Data sheet

HPE Aruba Networking 570EX Series Hazardous Location Access Points

High performance Wi-Fi 6 (802.11ax) for hazardous locations and harsh outdoor environments

In outdoor and environmentally challenging locations such as oil rigs, mining facilities, and industrial plants, networks need to be protected from extreme temperatures, flammable gases or vapors, and dust concentrations. With Class 1 Division 2 and ATEX Zone 2 certifications, HPE Aruba Networking 570EX Series Access Points deliver reliable Wi-Fi 6 performance to the most extreme environments.

The 570EX delivers 4x4:4SS MU-MIMO capability, HPE Aruba Networking ClientMatch and integrated Bluetooth to enable HPE Aruba Networking location services. Purpose-built to survive in the harshest industrial outdoor environments, 570EX Series APs 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 in dense mobile and IoT environments. With maximum aggregate on air data rates of 3 Gbps (HE80/HE40), the 570EX Series APs deliver the speed and reliability needed for demanding environments.

Incredible efficiency

HPE Aruba Networking 570EX Series APs are designed to optimize user experience by maximizing Wi-Fi efficiency and dramatically reducing airtime contention between clients.

Advantages of OFDMA

This capability allows HPE Aruba Networking APs to handle multiple 802.11ax 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.

Multi-user MIMO (MU-MIMO)

HPE Aruba Networking 570EX Series APs support downlink MU-MIMO similar to Wi-Fi 5 (802.11ac Wave 2) APs. With the introduction OFDMA in Wi-Fi 6, the overhead for this capability is reduced and MU-MIMO effectiveness is substantially improved for large client counts.

Wi-Fi 6 and MU-MIMO aware client optimization

HPE Aruba Networking's patented AI-powered ClientMatch technology ensures that all clients are attached to their best serving access point. Session metrics, network metrics, applications and client type are used to identify and maintain the best connection.

HPE Aruba Networking Advanced Cellular Coexistence (ACC)

The ACC feature uses built-in filtering to automatically minimize the impact of interference of high power cellular base stations, in building distributed antenna systems as well as small cell and 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.

IoT platform capabilities

HPE Aruba Networking Wi-Fi 6 APs include 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 570EX Series as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

Target Wake Time (TWT)

Ideal for IoT solutions that communicate infrequently, this Wi-Fi 6 capability allows IoT devices to use 802.11ax protocol. TWT coordinates with client devices to allow them to sleep for extended periods and use shorter wake times to communicate before returning to sleep. This substantially extends the useful operating life of Wi-Fi 6 based battery powered sensors.

HPE Aruba Networking secure infrastructure

The HPE Aruba Networking 570EX Series is an integral part of HPE Aruba Networking's zero trust security approach to help protect user authentication and wireless traffic. Select capabilities include:

WPA3 and Enhanced Open

With the introduction of WPA3 and Enhanced Open, a Wi-Fi 6 certified client will never send unencrypted traffic over the air. Even with an open authenticated network, Enhanced Open still provides strong encryption over the air.

In all Wi-Fi 6 user sessions, each user is uniquely encrypted and if they disconnect and reconnect, the encryption changes from session to session.

WPA2-MPSK

MPSK enables simpler passkey management for WPA2 devices — should the Wi-Fi password on one device change, no additional changes are needed for other devices. This feature is enabled when networks are deployed with HPE Aruba Networking NAC.

VPN tunnels

In Remote AP (RAP) and IAP-VPN deployments, the 570EX Series can be used to establish a secure SSL/IPSec VPN tunnel to a Gateway or Mobility Controller that is configured 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 570EX Series uses HPE Aruba Networking's Policy Enforcement Firewall (PEF) to encapsulate all traffic from the AP to the Mobility Controller (gateway) for end-to-end encryption and inspection. Policies are applied based on context including user role, device type, application, and location. This reduces the manual configuration of SSIDs, VLANs, and ACLs. PEF also serves as the underlying technology for HPE Aruba Networking dynamic segmentation.

