximum aggregate data rate of 6 Gbps (5.95 Gbps; HE80/HE40), the HPE Aruba Networking 550 Series delivers the speed and reliability needed for any enterprise.

HPE Aruba Networking 550 Series – Front View

Key Features

- 6 Gbps of maximum throughput and up to 1024 clients per radio
- 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, NFC, and Zigbee support
- tri-radio mode with two 5GHz and one 2.4Ghz radio (4x4 MIMO)
- Unified wired and wireless policy enforcement with dynamic segmentation

Standard Features

IoT Platform Capabilities

Like all HPE Aruba Networking Wi-Fi 6 APs, the HPE Aruba Networking 550 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 550 Series as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

Incredible Efficiency

The HPE Aruba Networking 550 Series APs 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 optional tri-radios, up to 4 spatial streams (4SS) and 160MHz channel bandwidth (VHT160), the HPE Aruba Networking 550 Series provides groundbreaking wireless capabilities for any enterprise.

Read the **Multi-User 802.11ax white paper** for further information.

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.

Aruba Airslice For Extended Application Assurance

Initially, APs in controller-less mode (Instant) can provide SLA-grade performance by allocating radio resources (e.g. time, frequency, spatial streams) to specific traffic types. By combining HPE Aruba Networking's **Policy Enforcement Firewall** (PEF) and Layer 7 deep packet inspection (DPI) to identify user roles and applications, the APs will dynamically allocate the bandwidth needed. Non-Wi-Fi 6 clients can also benefit.
AirSlice for APs in controller mode will be supported in a future software release.

Bi-Directional Multi-User MIMO (MU-MIMO)

Similar to downlink MU-MIMO in Wi-Fi 5 (802.11ac Wave 2), the HPE Aruba Networking 550 Series can simultaneously connect clients use downlink – and now – uplink spatial streams. The added benefit is the ability to multiply the number of clients that can now send traffic, thus optimizing client-to-AP spatial stream diversity.

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.

HPE Aruba Networking 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.

Green AP Energy Efficiency

HPE Aruba Networking Wi-Fi 6 APs utilize analytics from NetInsight to automatically transition in and out of a sleep mode based on client density. Learn more in the Green AP At-A-Glance.

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.

Standard Features

HPE Aruba Networking Secure Infrastructure

The HPE Aruba Networking 550 Series includes components of HPE Aruba Networking's 360 Secure Fabric to help protect user authentication and wireless traffic. Select capabilities include:

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 AP (RAP) and IAP-VPN deployments, the HPE Aruba Networking 550 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 and keys, and boot code.

Simple And Secure Access

To simplify policy enforcement, the HPE Aruba Networking 550 Series uses HPE Aruba Networking's policy enforcement firewall (PEF) feature 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

Like the 530 Series AP, each HPE Aruba Networking 550 Series AP provides connectivity for a maximum of 1024 associated clients per radio (3072 in total). In real-world scenarios, the maximum recommended client density is dependent on environmental conditions.

Flexible Operation And Management

A unique feature of HPE Aruba Networking APs is the ability to operate in either controllerless (Instant) or controller-based mode. In controllerless mode, one AP serves as a virtual controller for the entire network. Learn more about Instant mode in this technology brief.

For optimized network performance, roaming and security, APs tunnel all traffic to a mobility controller for centrally managed traffic forwarding and segmentation, data encryption, and policy enforcement. Learn more in the HPE Aruba Networking OS datasheet.

Available management solutions include HPE Aruba Networking Central (cloud-managed) or Aruba AirWave – a multi-vendor on-premises management solution.

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

Standard Features

Mounting Details

A mounting bracket has been pre-installed on the back of the AP. This bracket is used to secure the AP to any of the HPE Aruba Networking mount kits (sold separately); see the ordering Information section below for details.

