HPE aruba networking

Data sheet



HPE Aruba Networking 560EX Series Hazardous Location Access Points

Entry-level Wi-Fi 6 (802.11ax) for outdoor and hazardous location environments

HPE

Weatherproof and temperature hardened, HPE Aruba Networking 560 Series Hazardous Location Access Points deliver cost-effective Wi-Fi 6 wireless connectivity in outdoor and environmentally challenging hazardous locations.

Purpose-built to survive in the harshest outdoor environments, the 560 series can withstand exposure to extreme high and low temperatures, persistent moisture and precipitation, and are fully sealed to keep out airborne contaminants. All electrical interfaces include industrial strength surge protection.

HPE Aruba Networking Wi-Fi 6 access points provide high-performance connectivity for any organization experiencing growing numbers of IoT and mobility requirements. With maximum aggregate on air data rate of 1.49 Gbps (HE80/HE20), they deliver the speed and reliability needed for most environments.

HPE Aruba Networking's advanced ClientMatch technology and an integrated Bluetooth beacon can help enable HPE Aruba Networking location services.

Incredible efficiency

The 560 series access points (APs) 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), bi-directional multi-user MIMO and cellular optimization. With up to 2 spatial streams, the 560 series provides reliable connectivity for most any application.

Advantages of OFDMA

OFDMA capability allows HPE Aruba Networking 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 yet not competing for airtime and bandwidth.

Multi-User MIMO (MU-MIMO)

560 series access points support downlink MU-MIMO just like Wi-Fi 5 (802.11ac Wave 2) access points. The added benefit is the ability to multiply the number of clients that can now send traffic, thus optimizing client-to-access point 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 access point. 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)

The ACC 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 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 all HPE Aruba Networking Wi-Fi 6 access points, the 560 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 560 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 access point. This helps improve client power savings and reduces airtime contention with other clients.

HPE Aruba Networking secure infrastructure

The 560 series includes components of HPE Aruba Networking's zero trust security 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 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.

VPN tunnels

In remote access point (RAP) and IAP-VPN deployments, the 560 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 have an installed TPM chip for secure storage of credentials and keys, and boot code.

Simple and secure access

To simplify policy enforcement, the 560 series uses HPE Aruba Networking 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. PEF also serves as the underlying technology for dynamic segmentation.

High density connectivity

Each 560 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.

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.

Additional Wi-Fi features

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

- **Transmit Beamforming (TxBF):** Increased signal reliability and range
- **Dynamic Frequency Selection (DFS):** Optimized use of available RF spectrum
- **Maximal Ratio Combining (MRC):** Improved receiver performance for multi-antenna access points
- **Cyclic Delay/Shift Diversity (CDD/CSD):** Enable use of multiple transmit antennas
- **Space-Time Block Coding (STBC):** Increased connection robustness
- **Low-Density Parity Check (LDPC):** High performance error detection and correction coding for enhanced receiver performance
- **802.11mc Fine Timing Measurement (FTM):** For precision distance ranging

AP-560 Series specifications

Hardware variants

AP-565

— Built-in Omni Directional Antennas
  • 5 GHz Antennas 5.4 dBi
  • 2.4 GHz Antennas 3.2 dBi
  • BLE/802.15.4 Antennas 3.3 dBi

AP-567

— Built-in 90°H x 90°V Directional Antennas
  • 5 GHz Antennas 6.8 dBi
  • 2.4 GHz Antennas 7.1 dBi
  • BLE/802.15.4 Antennas 3.0 dBi

Wi-Fi radio specifications

— AP type: Outdoor Hardened, Wi-Fi 6 dual radio, 5 GHz 2x2 MIMO and 2.4 GHz 2x2 MIMO
— Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)

5 GHz:

— Two spatial stream Single User (SU) MIMO for up to 1.2 Gbps wireless data rate with individual 2SS HE80 802.11ax client devices, or with two 1SS HE80 802.11ax MU-MIMO capable client devices simultaneously

2.4 GHz:

— Two spatial stream Single User (SU) MIMO for up to 574 Mbps (287 Mbps) wireless data rate with individual 2SS HE40 (HE20) 802.11ax client devices or with two 1SS HE40 (HE20) 802.11ax MU-MIMO capable client devices simultaneously