High density connectivity

Each HPE Aruba Networking 570EX Series AP provides connectivity for a maximum of 512 associated clients per radio (1024 total).

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.

Additional Wi-Fi features

Transmit Beamforming (TxBF)

Increased signal reliability and range

Dynamic Frequency Selection (DFS)

Optimized use of available RF spectrum

Maximum 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

Increased connection robustness

Low-Density Parity Check (LDPC)

High performance error detection and correction coding for enhanced receiver performance

AP-570EX Series specifications

Hardware variants

— AP-575EX
  - Built-in Omni Directional Antennas
  - 5 GHz Antennas 5 dBi
  - 2.4 GHz Antennas 3.4 dBi
  - BLE/Zigbee: Integrated omnidirectional antenna and the peak gain of 6 dBi

— AP-577EX
  - Built-in 90°H x 90°V Directional Antennas
  - 5 GHz Antennas 5.6 dBi
  - 2.4 GHz Antennas 6.8 dBi
  - BLE/Zigbee: Integrated omnidirectional antennas with peak gain of 8.4 dBi

Wi-Fi radio specifications

— AP type: Outdoor Hardened, Wi-Fi 6 dual radio, 5 GHz 4x4 MIMO and 2.4 GHz 2x2 MIMO

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

5 GHz:

— Four spatial stream Single User (SU) MIMO for up to 4.8 Gbps wireless data rate to individual 4SS HE160 Wi-Fi 6 client device (max)

— Two spatial stream Single User (SU) MIMO for up to 1.2 Gbps wireless data rate to individual 2SS HE80 Wi-Fi 6 client device (typical)

— Four spatial stream Multi-User (MU) MIMO for up to 4.8 Gbps wireless data rate to up to four 1SS or two 2SS HE160 Wi-Fi 6 DL-MU-MIMO capable client devices simultaneously (max)

— Four spatial stream Multi-User (MU) MIMO for up to 2.4 Gbps wireless data rate to up to four 1SS or two 2SS HE80 Wi-Fi 6 DL-MU-MIMO capable client devices simultaneously (typical)

2.4 GHz:

— Two spatial stream Single User (SU) MIMO for up to 575 Mbps wireless data rate to individual 2SS HE40 Wi-Fi 6 client device (max)

— Two spatial stream Single User (SU) MIMO for up to 287 Mbps wireless data rate to individual 2SS HE20 Wi-Fi 6 client device (typical)

— Two spatial stream Single User (SU) MIMO for up to 287 Mbps wireless data rate to individual 2SS HE20 Wi-Fi 6 client device (typical)

— Support for up to 512 associated client devices per radio, and 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: VHT20/40/80/160
— 802.11ax high efficiency (HE) support: HE20/40/80/160

— Supported data rates (Mbps):
  • 802.11b: 1, 2, 5.5, 11
  • 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  • 802.11n (2.4 GHz): 6.5 to 300 (MCS0 to MCS15, HT20 to HT40)
  • 802.11n (5 GHz): 6.5 to 600 (MCS0 to MVC31, HT20 to HT40)
  • 802.11ac: 6.5 to 3,467 (MCS0 to MCS9, NSS = 1 to 4, VHT20 to VHT160)
  • 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 4,803 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE160)

— 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: +22 dBm per chain, +25 dBm aggregate (2x2)
  • 5 GHz band: +22 dBm per chain, +28 dBm aggregate (4x4)
  • Note: conducted transmit power levels exclude antenna gain

— Maximum EIRP (limited by local regulatory requirements):
  • 2.4 GHz band:
    ◦ 575EX: 29.0 dBm EIRP
    ◦ 577EX: 34.4 dBm EIRP
  • 5 GHz band:
    ◦ 575EX: 32.6 dBm EIRP
    ◦ 577EX: 36 dBm EIRP