Specifications - Hardware Variants

AP-555: Internal antenna models

Warranty

HPE Aruba Networking Limited lifetime warranty

Configuration Information

BTO Model

Remarks	Description	SKU
Notes:	– Add Mount Kit	
	– OCA Only Model Selection Form - HPE Offering > HPE Aruba Networking > Wireless > Access Points > Campus: HPE Aruba Networking 550 Series Campus Access Points	
	555 Internal Antenna Access Points	
	HPE Aruba Networking AP-555 (EG) Dual Radio 8x8/4x4 802.11ax Internal Antennas Unified Campus AP	JZ353A
	HPE Aruba Networking AP-555 (IL) Dual Radio 8x8/4x4 802.11ax Internal Antennas Unified Campus AP	JZ354A
	HPE Aruba Networking AP-555 (JP) Dual Radio 8x8/4x4 802.11ax Internal Antennas Unified Campus AP	JZ355A
	HPE Aruba Networking AP-555 (RW) Dual Radio 8x8/4x4 802.11ax Internal Antennas Unified Campus AP	JZ356A
	HPE Aruba Networking AP-555 (US) Dual Radio 8x8/4x4 802.11ax Internal Ants Unified Campus AP	JZ357A
	555 Internal Antenna Access Points - TAA Models	
	HPE Aruba Networking AP-555 (EG) TAA Dual Radio 8x8/4x4 802.11ax Internal Ants Unified Campus AP	JZ363A
	HPE Aruba Networking AP-555 (IL) TAA Dual Radio 8x8/4x4 802.11ax Internal Ants Unified Campus AP	JZ364A
	HPE Aruba Networking AP-555 (JP) TAA Dual Radio 8x8/4x4 802.11ax Internal Ants Unified Campus AP	JZ365A
	HPE Aruba Networking AP-555 (RW) TAA Dual Radio 8x8/4x4 802.11ax Internal Ants Unified Campus AP	JZ366A
	HPE Aruba Networking AP-555 (US) TAA Dual Radio 8x8/4x4 802.11ax Internal Ants Unified Campus AP	JZ367A

Mount Accessories

Remarks	Description	SKU
	AP Mount Kits	
	For 555, Series Std (Min 0 // max 99) User Selection (min 0 // max 99)	
	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-MP10-B1 Campus AP 10-Pack 15/16 Adj Flat Ceiling Rail Mount Bracket Kit	R6T34A
	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
Notes:	– *Kit contains mounts for 10 access points	

Configuration Information

– Access Points do not include a Mount. Qty 1 Mount kits should be selected

Power Options

For 555 Series Std (Min 0 // max 1) User Selection (min 0 // max 1)

Remarks	Description	SKU
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	
	Compatible with 555 AP models	
	HPE Aruba Networking AP-POE-BTSR 1-Port Smart Rate 802.3bt 60W Midspan Injector	R1C73A
	HPE Aruba Networking AP-POE-BT10 1-port 10G 60W Midspan 802.3bt PoE Injector	S3J26A
	HPE Aruba Networking AP-AC2-48C 48V/50W AC/DC Desktop Style Power Adapter with 1.35/3.5mm Connector	R3K01A

Accesories

Remarks	Description	SKU
	Snap-on Covers	
	For 555 Series Std (Min 0 // max 99) User Selection (min 0 // max 99)	
	HPE Aruba Networking AP-555-CVR-20 20pk for AP-555 White Non-glossy Snap-On Covers	JZ369A
Notes:	Kit contains 20 optional snap-on covers	
	Other Accessories (Optional)	
	For 555 Series Std (Min 0 // max 99) User Selection (min 0 // max 99)	
Remarks	Description	SKU
	Compatible with 555 AP models	
	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
	HPE Aruba Networking USB LTE Modem for Access Points and Gateways	R8F34A
	HPE Aruba Networking USB Extender Cable Kit for use with Aruba USB LTE Modem	R8G76A

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
	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 Information

	FedRAMP Services / Access Point Advanced Subscriptions	
6, 8	Aruba Central AP Advanced 1yr Subscription Government E-STU	R8K84AAE
6, 8	Aruba Central AP Advanced 3yr Subscription Government E-STU	R8K85AAE
6, 8	Aruba Central AP Advanced 5yr Subscription Government E-STU	R8K86AAE
6, 8	Aruba Central AP Advanced 7yr Subscription Government E-STU	R8K87AAE
6, 8	Aruba Central AP Advanced 10yr Subscription Government E-STU	R8K88AAE
	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) Dual Radio 2x2 802.11ax Wi-Fi 6 10-pack Campus Access Point	S1E83A
	HPE Aruba Networking AP-503 (US) Dual Radio 2x2 802.11ax Wi-Fi 6 10-pack 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