— Up to 256 associated client devices per radio
— Up to 16 BSSIDs per radio
— Supported frequency bands (country-specific restrictions apply):
  • 2.400 to 2.4835 GHz (ISM)
  • 5.150 to 5.250 GHz (U-NII-1)
  • 5.250 to 5.350 GHz (U-NII-2A)
  • 5.470 to 5.725 GHz (U-NII-2C)
  • 5.725 to 5.850 GHz (U-NII-3/ISM)
  • 5.850 to 5.875 GHz (U-NII-4)

— 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 16 resource units (RU)

— 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: HT 20/40
— 802.11ac very high throughput (VHT) support: VHT 20/40/80
— 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)

— 802.11n/ac/ax Packet aggregation: A-MPDU, A-MSDU
— Transmit power: Configurable in increments of 0.5 dBm
— Maximum (conducted) transmit power (limited by local regulatory requirements):
  • 2.4 GHz band: +23 dBm per chain, +26 dBm aggregate (2x2)
  • 5 GHz band: +23 dBm per chain, +26 dBm aggregate (2x2)
  • Note: conducted transmit power levels exclude antenna gain.

— Maximum EIRP (limited by local regulatory requirements):
  • 2.4 GHz band:
    ◦ 565: 29.2 dBm EIRP
    ◦ 567: 33 dBm EIRP
  • 5 GHz band:
    ◦ 565: 31.4 dBm EIRP
    ◦ 567: 32.7 dBm EIRP
— Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks
— Maximum ratio combining (MRC) for improved receiver performance
— Cyclic delay/shift diversity (CDD/CSD) to enable the use of multiple transmit antennas
— Short guard interval for 20-MHz, 40-MHz, and 80-MHz
— 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

Power

— Maximum (worst-case) power consumption: 15.6W
— Maximum (worst case) power consumption in idle mode: 4.2W
— Maximum (worst case) power consumption in deep-sleep mode: 1.7
— Power sources sold separately
— Power over Ethernet (PoE+): 802.3at-compliant
— When powered by 1x 802.3at, there are no restrictions
— When powered by 1x 802.3af 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 can be programmed.
— When powered by 1x 802.3af with IPM disabled, the access point will lower the 2.4 GHz radio to 1x1:1

Additional interfaces

— E0: 10/100/1000BASE-T (RJ-45)
  • Auto-sensing link speed and MDI/MDIX
  • PoE-PD: 48Vdc (nominal) 802.3at/bt (Class 3 or higher)
  • 802.3az Energy Efficient Ethernet (EEE)
— Bluetooth 5 and 802.15.4 radio
  • 2.4 GHz
  • Bluetooth 5: up to 8 dBm transmit power and -95 dBm receive sensitivity
  • Zigbee: up to 8 dBm transmit power and -97 dBm receive sensitivity
  • Up to 4 dBm transmit power (class 2) and -91 dBm receive sensitivity
— Visual indicator (multi-color LED): For system and radio status
— Reset button: Factory reset (during device power up)
— USB-C console interface

Mounting

— Optional mounting kits:
  • AP-OUT-MNT-V1A: Outdoor Pole/Wall Long Mount Kit
  • AP-270-MNT-V2: Outdoor Pole/Wall Short Mount Kit
  • AP-270-MNT-H1: Outdoor AP Hanging or Tilt Install Mount Kit
  • AP-270-MNT-H2: Outdoor Flush Wall or Ceiling Mount
  • AP-270-MNT-H3: Outdoor AP Hanging or Dual-Tilt Install Mount Kit

Mechanical

— AP-565
  • Dimensions/weight (excluding mount):
    ◦ 16.5 cm (W) x 16.5 cm (D) x 13 cm (H)
    ◦ 6.5" (W) x 6.5" (D) x 5.1" (H)
    ◦ 1.03 kg/2.27 lbs
— AP-567
  • Dimensions/weight (excluding mount):
    ◦ 16.5 cm (W) x 16.5 cm (D) x 13 cm (H)
    ◦ 6.5" (W) x 6.5" (D) x 5.1" (H)
    ◦ 1.09 kg/2.4 lbs