— 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) to enable the use of multiple transmit antennas
— Short guard interval for 20-MHz, 40-MHz, 80-MHz and 160-MHz channels
— Space-Time Block Coding (STBC) for increased range and improved reception
— Low-Density Parity Check (LDPC) for high-efficiency error correction and increased throughput
— Transmit Beam-Forming (TxBF) for increased signal reliability and range
— 802.11mc Fine Timing Measurement (FTM) for precision distance ranging

Power

— Maximum (worst-case) power consumption:
  • PoE powered (dual ports): 32.0W
  • PoE powered (single port, full function): 26.1W
— Maximum (worst-case) power consumption in idle mode: 14.0W (single PoE) or 16.0W (dual PoE)
— Maximum (worst-case) power consumption in deep-sleep mode: 2.9W (single PoE) or 3.9W (dual PoE)

— The AP supports 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

— Power sources are sold separately; see the ordering Information section below for details

— When powered by 1x 802.3at (class 4) PoE and with the IPM feature disabled, the AP will disable the other Ethernet port. 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 single or dual 802.3af (Class 3 or lower) PoE source is not supported.

Additional interfaces

— E0: HPE SmartRate port (RJ-45)
  - Auto-sensing link speed (100/1000/2500BASE-T) and MDI/MDIX
  - 2.5 Gbps speed complies with NBase-T and 802.3bz specifications
  - PoE-PD: 48 vDC (nominal) 802.3at/bt (Class 4 or higher)
  - 802.3az Energy Efficient Ethernet (EEE)

— E1: 100/1000BASE-T (RJ-45)
  - Auto-sensing link speed and MDI/MDIX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48 vDC (nominal) 802.3at/bt (Class 4 or higher)

— Link Aggregation (LACP) support between both network ports for redundancy and increased capacity

— 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 specifications

— AP-575EX
  - Dimensions/weight (excluding mount):
    - 24 cm (W) x 24 cm (D) x 27 cm (H)/9.4'' (W) x 9.4'' (D) x 10.6'' (H)
    - 2.5 kg/5.6 lb

— AP-577EX
  - Dimensions/weight (excluding mount):
    - 23 cm (W) x 22 cm (D) x 14 cm (H)/ 9.0'' (W) x 8.7'' (D) x 5.6'' (H)
    - 2.1 kg/4.6 lb

Environmental

— Operating
  - Temperature: –40°C to +65°C (–40°F to +149°F) with full solar loading
  - Humidity: 5% to 93% 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: 3000m

— 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 numbers

— AP-575EX: APEX0575
— AP-577EX: APEX0577

Certifications

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

Warranty

HPE Aruba Networking's hardware limited lifetime warranty.

Minimum operating system software versions

— HPE Aruba Networking Wireless Operating System and HPE Aruba Networking InstantOS 8.7.0.0
— HPE Aruba Networking Wireless Operating System 10.2.0.0

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	-94
54 Mbps	20	-76
2.4 GHz, 802.11n/ac HT20		
MCS0	22	-93
MCS8	19	-72
2.4 GHz, 802.11ax HE20		
MCS0	22	-93
MCS11	17	-62

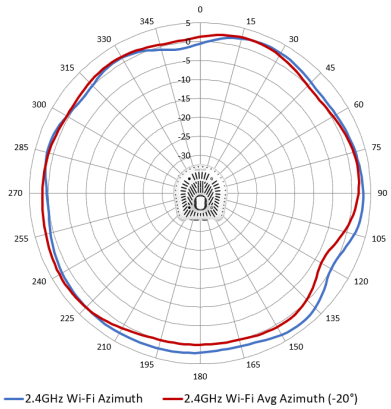
Band, rate	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
5 GHz, 802.11a		
6 Mbps	22	-95
54 Mbps	20	-76
5 GHz, 802.11n/ac HT20/VHT20		
MCS0	22	-94
MCS8	19	-72
5 GHz, 802.11n/ac HT40/VHT40		
MCS0	22	-92
MCS9	19	-68
5 GHz, 802.11ac VHT80		
MCS0	22	-90
MCS9	19	-65
5 GHz, 802.11ac VHT160		
MCS0	22	-84
MCS9	19	-59
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
5 GHz, 802.11ax HE160		
MCS0	22	-85
MCS11	17	-53