RF Performance Table		
Band, rate	**Maximum transmit power (dBm) per transmit chain[6]**	**Receiver sensitivity (dBm) per receive chain[6]**
2.4GHz, 802.11b		
1Mbps	18	-98
11Mbps	18	-89
2.4GHz, 802.11g		
6Mbps	18	-92
54Mbps	16	-75
2.4GHz, 802.11n HT20		
MCS0	18	-92
MCS7	14	-73
2.4GHz, 802.11ax HE20		
MCS0	18	-92
MCS11	10	-64
5GHz, 802.11a		
6Mbps	18	-91
54Mbps	16	-74
5GHz, 802.11n HT20		
MCS0	18	-91
MCS7	14	-72
5GHz, 802.11n HT40		
MCS0	18	-88
MCS7	14	-69
5GHz, 802.11ac VHT20		
MCS0	18	-91
MCS9	12	-68
5GHz, 802.11ac VHT40		
MCS0	18	-88
MCS9	12	-65
5GHz, 802.11ac VHT80		
MCS0	18	-85
MCS9	12	-62
5GHz, 802.11ac VHT160		
MCS0	18	-82
MCS9	12	-59
5GHz, 802.11ax HE20		
MCS0	18	-91
MCS11	10	-62
5GHz, 802.11ax HE40		
MCS0	18	-88
MCS11	10	-58
5GHz, 802.11ax HE80		
MCS0	18	-85
MCS11	10	-56
5GHz, 802.11ax HE160		
MCS0	18	-82
MCS11	10	-53

Technical Specifications

Wi-Fi Antennas

- Integrated downtilt omni-directional antennas for 4x4 MIMO in 2.4GHz with peak antenna gain of 4.3dBi, and 8x8 MIMO in 5GHz with peak antenna gain of 5.8dBi in 5GHz. In tri-radio mode, the peak gain of the antennas for each of the 4x4 5GHz radios is 5.5dBi (radio 0L, lower half of 5GHz) and 5.6dBi (radio 0U, upper half of 5GHz). Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30 degrees.
  - A mix of horizontally and vertically polarized antenna elements is used
  - Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 2.4dBi in 2.4GHz and 0.7dBi in 5GHz (dual-radio mode).
  - In tri-radio mode, the peak gain of the combined, average pattern is 1.1dBi (radio 0L, lower half of 5GHz) and 3.6dBi (radio 0U, upper half of 5GHz)

Reliability

Mean Time Between Failure (MTBF): 962,134hrs (110yrs) at +25C operating temperature.

Wi-Fi Radio Specifications

- AP type: Indoor, dual/tri-radio, 5GHz and 2.4GHz 802.11ax 4x4 MIMO
- 5GHz radio (dual-radio operation): Eight spatial stream Single User (SU) MIMO for up to 4.8Gbps wireless data rate with individual 8SS HE80 (or 4SS HE160) 802.11ax client devices, or with eight 1SS or four 2SS HE80 802.11ax MU-MIMO capable client devices simultaneously
- 5GHz radio (tri-radio operation): Four spatial stream Single User (SU) MIMO for up to 2.4Gbps wireless data rate with individual 4SS HE80 (or 2SS HE160) 802.11ax client devices, or with four 1SS or two 2SS HE80 802.11ax MU-MIMO capable client devices simultaneously
- 2.4GHz radio: Four spatial stream Single User (SU) MIMO for up to 1,150Mbps wireless data rate with individual 4SS HE40 802.11ax client devices or with two 2SS HE40 802.11ax MU-MIMO capable client devices simultaneously
- Support for up to 1,024 *associated* client devices per radio (typical recommended limit for *active* clients is 200), and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835GHz (radio 1)
  - 5.150 to 5.250GHz (radio 0 and 0L)
  - 5.250 to 5.350GHz (radio 0 and 0L)
  - 5.470 to 5.725GHz (radio 0 and 0U)
  - 5.725 to 5.850GHz (radio 0 and 0U)
- 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)
  - 802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 37 resource units (for an 80MHz channel)
- 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: VHT20/40/80/160
- 802.11ax high efficiency (HE) support: HE20/40/80/160