Environmental

— Operating:
  • Temperature: –40°C to +55°C (–40°F to +131°F) with full solar loading
  • Humidity: 5% to 95% non-condensing internal
  • Rated for operation in all weather conditions
— Storage and transportation:
  • Temperature: –40°C to +70°C (–40°F to +158°F)
— Operating altitude: 3000 m
— Water and dust: IP66/67
— Salt tolerance: Tested to ASTM B117-07A salt spray 200 hrs
— Wind survival: Up to 165 Mph
— Shock and vibration ETSI 300-19-2-4

Regulatory

— FCC/ISED
— CE Marked
— RED Directive 2014/53/EU
— EMC Directive 2014/30/EU
— Low Voltage Directive 2014/35/EU
— IEC/EN/UL 62368-1
— EN 60601-1-1, EN60601-1-2

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

Regulatory model number

— AP-565EX: APEX0565
— AP-567EX: APEX0567

Certifications

— CB Scheme Safety, cTUVus
— UL2043 plenum rating
— Wi-Fi Alliance certified 802.11a/b/g/n/
— Wi-Fi Alliance certified Wi-Fi 6 (802.11ax)
— Wi-Fi CERTIFIED™ ac (with wave 2 features)
— Wi-Fi CERTIFIED Location™
— Class 1 Division 2 certified
— ATEX Zone 2 certified

Warranty

— Limited lifetime warranty

Minimum operating system software

— HPE Aruba Networking Wireless Operating System and HPE Aruba Networking InstantOS 8.7.1.0
— HPE Aruba Networking Wireless Operating System 10.3.0.0

RF performance table

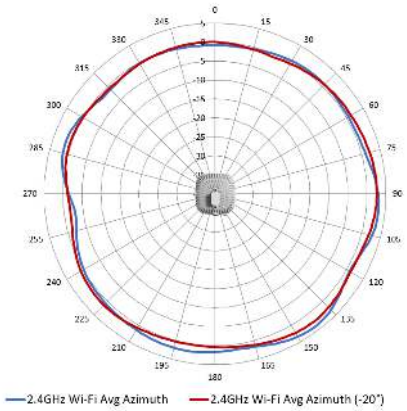
Band, rate	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz, 802.11b		
1 Mbps	22	-97
11 Mbps	22	-89
2.4 GHz, 802.11g		
6 Mbps	22	-93
54 Mbps	20	-76
2.4 GHz, 802.11n/ac HT20		
MCS0	22	-93
MCS8	19	-75
2.4 GHz, 802.11ax HE20		
MCS0	22	-93
MCS11	17	-62
5 GHz, 802.11a		
6 Mbps	22	-92
54 Mbps	20	-75
5 GHz, 802.11n/ac HT20/VHT20		
MCS0	22	-92
MCS8	19	-72
5 GHz, 802.11n/ac HT40/VHT40		
MCS0	22	-90
MCS9	19	-65
5 GHz, 802.11ac VHT80		
MCS0	22	-88
MCS9	19	-63
5 GHz, 802.11ax HE20		
MCS0	22	-94
MCS11	17	-62
5 GHz, 802.11ax HE40		
MCS0	22	-91
MCS11	17	-60
5 GHz, 802.11ax HE80		
MCS0	22	-87
MCS11	17	-57

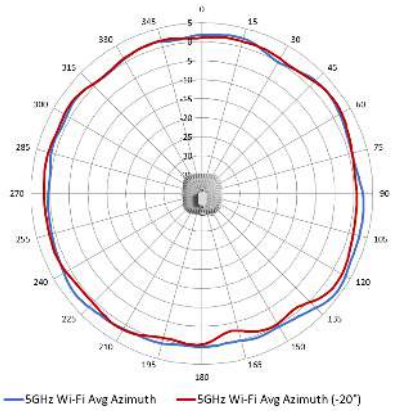
Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

