HPE aruba networking

Data sheet



HPE Aruba Networking 670 Series Outdoor Access Points

High performance Wi-Fi 6E for outdoor with 670EX for hazardous locations

HPE

Key features

— Ideal for outdoor and environmentally challenging locations

— Tri-band coverage across 2.4 GHz, 5 GHz, and 6 GHz for 3.9 Gbps peak aggregate data rate

— Industrial IoT-ready with high-power Bluetooth and Zigbee radios

— Fast wired connectivity with 2.5GbE and 1GbE SFP ports

— Standard power (SP) device operation and self-locating with embedded GPS receiver

— Class 1 division 2 and ATEX Zone 2 certified access points 670EX models

— Connectorized model supports external antennas

Weatherproof, temperature hardened, and ready for hazardous environments, the HPE Aruba Networking 670 Series Outdoor Access Points bring high performance Wi-Fi 6E to outdoor and environmentally challenging locations.

The 670 series delivers more wireless capacity and wider channels taking advantage of Wi-Fi 6E and the 6 GHz band to more than double capacity to enable the speed and reliability needed by enterprise and industrial Internet of Things (IoT) environments.

With integrated high-power Bluetooth and Zigbee radios, fast wired connectivity, and a limited lifetime warranty, the 670 series provides high performance outdoor connectivity you can depend on, delivering up to 3.9 Gbps maximum aggregate data rates with a tri-radio 2x2:2 MIMO access point.

For the most extreme conditions, the 670 series includes 670EX models that are Hazardous Location (HazLoc) compliant, making them ideal for environments such as oil rigs, industrial manufacturing, and transportation sites.

Ruggedized and outdoor ready

Purpose-built to survive harsh outdoor environments and deliver improved wireless capacity and range, the 670 series access points withstand exposure to extreme high and low temperatures, persistent moisture, and precipitation. They are fully sealed to keep out airborne contaminants and all electrical interfaces including industrial-strength surge protection. Available with choice of internal antenna (omni, directional, or point-to-point) and external antenna to optimize wireless coverage, the 670 series also includes EX models for additional protection for hazardous locations and harsh outdoor environments, and TAA models.

670 access points models for outdoor environments

The 670 series models are ideal for deployment in harsh outdoor weather conditions such as parking lots, stadiums, and public venues.

670EX access points models for hazardous environments

The 670EX models are Class 1 division 2 and ATEX Zone 2 certified to survive in extreme environments making them ideal for outdoor oil rigs, industrial manufacturing, mining facilities, and transportation sites. Also ideal for deployment where networks need to be protected from extreme temperatures, flammable gases or vapors, and dust concentrations.

Wi-Fi 6E for faster speeds, more capacity

670 series access points are designed to take advantage of Wi-Fi 6E and the 6 GHz band, which translates into far greater speeds, wider channels for multi-gigabit traffic, and less interference. The 670 series delivers 3.9 Gbps maximum aggregate data rates with tri-radio, 2x2:2 MIMO in all three bands (3.9 Gbps aggregate peak).

Advantages of 6 GHz

Wi-Fi 6E provides up to 1200 MHz in the 6 GHz band for higher throughput and improved application performance. With up to seven 160 MHz channels[1], Wi-Fi 6E can better support low-latency, bandwidth-hungry applications such as high-definition video and augmented reality/virtual reality applications. Only Wi-Fi 6E capable devices can use the 6 GHz band so there is no interference or slowdowns since legacy devices use the 5 GHz or 2.4 GHz bands. And to help ensure both 6E and legacy devices are supported, the 670 series provides flexible coverage across the 2.4 GHz, 5 GHz, and 6 GHz bands.

[1] Spectrum allocation per country regulations.

Standard power support

670 series outdoor access points operate as SP devices and, where required, use an Automated Frequency Coordination service (AFC) before enabling the 6 GHz radio to protect incumbent outdoor services (such as microwave links, broadcast auxiliary service, and cable television relay service) in the 6 GHz band. Note that the access point only enables the 6 GHz radio once the standard power requirements are met and the 6 GHz radio is authorized, however the 2.4 GHz and 5 GHz radios function normally regardless of the 6 GHz radio's state.

6 GHz global readiness

At launch, the 670 series will be orderable in U.S. and Canada only. It may become available in other countries as they begin or announce their 6 GHz certification standards and requirements. While the need for more Wi-Fi capacity is recognized across the globe, countries are approaching the 6 GHz band differently. 670 series access points are set up to automatically update regulatory rules once Wi-Fi 6E regulations have been approved and certified.

Extends the benefits of Wi-Fi 6

670 series access points are based on the 802.11ax (Wi-Fi 6) standard, which means that all its efficiency and security enhancements are also available on the 6 GHz band. Wi-Fi 6 features such as orthogonal frequency-division multiple access (OFDMA), BSS coloring, and more, are fully supported on the HPE Aruba Networking Wi-Fi 6E access points as well.

Table 1. Channel bandwidth and peak data rate

Band	Channel bandwidth	Peak data rate
6 GHz	160 MHz	2.4 Gbps
5 GHz	80 MHz	1.2 Gbps
2.4 GHz	20 MHz	287 Mbps
Total		3.9 Gbps

Advantages of OFDMA

This capability allows HPE Aruba Networking access points to handle multiple 802.11ax capable customers on each channel simultaneously, regardless of device or traffic type. Channel utilization is optimized by handling each transaction through smaller sub-carriers or resource units (RUs), which means that customers are sharing a channel and not competing for airtime and bandwidth.

Simplified deployment and operations

HPE Aruba Networking access points can operate as stand-alone 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. With HPE Aruba Networking Central, onboarding, configuring, and provisioning are simpler and require no manual CLI configuration or maintenance windows. Once the access point is plugged in, the device connects and receives its running configuration from the cloud using zero touch provisioning, which allows remote workers and offices to onboard and configure wireless connectivity without any on-site IT support. HPE Aruba Networking Central licenses are available in 1-, 3-, 5-, 7-, and 10-year increments, making it easy to align requirements for AIOps, security, and other desired management features. See the HPE Aruba Networking Central SaaS Subscriptions.

Flexible power deployment

Power through PoE 802.3bt (802.3at w/IPM) or for AC or DC power, use outdoor power injector (PD-9501-5GCO AC/DC Outdoor Power over Ethernet [PoE] injectors).

Key Wi-Fi features

Wi-Fi 6E

670 series outdoor access points meet the requirements for Wi-Fi 6E (802.11ax) for greater efficiency including OFDMA, MU-MIMO, and Target Wake Time (TWT) to extend the battery life of devices.

Client optimization

HPE Aruba Networking patented AI-powered ClientMatch technology helps eliminate sticky customer issues by steering a customer to the access point where it receives the best radio signal. HPE Aruba Networking ClientMatch steers traffic from the noisy 2.4 GHz band to the preferred 5 GHz or 6 GHz band depending on customer capabilities. HPE Aruba Networking ClientMatch also dynamically steers traffic to load balance access points to improve the user experience.