Technical Specifications

Wi-Fi Radio Specifications

- 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 600 (MCS0 to MCS31, HT20 to HT40), 800 with 256-QAM
  - 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4, VHT20 to VHT160), 2,166 with 1024-QAM
  - 802.11ax (2.4GHz): 3.6 to 1,147 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE40)
  - 802.11ax (5GHz): 3.6 to 4,804 (MCS0 to MCS11, NSS = 1 to 8, HE20 to HE160)
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU
- Transmit power: Configurable in increments of 0.5dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4GHz band: +24dBm (18dBm per chain)
  - 5GHz band: +27dBm in dual-radio mode, +24dBm in tri-radio mode (18dBm per chain)
    Notes: 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
- 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

Additional Wi-Fi Features

Each AP also includes the following standards-based technologies:

- Transmit beamforming (TxBF) increases signal reliability and range
- Passpoint Wi-Fi (Release 2) (Hotspot 2.0) offers seamless cellular-to-Wi-Fi carryover for guests
- Dynamic Frequency Selection (DFS) optimizes use of available RF spectrum
- Maximum Ratio Combining (MRC) improves receiver performance
- Cyclic Delay/Shift Diversity (CDD/CSD) provides greater downlink RF performance
- Space-Time Block Coding increases range and improved reception
- Low-Density Parity Check (LDPC) provides a high-efficiency error correction for increased throughput

Environmental Specifications

- Operating conditions
  - Temperature: 0C to +50C / +32F to +122F
  - 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: -40C to +70C / -40F to +158F
  - Humidity: 5% to 93% non-condensing
  - ETS 300 019 classes 1.2 and 2.3 environments

Regulatory Model Numbers

- AP-555: APIN0555

Minimum Operating System Software Versions

- HPE Aruba Networking OS
- HPE Aruba Networking InstantOS 8.5.0.0

Technical Specifications

Certifications

- UL2043 plenum rating
- Wi-Fi Alliance:
  - Wi-Fi CERTIFIED a, b, g, n, ac
  - Wi-Fi CERTIFIED ax[1]
  - WPA, WPA2 and WPA3 – Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE)
  - WMM, WMM-PS, Wi-Fi Vantage, W-Fi Agile Multiband
  - Wi-Fi Location[2]
  - Passpoint (release 2)
- Bluetooth SIG
- Ethernet Alliance (POE, PD device, class 4)

Notes:

- [1]Will require software update. Certification effort will be kicked off as soon as the Wi-Fi Alliance starts the program
- [2]Not available initially; will require a software upgrade

Other Interfaces

- E0, E1: HPE SmartRate port (RJ-45, maximum negotiated speed 5Gbps)
  - Auto-sensing link speed (100/1000/2500/5000BASE-T) and MDI/MDX
  - 2.5Gbps and 5Gbps speeds comply with NBase-T and 802.3bz specifications
  - POE-PD: 48Vdc (nominal) 802.3af/at/bt POE (class 3 or higher)
  - 802.3az Energy Efficient Ethernet (EEE)
- Link aggregation (LACP) support between both network ports for redundancy and increased capacity
- POE power can be drawn from either port (single source, or set to prioritize) or both ports simultaneously (set to combine)
- DC power interface: 48Vdc (nominal, +/- 5%), accepts 1.35mm/3.5mm center-positive circular plug with 9.5mm 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 8dBm transmit power (class 1) and -99dBm receive sensitivity (125kbps)
  - Zigbee: up to 8dBm transmit power and -97dBm receive sensitivity
  - A pair of integrated omnidirectional antennas (polarization diversity) with roughly 30 degrees downtilt and peak gain of 4.5dBi
- Visual indictors (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)
- Kensington security slot

Regulatory Compliance

- 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, EN60601-1-2

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

Technical Specifications

Power Sources And Power Consumption

- The AP supports direct DC power and Power over Ethernet (POE; on port E0 and/or E1)
- When POE power is supplied to both Ethernet ports, the AP can be configured to combine or prioritize power sources
- When both DC and POE power sources are available, DC power takes priority over POE
- Power sources are sold separately; see the ordering Information section below for details
- When powered by DC, 802.3bt (class 5) POE or 2x 802.3at (class 4) POE, the AP will operate without restrictions.
- When powered by 1x 802.3at (class 4) POE and with the IPM feature disabled, the AP will disable the USB port, disable the other Ethernet port, operate the 5GHz radio in 4x4 mode, and disable tri-radio operation
  In the same configuration but with IPM enabled, the AP 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.
- Operating the AP with an 802.3af (class 3 or lower) POE source is not supported.
- Maximum (worst-case) power consumption:
  - DC powered: 38.5W
  - POE powered (802.3bt or dual 802.3at): 38.2W
  - POE powered (802.3at, IPM enabled): 25.1W
  - All numbers above are without an external USB device connected. When sourcing the full 5W power budget to such a device, the incremental (worst-case) power consumption for the AP is up to 5.7W (POE powered) or 6W (DC powered).
- Maximum (worst-case) power consumption in idle mode (dual-radio operation): 18W (POE) or 18W (DC). In tri-radio mode, this increases to 18W (POE) or 18W (DC).
- Maximum (worst-case) power consumption in deep-sleep mode: 3W (POE) or 3W (DC)