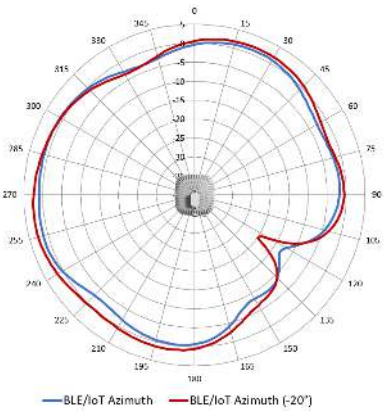
Antenna patterns AP-565EX

Horizontal planes (Azimuth, top view)

Showing top-view azimuth (0°) and 20° downtilt patterns (averaged patterns for all applicable antennas and frequencies within the bands)

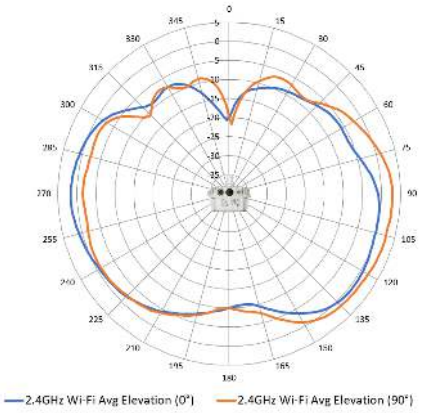


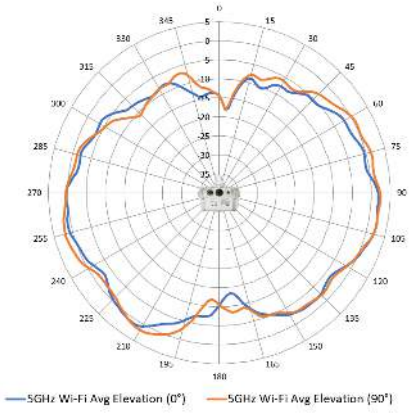


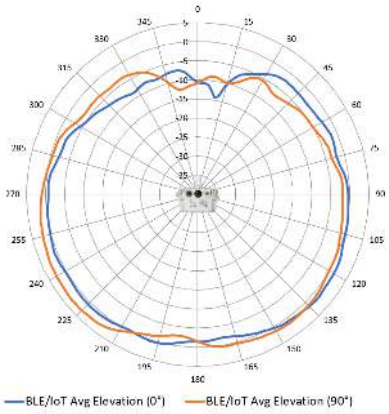


Vertical planes (Elevation, side view radome facing down)

Showing side-view with access point rotated 0° and 90° (averaged patterns for all applicable antennas and frequencies within the bands)



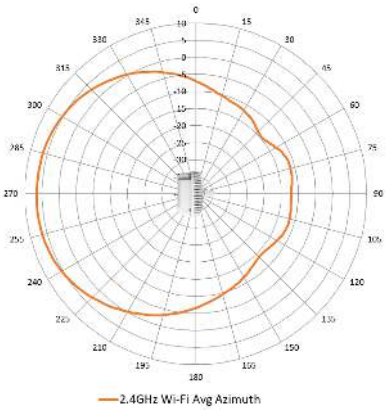


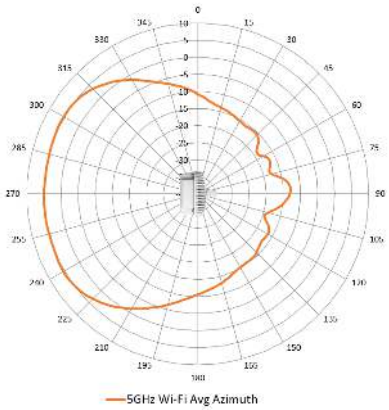


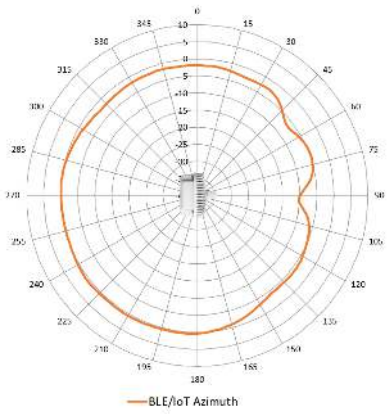
Antenna patterns AP-567EX

Horizontal planes (Azimuth, top view, radome facing left)