RF optimization

HPE Aruba Networking AirMatch, a radio frequency optimization technique with machine learning capabilities, aims to dynamically adjust resources like power to improve coverage and potentially reduce coverage gaps.

Reduce interference

Unique 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.

Self-locating access points

The 670 series access points include built-in GPS receivers and fine time measurement (FTM) to allow them to automatically locate themselves accurately within the universal framework of latitude and longitude. As part of location solutions of Hewlett Packard Enterprise, they serve as reference points for customer devices and other technologies using FTM.

Open Locate, an emerging standard that allows access points to share their location over the air and through cloud-based application programming interface (APIs), enables mobile devices to locate themselves and applications to support network analytics.

IoT ready

By combining IoT radios with a zero trust network framework, the 670 series outdoor access points can serve as flexible IoT platforms that bolster network security, provide coverage for broad range of IoT devices, and help eliminate the need for network overlays just for IoT devices.

The 670 series access points include integrated high-power Bluetooth and 802.15.4 radios for Zigbee support to simplify deploying and managing IoT-based location services, asset tracking services, security solutions, and IoT sensors. There are also two USB-ports to provide IoT connectivity to a wider range of devices.

These IoT capabilities allow organizations to leverage our access points as an IoT transport, which helps eliminate the need for an overlay infrastructure and additional IT resources and can accelerate IoT initiatives.

In addition, TWT establishes a schedule when customers need to communicate with an access point. This helps in improving customer power savings and reducing airtime contention with other customers, which is ideal for IoT.

The Advanced IoT Coexistence (AIC) feature uses built-in filtering to allow Wi-Fi, Bluetooth, and Zigbee radios to operate at increased capacity without the impact of interference.

AI-powered dynamic power save mode

Access points switch into a dynamic power save mode and automatically wake up at a schedule when connectivity demand arises, reducing power demands and saving money in alignment with the organization's sustainability initiatives.

Intelligent power monitoring (IPM)

For better insights into energy consumption, HPE Aruba Networking access points continuously monitor and report hardware energy usage. Unlike other vendor's access points, HPE Aruba Networking access points can also be configured to enable or disable capabilities based on available PoE power — ideal when wired switches have exhausted their power budget. Enterprises can deploy Wi-Fi 6E access points and update switching and power at a later date if needed based on their actual usage.

Key security features

AI customer insights

ML-based classification of all customer through customer insights uses deep packet inspection to provide additional context and behavioral information that help ensure devices are receiving proper policy enforcement and continuously monitor for rogue devices.

User and device authentication

Cloud-native network access control (NAC) provided by HPE Aruba Networking Central further simplifies how IT controls network access while providing a frictionless experience for end users. Global policy automation and orchestration enables IT to define and maintain global policies at scale with ease, using UI-driven, intuitive workflows that automatically translate security intent into policy design and map user roles for employees, contractors, guests, and devices to their proper access privileges.

Intrusion detection

HPE Aruba Networking Central utilizes the Rogue AP Intrusion Detection Service (RAPIDS) to identify and help resolve issues caused by rogue access points and customers. Wired and wireless data is automatically correlated to identify potential threats, thereby strengthening network security and improving incident response processes by reducing false positives.

Web content filtering

Web content classification (WebCC) classifies websites by content category and rates them by reputation and risk score, enabling IT to block malicious sites to help prevent phishing, DDoS, botnets, and other common attacks.

WPA3 and Enhanced Open

As part of Wi-Fi 6E (802.11ax), Wi-Fi Protected Access 3 (WPA3) helps ensure stronger encryption and authentication while Enhanced Open offers protection for users connecting to open networks by automatically encrypting each session 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 HPE Aruba Networking ClearPass Policy Manager).

Trusted platform module (TPM)

For enhanced device assurance, all HPE Aruba Networking access points include an installed TPM for secure storage of credentials and keys, and boot code.

Simple and secure access

To improve security and ease of management, IT can centrally configure and automatically enforce role-based policies that define proper access privileges for employees, guests, contractors, and other user groups — no matter where users connect on wired and WLANs. Dynamic segmentation helps eliminate the time consuming and error-prone task of managing complex and static VLANs, ACLs, and subnets by dynamically assigning policies and keeping traffic secure and separated.

Standards based technologies

670 series access points also include the following standards-based technologies:

— Transmit beamforming (TxBF) to increase signal reliability and range

— Dynamic frequency selection (DFS) to optimize use of available RF spectrum

— Maximum rate combining (MRC) for improved receiver performance

— Cyclic delay / shift diversity (CDD/CSD) to deliver greater downlink RF performance

— Space-time block coding (STBC) to increase range and improve reception

— Low-density parity check (LDPC) to provide high-efficiency error correction and improve throughput



Figure 1. HPE Aruba Networking AP-674

Technical specifications

Hardware variants

— HPE Aruba Networking AP-674
  • Two dual band NF connectors for external 2.4 GHz and 5 GHz antenna operation
  • Two 6 GHz NF connectors for external 6 GHz antenna operation
  • One 2.4 GHz IoT (BLE/Zigbee) NF connectors for external IoT antenna operation
    ◦ 5 dBi IoT omnidirectional direct attach antenna included
  • One GPS/GNSS NF connector for external GPS antenna
    ◦ 30 dBi GPS antenna and external mount included
— HPE Aruba Networking AP-675
  • Built-in omnidirectional antennas
  • 2.4 GHz antennas 3.8 dBi
  • 5 GHz antennas 5.7 dBi
  • 6 GHz antennas 5.9 dBi
  • BLE/Zigbee: Integrated omnidirectional antenna with peak gain of 3.8 dBi
— HPE Aruba Networking AP-677
— Built-in directional antennas
— 2.4 GHz antennas 5.2 dBi
— 5 GHz antennas 6.5 dBi
— 6 GHz antennas 6.3 dBi
— BLE/Zigbee: Integrated omnidirectional antenna with peak gain of 6.3 dBi
— HPE Aruba Networking AP-679
  • Built-in dynamic directional antennas
  • 2.4 GHz antennas 6.1 dBi
  • 5 GHz antennas
    ◦ Wide 7.7 dBi
    ◦ Narrow 10.5 dBi
  • 6 GHz antennas
    ◦ Wide 8.1 dBi
    ◦ Narrow 10.1 dBi
  • BLE/Zigbee: Integrated omnidirectional antenna with peak gain of 6.6 dBi