Mechanical Specifications

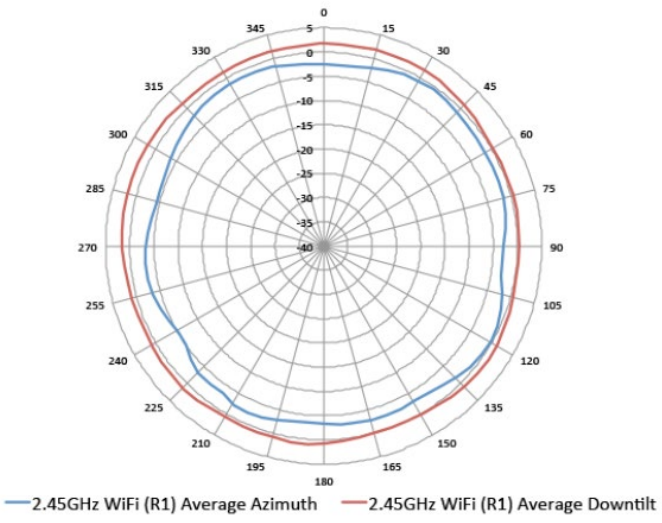
- Dimensions/weight (AP-555; unit, excluding mount bracket):
  - 260mm (W) x 260mm (D) x 61mm (H) / 10.2” (W) x 10.2” (D) x 2.3” (H)
  - 1,570g / 55.4oz
- Dimensions/weight (AP-555; shipping):
  - 320mm (W) x 303mm (D) x 108mm (H) / 12.6” (W) x 11.9” (D) x 4.3” (H)
  - 2,230g / 78.7oz

Technical Specifications

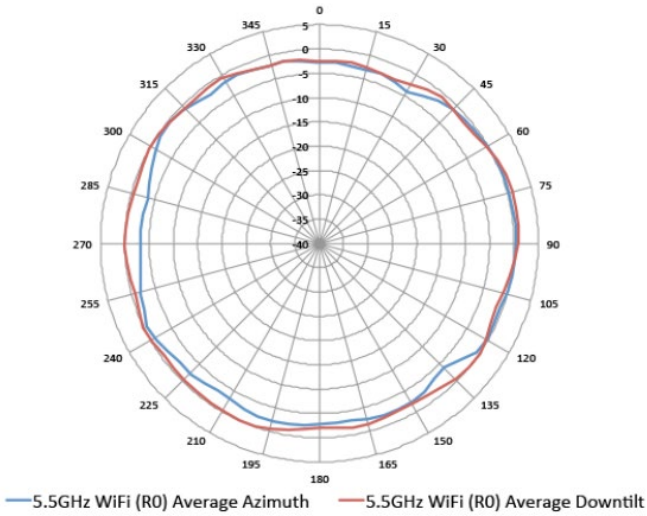
Antenna Patterns

Horizontal Planes (Top View)

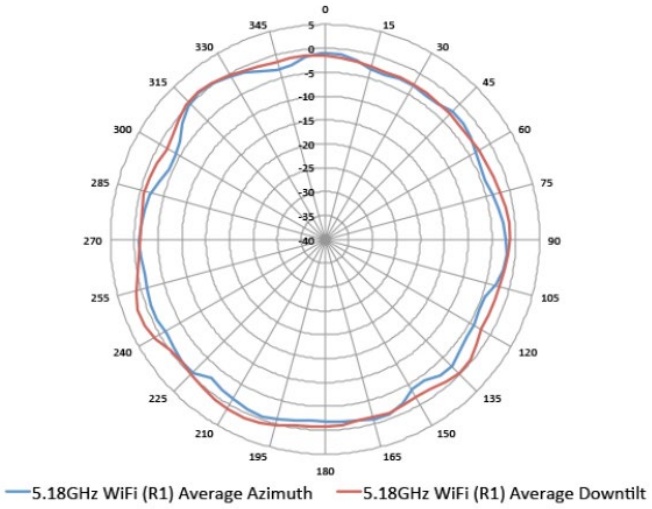
Showing azimuth (0 degrees) and 30 degrees downtilt patterns (averaged patterns for all applicable antennas)