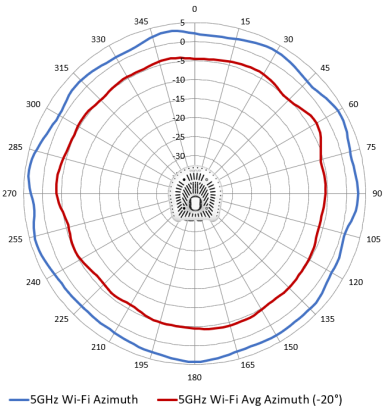
Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

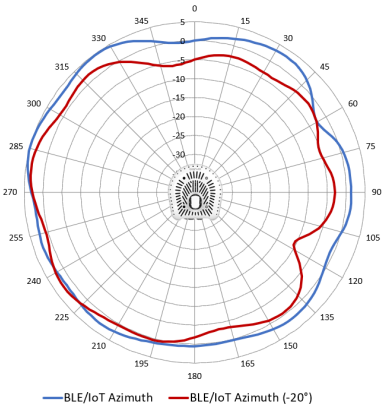
Antenna patterns AP-575EX

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)

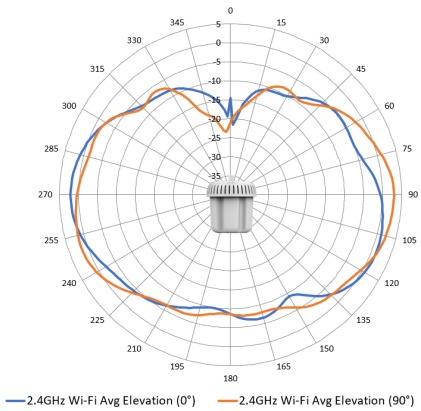


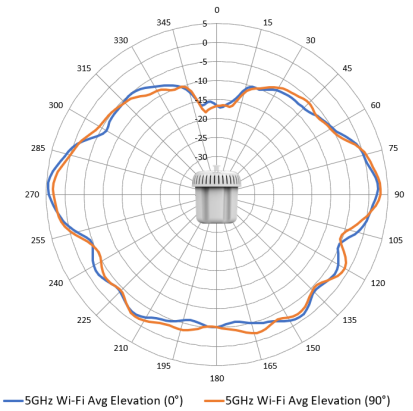


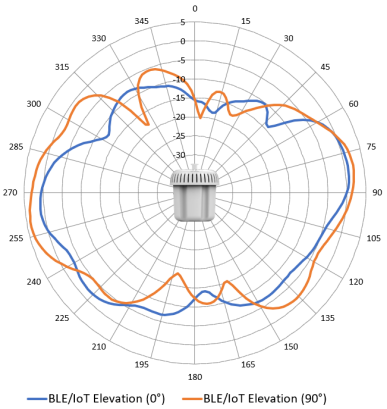


Vertical planes (Elevation, side view radome facing down)