Wi-Fi radio specifications

— AP type: Outdoor, tri-radio, 2.4 GHz, 5 GHz, and 6 GHz (concurrent) 802.11ax 2x2 MIMO
— 2.4 GHz radio: Two spatial stream single user (SU) MIMO for up to 574 Mbps wireless data rate with 2SS HE40 802.11ax customer devices
— 5 GHz radio: Two spatial stream SU MIMO for up to 1.2 Gbps wireless data rate with 2SS HE80 802.11ax customer devices
— 6 GHz radio: Two spatial stream SU MIMO for up to 2.4 Gbps wireless data rate with 2SS HE160 802.11ax customer devices
— Up to 512 associated customer devices per radio, and up to 16 BSSIDs per radio (limited to 8 for the 6 GHz 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-2
  • 5.470 to 5.725 GHz U-NII-2E
  • 5.725 to 5.850 GHz U-NII-3/ISM
  • 5.850 to 5.895 GHz U-NII-4
  • 5.925 to 6.425 GHz U-NII-5
  • 6.425 to 6.525 GHz U-NII-6
  • 6.525 to 6.875 GHz U-NII-7
  • 6.875 to 7.125 GHz U-NII-8
— Available bands and channels: Dependent on configured regulatory domain (country)
— DFS optimizes the use of available RF spectrum in the 5 GHz band
— Supported radio technologies:
  • 802.11b: Direct-sequence spread-spectrum (DSSS)
  • 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
  • 802.11ax: OFDMA with up to 8 resource units (37 for the 6 GHz radio)
— Supported modulation types
  • 802.11b: BPSK, QPSK, CCK
  • 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM and 256-QAM (proprietary extension)
  • 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM and 1024-QAM (proprietary extension)
  • 802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, and 1024-QAM

— 802.11n high-throughput (HT) support: HT20/40
— 802.11ac very high throughput (VHT) support: VHT20/40/80
— 802.11ax high-efficiency (HE) support: HE20/40/80/160
— Supported data rates (Mbps):
  • 802.11b: 1, 2, 5.5, 11
  • 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  • 802.11n: 6.5 to 300 (MCS0 to MCS15, HT20 to HT40), 400 with 256-QAM (proprietary extension)
  • 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2, VHT20 to VHT80); 1,083 with 1024-QAM (MCS10 and MCS11, proprietary extension)
  • 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)
  • 802.11ax (6 GHz): 3.6 to 2,402 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE160)
— 802.11n/ac 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
  • Per radio/band (2.4 GHz/5 GHz/6 GHz): +25 dBm (22 dBm per chain)
  • Note: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain.
— ACC minimizes the impact of interference from cellular networks
— MRC for improved receiver performance
— CDD/CSD for improved downlink RF performance
— STBC for increased range and improved reception
— LDPC for high-efficiency error correction and increased throughput
— TxBF for increased signal reliability and range
— 802.11ax TWT to support low-power customer devices
— 802.11mc FTM for precision distance ranging

Wi-Fi antennas

— HPE Aruba Networking AP-674: Two NF dual band (2.4 GHz and 5 GHz) connectors (chains DB0 + DB1), two NF 6 GHz connectors (chains 6G0 + 6G1), one NF 2.4 GHz IoT connector (5 dBi antenna included), and one NF GPS/GNSS connector (30 dBi antenna included)
  • Worst-case internal loss between radio interface and external antenna connector should be 0.8 dB for IoT, 1 dB for 2.4 and 5 GHz, and 1.5 dBi for 6 GHz.
— HPE Aruba Networking AP-675: Integrated tri-band omnidirectional antennas for 2x2 MIMO with peak antenna gain of 4.6 dBi in 2.4 GHz, 7.9 dBi in 5 GHz, and 6.2 dBi in 6 GHz. Built-in antennas are optimized for a horizontally mounted orientation of the access point. The downtilt angle for maximum gain is roughly 5–10°.
  • A mix of horizontally and vertically polarized antenna elements are used
  • Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 3.8 dBi in 2.4 GHz, 5.7 dBi in 5 GHz, and 5.9 dBi in 6 GHz
— HPE Aruba Networking AP-677: Integrated tri-band directional antennas for 2x2 MIMO with peak antenna gain of 6.6 dBi in 2.4 GHz, 7.2 dBi in 5 GHz, and 7.2 dBi in 6 GHz. Built-in antennas are optimized for either wall/ pole vertically oriented (or with downtilt), or down-firing in a horizontally mounted orientation of the access point. The antenna beamwidth is approx. 90°x90°.
  • Cross-polarized antenna elements are used
  • Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 5.2 dBi in 2.4 GHz, 6.5 dBi in 5 GHz, and 6.3 dBi in 6 GHz
— HPE Aruba Networking AP-679: Integrated tri-band directional antennas for 2x2 MIMO with two different modes for the 5 GHz and 6 GHz antennas (a wider 90°x30° antenna, and a narrow 30°x30°) that are software provisioned. The built-in antennas are optimized for either wall/ pole vertically oriented (or with downtilt), or down-firing in a horizontally mounted orientation of the access point.
— Wide 90°x30° has a peak gain of 8.2 dBi in 5 GHz and 8.6 dBi in 6 GHz (combined average peak of 7.7 dBi and 8.1 dBi respectively)
— Narrow 30°x30° has a peak gain of 11 dBi in 5 GHz and 11.2 dBi in 6 GHz (combined average peak of 10.5 dBi and 10.1 dBi respectively)
— Peak gain of 6.5 dBi in 2.4 GHz (approx. 90°x90°) in either mode, with a combined average peak of 6.1 dBi in 2.4 GHz
— Cross-polarized antenna elements are used

Other interfaces and features

— Wired network interface (E0)
  • 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 PoE (class 4 or higher)
  • 802.3az Energy Efficient Ethernet (EEE)
  • Wired Network Interface (E1)

— SFP fiber port
  • When used in operation, it is expected that this is the primary uplink port
  • Only recommended industrial temperature SFP modules should be used for optimal performance
— USB 2.0 host interface (Type C connector), supporting 2A/10W maximum
— USB 2.0 host interface (Type A connector), supporting 1A/5W maximum
— Bluetooth Low Energy (BLE5.0) and Zigbee (802.15.4) radio
— BLE: Up to 8 dBm transmit power (class 1) and –100 dBm receive sensitivity (125 kbps)
— Zigbee: Up to 8 dBm transmit power and –97 dBm receive sensitivity (250 Kbps)
— GNSS L1 (1575.42 MHz) receiver supporting GPS, Galileo, GLONASS, and BeiDou signal
  • Receive sensitivity: –163 dBm (tracking)
  • Integrated antenna with gain of approximately 2 dBi
— AIC allows concurrent operation of multiple radios in the 2.4 GHz band
— Built-in TPM for enhanced security and anti-counterfeiting
— Visual indicators for system and radio status (1x multicolor LED), auto-disable after 15 minutes is up
— Reset button: Factory reset, LED mode control (normal/off)
— Serial console interface (proprietary, USB-C physical jack)
— Automatic thermal shutdown and recovery function