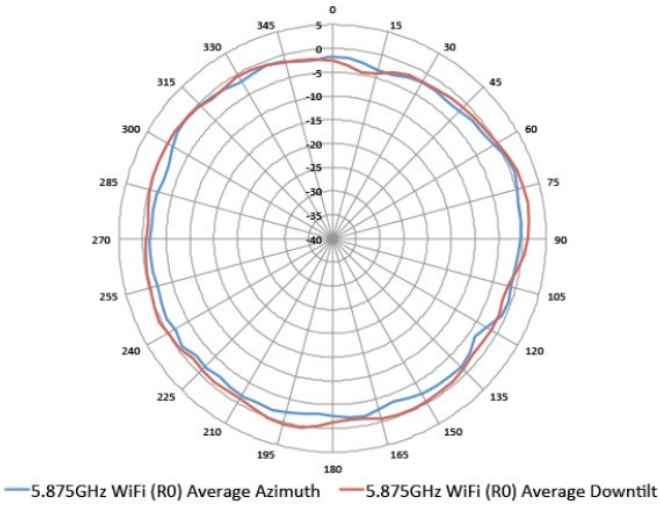
2.45GHz Wi-Fi (Radio 1)



5.5GHz Wi-Fi (Dual-Radio Mode, Radio 0)



5.18GHz Wi-Fi (Radio 0L, Tri-Radio Mode)

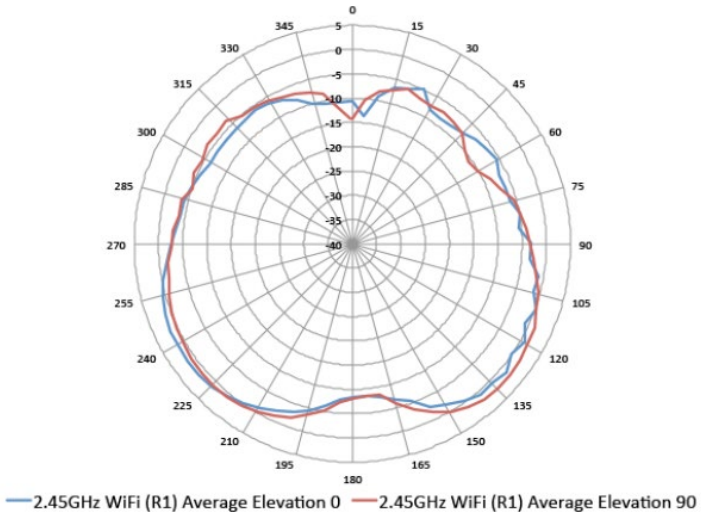


5.875GHz Wi-Fi (Radio 0U, Tri-Radio Mode)

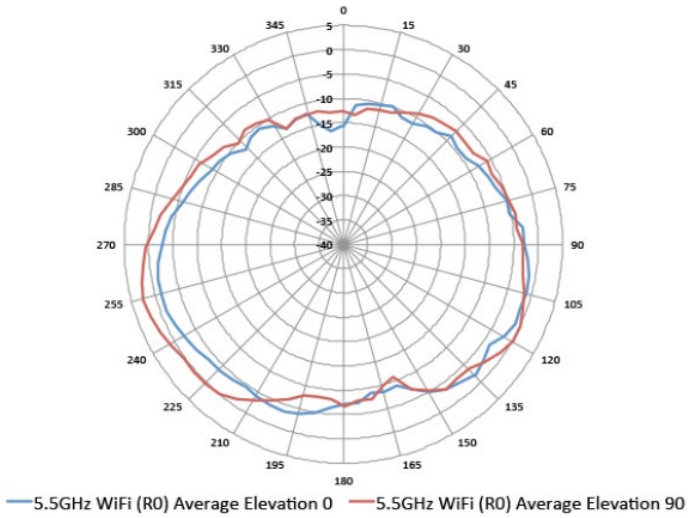
Technical Specifications

Vertical Elevation Planes (Side View, AP Facing Down)