Showing top-view patterns (averaged patterns for all applicable antennas and frequencies within the bands)

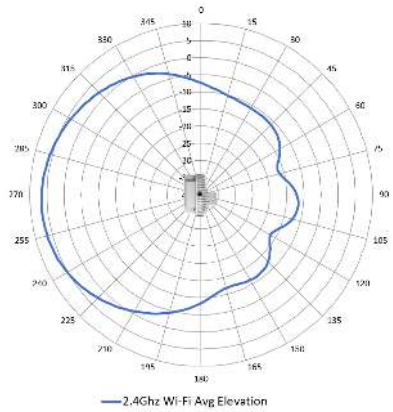


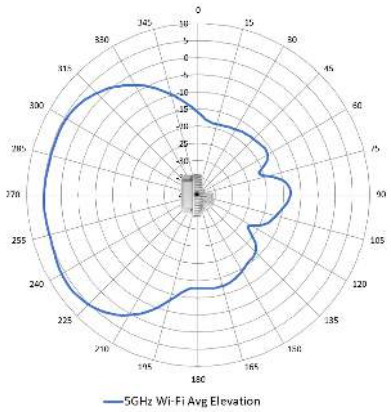


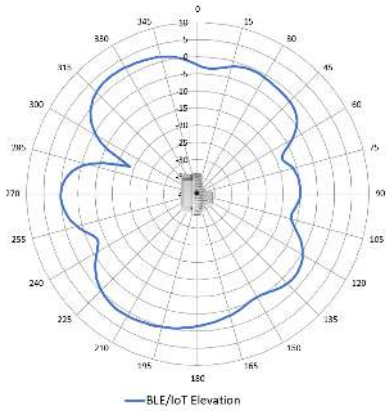


Vertical planes (Elevation, side view, radome facing left)

Showing side-view patterns (averaged patterns for all applicable antennas and frequencies within the bands)







Ordering information

Part number	Description
HPE Aruba Networking 560EX Series Outdoor HazLoc Access Points	
R4W62A	HPE Aruba Networking AP-565EX (RW) 802.11ax Dual 2x2:2 Radio Internal Omni Antenna Outdoor HazLoc AP
R4W63A	HPE Aruba Networking AP-565EX (US) 802.11ax Dual 2x2:2 Radio Internal Omni Antenna Outdoor HazLoc AP
R4W60A	HPE Aruba Networking AP-565EX (EG) 802.11ax Dual 2x2:2 Radio Internal Omni Antenna Outdoor Hazloc AP
R4W28A	HPE Aruba Networking AP-565EX (IL) 802.11ax Dual 2x2:2 Radio Internal Omni Antenna Outdoor HazLoc AP
R4W61A	HPE Aruba Networking AP-565EX (JP) 802.11ax Dual 2x2:2 Radio Internal Omni Antenna Outdoor HazLoc AP
S5D91A	HPE Aruba Networking AP-565EX (ID) Dual Radio 2x2 802.11ax Internal Omni Antennas HazLoc Outdoor AP
R4W66A	HPE Aruba Networking AP-567EX (RW) 802.11ax Dual 2x2:2 Radio Internal Directional Ant Outdoor HazLoc AP
R4W67A	HPE Aruba Networking AP-567EX (US) 802.11ax Dual 2x2:2 Radio Internal Directional Ant Outdoor HazLoc AP
R4W64A	HPE Aruba Networking AP-567EX (EG) 802.11ax Dual 2x2:2 Radio Internal Directional Ant Outdoor HazLoc AP
R4W29A	HPE Aruba Networking AP-567EX (IL) 802.11ax Dual 2x2:2 Radio Internal Directional Ant Outdoor HazLoc AP
R4W65A	HPE Aruba Networking AP-567EX (JP) 802.11ax Dual 2x2:2 Radio Internal Directional Ant Outdoor HazLoc AP
S5D92A	HPE Aruba Networking AP-567EX (ID) Dual Radio 2x2 802.11ax Int Dir Ants HazLoc Outdoor Access Point

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