Power sources and power consumption

• The AP supports PoE on port E0
— Power sources are sold separately
— When powered by 802.3bt (class 6) PoE, the access point will operate without restrictions
— When powered by 802.3bt (class 5) PoE with the IPM feature disabled, the access point will disable the USB-C port
— With IPM enabled, the access point will start up in unrestricted mode but may dynamically apply restrictions depending on the available power budget and actual consumption. The feature restrictions and order in which these get applied are configurable
— Operating the access point with an 802.3at (class 4) PoE with the IPM feature disabled, the access point will disable the USB ports, the SFP port, and one of the two chains on the 2.4 GHz radio
— Operating the access point with an 802.3af (class 3 or lower) PoE source is not supported (except for access point staging)
• Maximum (worst-case) power consumption (without/with a USB device attached):
  – PoE powered: 29W/45.5W
  – This assumes that up to 16.5W total is supplied the attached USB devices
• Maximum (worst-case) power consumption in idle mode: 11W/27.5W (both USB active at max)
• Maximum (worst-case) power consumption in deep-sleep mode: 3.2W (PoE)

Table 2. Power sources and power budget

PoE source	Class 6 (802.3bt)	Class 5 (802.3bt)	Class 4 (802.3at)	Class 3 (802.3af)
Power budget	45.5W	40W	25.5W	13.9W
Power budget	Unrestricted	Restricted	Restricted	Restricted
USB ports	Both enabled	USB-A only (USB-C disabled)	USB disabled SFP disabled 2.4 GHz drops to 1x1	All disabled
Ethernet	2.5G + SFP	2.5G + SFP	2.5G	(staging only)
MIMO	2x2	2x2	2x2 (1x1 on 2.4 GHz)	All disabled
RF power reduction	0 dB	0 dB	0 dB	Disabled

Note: With IPM enabled, access point will start up in unrestricted mode and apply reductions per policy or defaults

Mounting

A mounting bracket holder has been preinstalled on the access point. This bracket is used to secure the access point to any of the mount kits (sold separately); see the HPE Aruba Networking 670 Series Ordering Guide for details. The 670 series outdoor access points also share the same mounting hardware and accessories so upgrades from previous HPE Aruba Networking outdoor access points are quick and easy.

Mechanical

Note: AP-670EX variants include HazLoc compliant Ethernet glands.

- AP-674
  - Dimensions/weight (unit only):
    - 290 mm (W) x 288 mm (D) x 226 mm (H)/11.4 in (W) x 11.3 in (D) x 12.3 in (H)
    - 4.2 kg/9.3 lbs
  - Dimensions/weight (package, no mount):
    - 372 mm (W) x 300 mm (D) x 359 mm (H)/14.6 in (W) x 11.8 in (D) x 14.1 in (H)
    - 6.2 kg/13.7 lbs
- AP-675/AP-675EX
  - Dimensions/weight (unit only):
    - 290 mm (W) x 288 mm (D) x 312 mm (H)
    - 11.4 in (W) x 11.3 in (D) x 12.3 in (H)
    - 4 kg/8.8 lbs
  - Dimensions/weight (package, no mount):
    - 392 mm (W) x 372 mm (D) x 330 mm (H)/15.4 in (W) x 14.6 in (D) x 13 in (H)
    - 6 kg/13.2 lbs
- AP-677/AP-677EX
  - Dimensions/weight (unit only):
    - 290 mm (W) x 288 mm (D) x 171 mm (H)
    - 11.4 in (W) x 11.3 in (D) x 6.7 in (H)
    - 3.6 kg/7.9 lbs
  - Dimensions/weight (package, no mount):
    - 322 mm (W) x 250 mm (D) x 364 mm (H)/12.7 in (W) x 9.8 in (D) x 14.3 in (H)
    - 5.2 kg/11.5 lbs
- AP-679/AP-679EX
  - Dimensions/weight (unit only):
    - 290 mm (W) x 288 mm (D) x 171 mm (H)
    - 11.4 in (W) x 11.3 in (D) x 6.7 in (H)
    - 3.8 kg/8.4 lbs
  - Dimensions/weight (package, no mount):
    - 322 mm (W) x 250 mm (D) x 364 mm (H)/12.7 in (W) x 9.8 in (D) x 14.3 in (H)
    - 5.4 kg/11.9 lbs
- HazLoc variants include intrinsically certified Ethernet glands (CMP A2F), but other certified explosive atmosphere glands can be used, subject to approvals by the safety authority

Environmental specifications

- Operating conditions
  - Temperature: –40°C to +70°C/ –40°F to 158°F (no solar loading), –40°C to +65°C/–40°F to 149°F (with solar loading)
  - Humidity: 5% to 100% noncondensing internal
  - Rated for operation in all weather conditions
- Storage and transportation conditions
  - Temperature: –40°C to +70°C/ –40°F to +158°F
- Operating altitude: 3000m
- Water and dust: IP66/67
- Salt Tolerance: Test to ASTM B117-07A salt spray 200hrs
- Wind survival: 150 Mph (GR-487)

Reliability

Mean time between failure (MTBF): 500,562 hrs (59.4 yrs.) at +25°C ambient operating temperature.

Regulatory compliance

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

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

Regulatory model numbers

- AP-674: APEX0674
- AP-675: APEX0675
- AP-677: APEX0677
- AP-679: APEX0679

Certifications

- Wi-Fi alliance:
  - Bluetooth SIG
  - Ethernet alliance (E0, PoE PD device, class 6)
  - Class 1 Div 2 (EX models only)
  - ATEX Zone 2 (EX models only)
  - IECEx (EX models only)

Table 3. 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	–95
11 Mbps	22	–87
2.4 GHz, 802.11g		
6 Mbps	22	–92
54 Mbps	20	–74
2.4 GHz, 802.11n HT20		
MCS0	22	–92
MCS7	20	–74
2.4 GHz, 802.11ax HE20		
MCS0	22	–92
MCS11	18	–62
5 GHz, 802.11a		
6 Mbps	22	–93
54 Mbps	2	–75
5 GHz, 802.11n HT20/HT40		
MCS0	22/22	–93/–90
MCS7	21/21	–73/–70
5 GHz, 802.11ac VHT20/VHT40/VHT80		
MCS0	22/22/22	–93/–90/–87
MCS9	20/20/20	–68/–65/–62
5 GHz, 802.11ax HE20/HE40/HE80		
MCS0	22/22/22	–92/–89/–86
MCS11	18/18/18	–62/–59/–56
6 GHz, 802.11ax HE20/HE40/HE80/HE160		
MCS0	22/22/21/20	–92/–89/–86/–83
MCS11	18/17/17/17	–63/–66/–57/–54

Antenna patterns AP-675/675EX

Horizontal planes (Azimuth, top view)

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

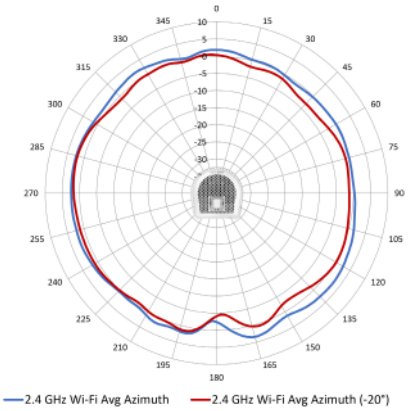


Figure 2. Antenna patterns AP-675/675EX Horizontal planes (Azimuth, top view)