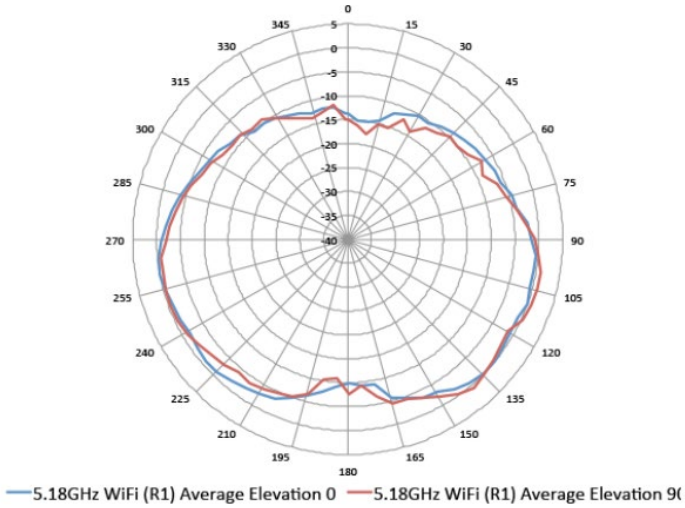
Showing side view with AP rotated 0 and 90 degrees (averaged patterns for all applicable antennas)



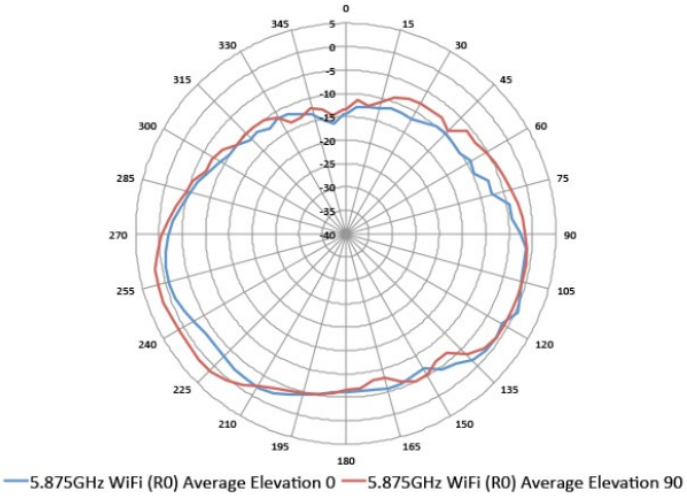
2.45GHz Wi-Fi (Radio 1)



5.5GHz Wi-Fi (Dual-Radio Mode, Radio 0)



5.18GHz Wi-Fi (Radio 0L, Tri-Radio Mode)



5.875GHz Wi-Fi (Radio 0U, Tri-Radio Mode)

Summary of Changes

Date	Version History	Action	Description of Change
19-Aug-2024	Version 14	Changed	Configuration Information section was updated
15-Jul-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
01-May-2023	Version 10	Changed	Configuration Information section was updated, new SKU was added.
05-Jul-2022	Version 9	Changed	Configuration Information section was updated, new SKUS were added.
06-Dec-2021	Version 8	Changed	SKUs were added in Configuration Information section was updated.
15-Mar-2021	Version 7	Changed	SKUs were added in Configuration Information section was updated.
08-Sep-2020	Version 6	Changed	Configuration Information section was updated New SKUS were added Obsolete SKUs were removed
09-Dec-2019	Version 5	Changed	Standard Features section was updated
04-Nov-2019	Version 4	Changed	Configuration Information section was updated New SKUS were added
07-Oct-2019	Version 3	Changed	Overview, Standard Features and Configuration Information sections were updated New SKUS were added
03-Jun-2019	Version 2	Changed	Configuration Information Section was updated. New SKUs were added.
02-Apr-2019	Version 1	New	New QuickSpecs

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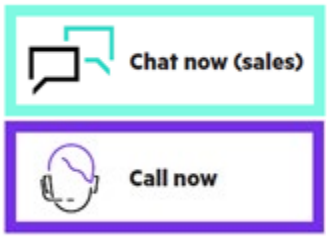

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