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



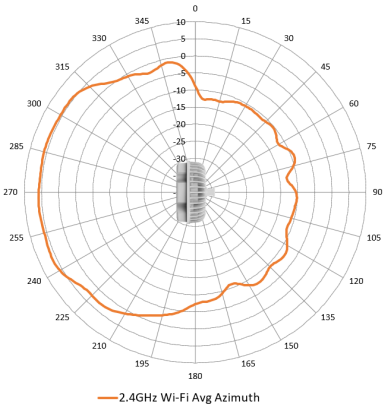


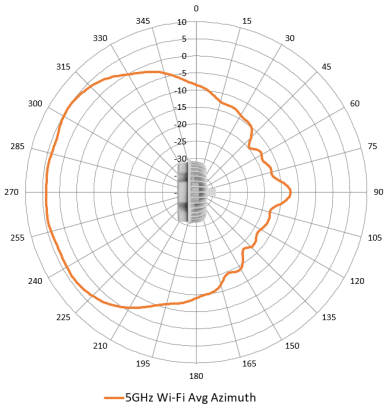


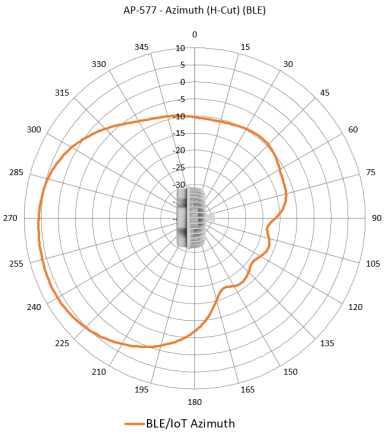
Antenna patterns AP-577EX

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

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

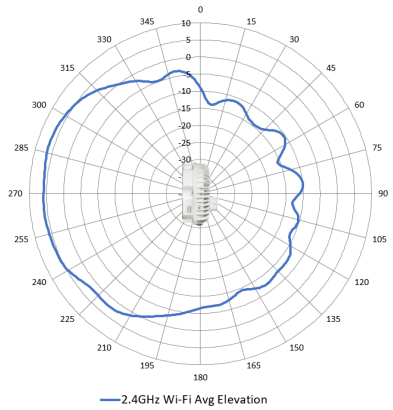


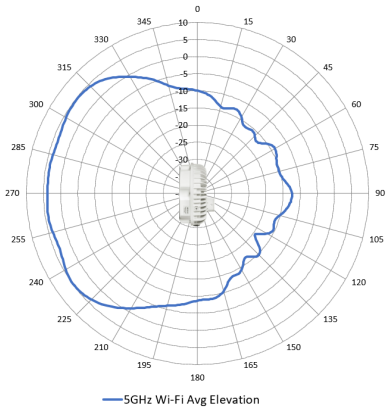


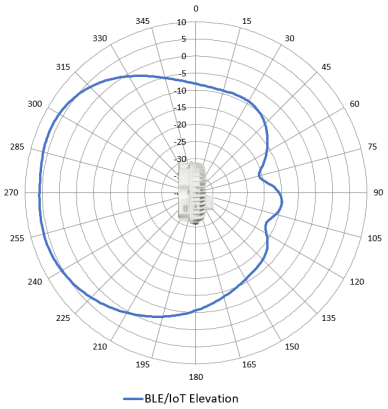


Vertical planes (Elevation, side view, radome facing left)

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







Ordering information

Part number	Description
AP-570EX Series Unified Outdoor Access Points	
S5D95A	HPE Aruba Networking AP-575EX (ID) Dual Radio 4x4/2x2 802.11ax Int Omni Ants HazLoc Outdoor AP
R4W30A	HPE Aruba Networking AP-575EX (EG) Otdr 11ax HazLoc AP
R4W31A	HPE Aruba Networking AP-575EX (IL) Otdr 11ax HazLoc AP
R4W32A	HPE Aruba Networking AP-575EX (JP) Otdr 11ax HazLoc AP
R4W33A	HPE Aruba Networking AP-575EX (RW) Otdr 11ax HazLoc AP
R4W34A	HPE Aruba Networking AP-575EX (US) Otdr 11ax HazLoc AP
R4W35A	HPE Aruba Networking AP-577EX (EG) Otdr 11ax HazLoc AP
R4W36A	HPE Aruba Networking AP-577EX (IL) Otdr 11ax HazLoc AP
R4W37A	HPE Aruba Networking AP-577EX (JP) Otdr 11ax HazLoc AP
R4W38A	HPE Aruba Networking AP-577EX (RW) Otdr 11ax HazLoc AP
R4W39A	HPE Aruba Networking AP-577EX (US) Otdr 11ax HazLoc AP
S5D96A	HPE Aruba Networking AP-577EX (ID) Dual Radio 4x4/2x2 802.11ax Int Dir Ants HazLoc Outdoor AP

For more ordering information and compatible accessories, please refer to the ordering guide.

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