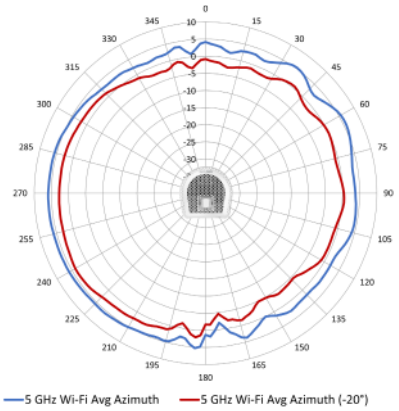


Figure 3. Antenna patterns AP-675/675EX Horizontal planes (Azimuth, top view)

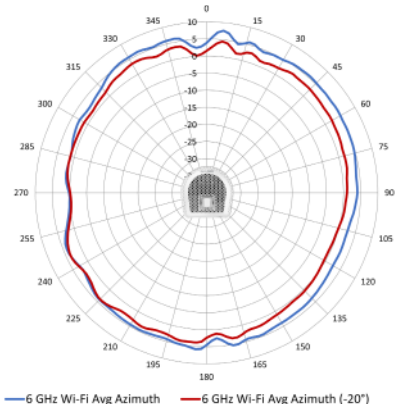


Figure 4. Antenna patterns AP-675/675EX Horizontal planes (Azimuth, top view)

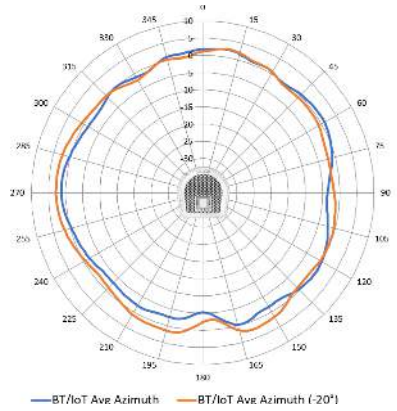


Figure 5. AP-675/675EX Horizontal planes (Azimuth, top view)

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)

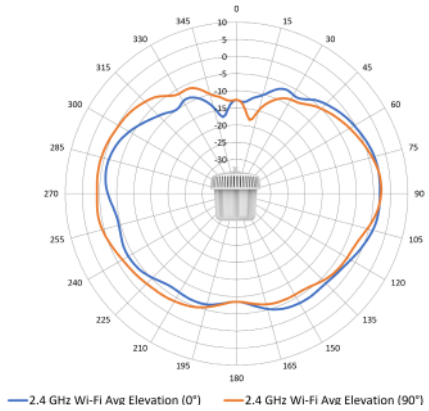


Figure 6. Antenna patterns AP-675/675EX Vertical planes (Elevation, side view radome facing down)

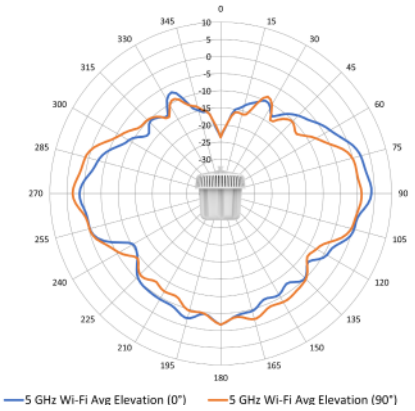


Figure 7. Antenna patterns AP-675/675EX Vertical planes (Elevation, side view radome facing down)

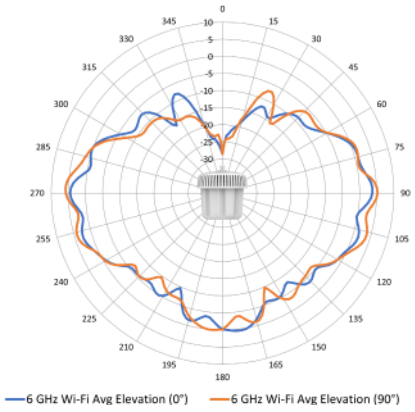


Figure 8. Antenna patterns AP-675/675EX Vertical planes (Elevation, side view radome facing down)

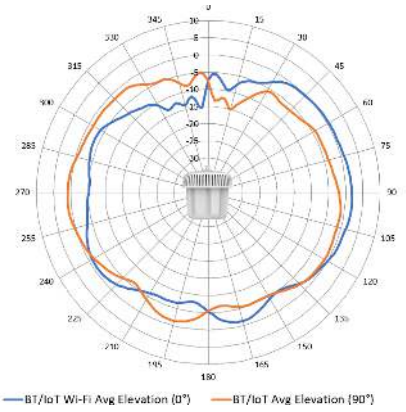


Figure 9. AP-675/675EX Vertical planes (Elevation, side view radome facing down)

Antenna patterns AP-677/677EX

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

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

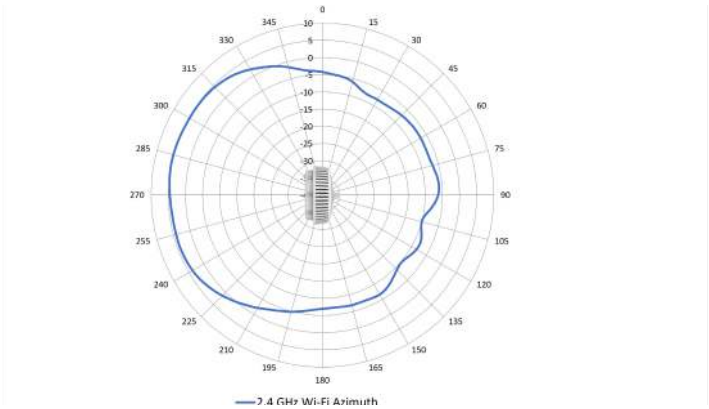


Figure 10. Antenna patterns AP-677/677EX Horizontal planes (Azimuth, top view radome facing left)

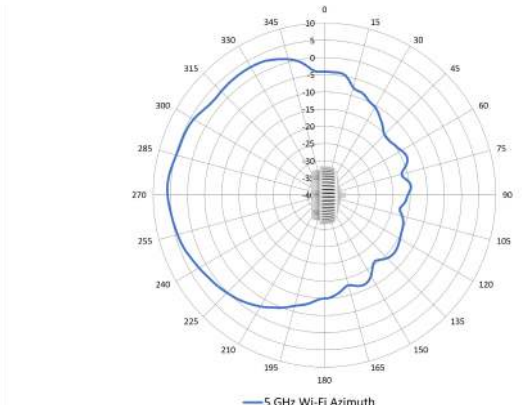


Figure 11. Antenna patterns AP-677/677EX Horizontal planes (Azimuth, top view radome facing left)

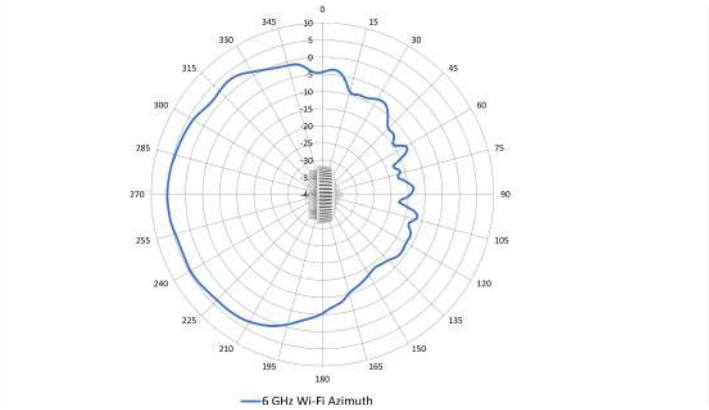


Figure 12. Antenna patterns AP-677/677EX Horizontal planes (Azimuth, top view radome facing left)

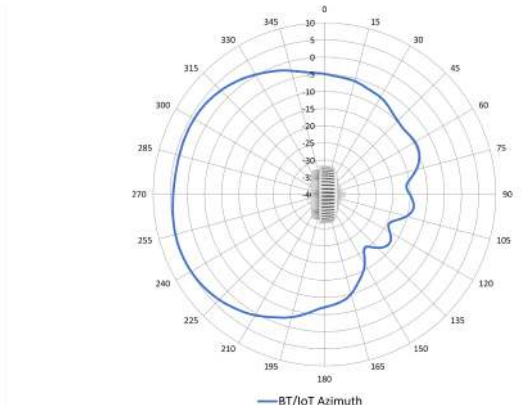


Figure 13. Antenna patterns AP-677/677EX Horizontal planes (Azimuth, top view radome facing left)

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

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

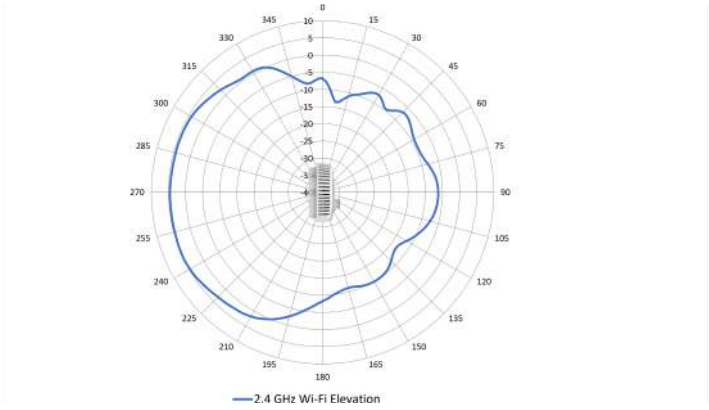


Figure 14. Antenna patterns AP-677/677EX Vertical planes (Elevation, side view radome facing left)

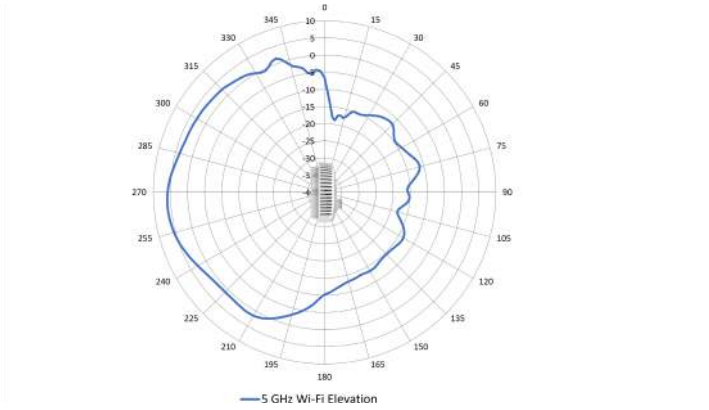


Figure 15. Antenna patterns AP-677/677EX Vertical planes (Elevation, side view radome facing left)

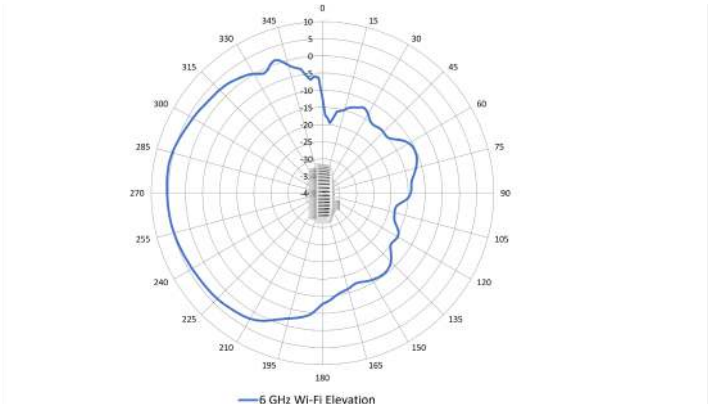


Figure 16. Antenna patterns AP-677/677EX Vertical planes (Elevation, side view radome facing left)

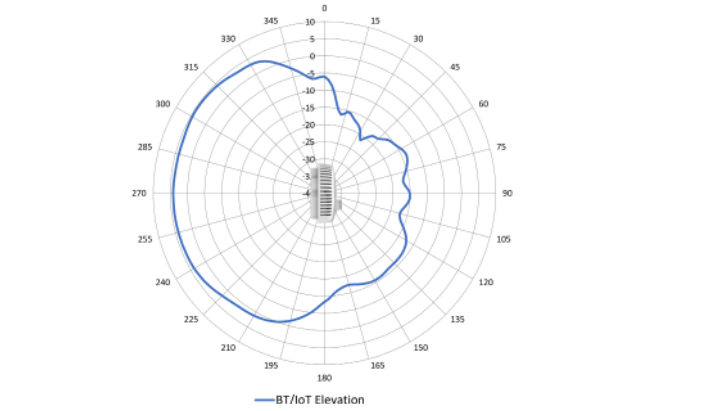


Figure 17. Antenna patterns AP-677/677EX Vertical planes (Elevation, side view radome facing left)

Antenna patterns AP-679/679EX

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

Showing top-view patterns with both wide (90°x30°) and narrow (30°x30°) modes for 5 GHz and 6 GHz (averaged patterns for all applicable antennas and frequencies within the bands)

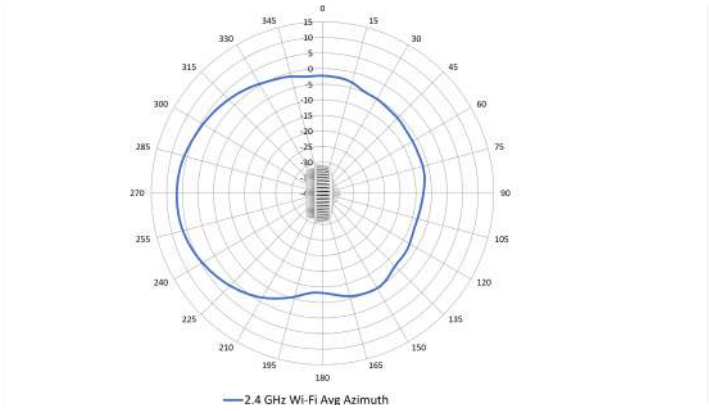


Figure 18. Antenna patterns AP-679/679EX Horizontal planes (Azimuth, top view radome facing left)

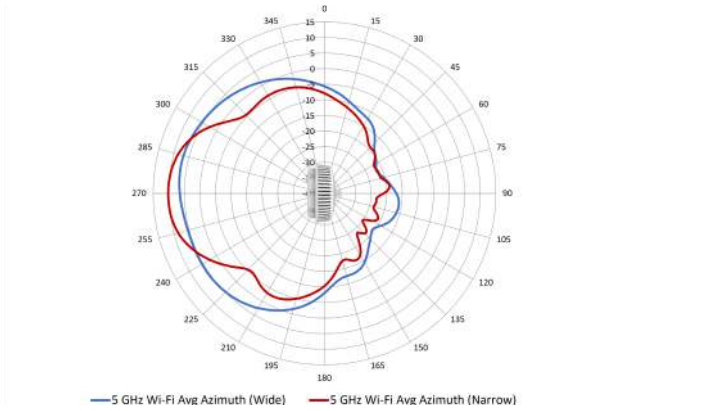


Figure 19. Antenna patterns AP-679/679EX Horizontal planes (Azimuth, top view radome facing left)

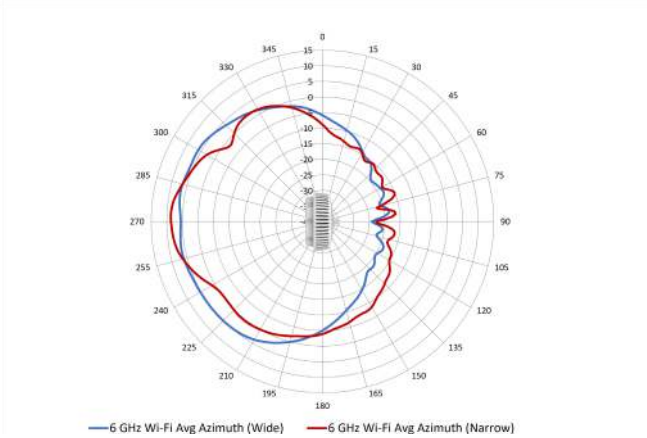


Figure 20. Antenna patterns AP-679/679EX Horizontal planes (Azimuth, top view radome facing left)

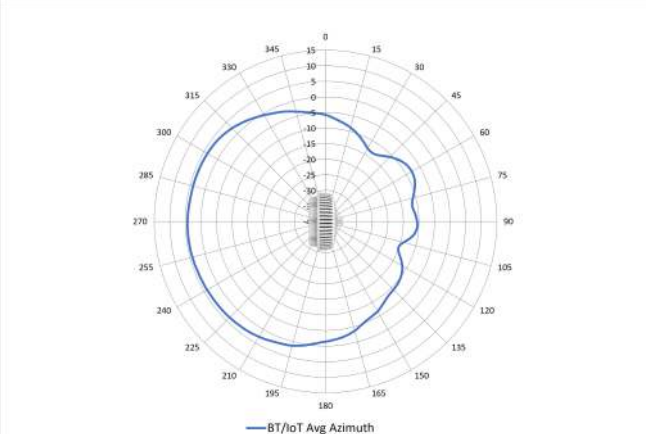


Figure 21. AP-679/679EX Horizontal planes (Azimuth, top view radome facing left)

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

Showing side-view patterns with both wide (90°x30°) and narrow (30°x30°) modes for 5 GHz and 6 GHz (averaged patterns for all applicable antennas and frequencies within the bands)

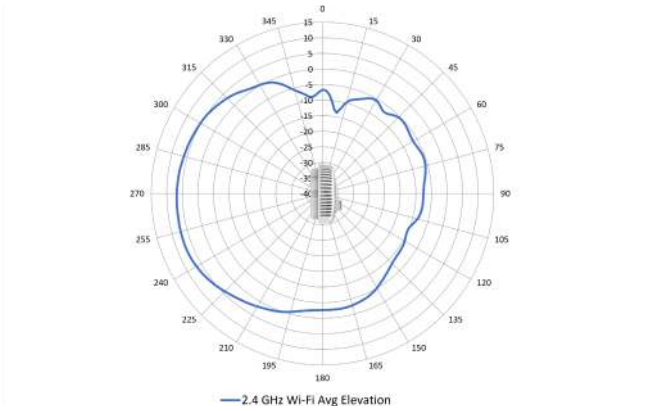


Figure 22. Antenna patterns AP-679/679EX Vertical planes (Elevation, side view radome facing left)

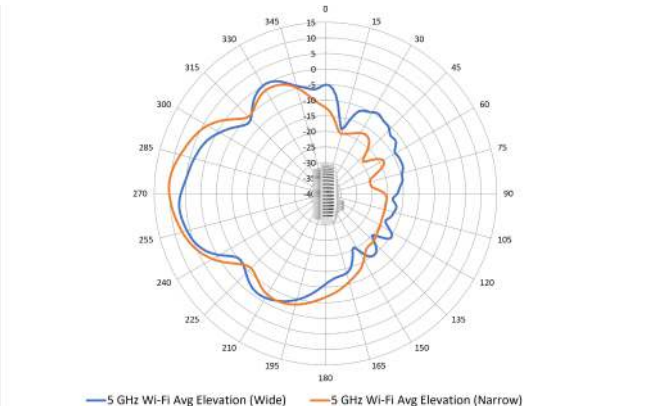


Figure 23. Antenna patterns AP-679/679EX Vertical planes (Elevation, side view radome facing left)

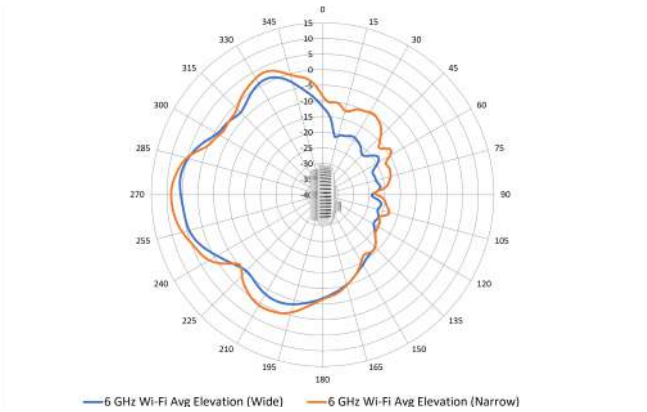


Figure 24. Antenna patterns AP-679/679EX Vertical planes (Elevation, side view radome facing left)

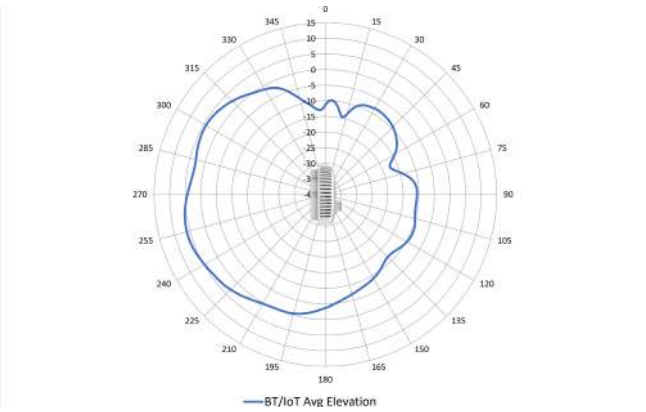


Figure 25. Antenna patterns AP-679/679EX Vertical planes (Elevation, side view radome facing left)

Table 4. Ordering information

Part number	Description
HPE Aruba Networking 670 Series Outdoor Access Points	
S0P45A	HPE Aruba Networking AP-674 (US) Tri Radio 2x2 Wi-Fi 6E Connectorized Outdoor AP
S0P46A	HPE Aruba Networking AP-674 (RW) Tri Radio 2x2 Wi-Fi 6E Connectorized Outdoor AP
S0P48A	HPE Aruba Networking AP-674 (IL) Tri Radio 2x2 Wi-Fi 6E Connectorized Outdoor AP
S0P49A	HPE Aruba Networking AP-674 (EG) Tri Radio 2x2 Wi-Fi 6E Connectorized Outdoor AP
S5D97A	HPE Aruba Networking AP-674 (ID) Tri Radio 2x2 Wi-Fi 6E Connectorized Outdoor Access Point
S0P50A	HPE Aruba Networking AP-675 (US) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP
S0P51A	HPE Aruba Networking AP-675 (RW) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP
S0P53A	HPE Aruba Networking AP-675 (IL) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP
S0P54A	HPE Aruba Networking AP-675 (EG) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP
S5E09A	HPE Aruba Networking AP-675 (ID) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP
S0P55A	HPE Aruba Networking AP-677 (US) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP
S0P56A	HPE Aruba Networking AP-677 (RW) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP
S0P58A	HPE Aruba Networking AP-677 (IL) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP
S0P59A	HPE Aruba Networking AP-677 (EG) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP
S5E10A	HPE Aruba Networking AP-677 (ID) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor Access Point
S0P60A	HPE Aruba Networking AP-679 (US) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP
S0P61A	HPE Aruba Networking AP-679 (RW) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP
S0P63A	HPE Aruba Networking AP-679 (IL) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP
S0P64A	HPE Aruba Networking AP-679 (EG) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP
S5E11A	HPE Aruba Networking AP-679 (ID) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP

Table 4. Ordering information (continued)

Part number	Description
HPE Aruba Networking 670 Series Outdoor Access Points — TAA compliant	
S0Q30A	HPE Aruba Networking AP-674 (EGF1) Tri Radio 2x2 Wi-Fi 6E Connectorized TAA Outdoor AP
S0Q31A	HPE Aruba Networking AP-674 (ILF1) Tri Radio 2x2 Wi-Fi 6E Connectorized TAA Outdoor AP
S0Q33A	HPE Aruba Networking AP-674 (RWF1) Tri Radio 2x2 Wi-Fi 6E Connectorized TAA Outdoor AP
S0Q34A	HPE Aruba Networking AP-674 (USF1) Tri Radio 2x2 Wi-Fi 6E Connectorized TAA Outdoor AP
S0Q35A	HPE Aruba Networking AP-675 (USF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP
S0Q36A	HPE Aruba Networking AP-675 (ILF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP
S0Q38A	HPE Aruba Networking AP-675 (RWF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP
S0Q39A	HPE Aruba Networking AP-675 (EGF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP
S0Q40A	HPE Aruba Networking AP-677 (EGF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP
S0Q41A	HPE Aruba Networking AP-677 (ILF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP
S0Q43A	HPE Aruba Networking AP-677 (RWF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP
S0Q44A	HPE Aruba Networking AP-677 (USF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP
S0Q45A	HPE Aruba Networking AP-679 (EGF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP
S0Q46A	HPE Aruba Networking AP-679 (ILF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP
S0Q48A	HPE Aruba Networking AP-679 (RWF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP
S0Q49A	HPE Aruba Networking AP-679 (USF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP

Table 4. Ordering information (continued)

Part number	Description
HPE Aruba Networking 670 EX Series HazLoc Access Points	
S0Q50A	HPE Aruba Networking AP-675EX (US) Tri Radio 2x2 Wi-Fi 6E Internal Omnidirectional HazLoc AP
S0Q51A	HPE Aruba Networking AP-675EX (RW) Tri Radio 2x2 Wi-Fi 6E Internal Omnidirectional HazLoc AP
S0Q53A	HPE Aruba Networking AP-675EX (IL) Tri Radio 2x2 Wi-Fi 6E Internal Omnidirectional HazLoc AP
S0Q54A	HPE Aruba Networking AP-675EX (EG) Tri Radio 2x2 Wi-Fi 6E Internal Omnidirectional HazLoc AP
S5E12A	HPE Aruba Networking AP-675EX (ID) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional HazLoc AP
S5E12A	HPE Aruba Networking AP-675EX (ID) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional HazLoc AP
S0Q55A	HPE Aruba Networking AP-677EX (US) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP
S0Q56A	HPE Aruba Networking AP-677EX (RW) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP
S0Q58A	HPE Aruba Networking AP-677EX (IL) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP
S0Q59A	HPE Aruba Networking AP-677EX (EG) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP
S5E13A	HPE Aruba Networking AP-677EX (ID) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc Access Point
S5E13A	HPE Aruba Networking AP-677EX (ID) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc Access Point
S0Q60A	HPE Aruba Networking AP-679EX (US) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP
S0Q61A	HPE Aruba Networking AP-679EX (RW) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP
S0Q63A	HPE Aruba Networking AP-679EX (IL) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP
S0Q64A	HPE Aruba Networking AP-679EX (EG) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP
S5E14A	HPE Aruba Networking AP-679EX (ID) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP

For compatible accessories and spares, see the
HPE Aruba Networking 670 Series Outdoor Access Points Ordering Guide.

Warranty

HPE Aruba Networking hardware limited lifetime warranty.

Minimum operating system software versions

— HPE Aruba Networking Wireless Operating System AOS-10.7.0.0 (AP-675, AP-677)
— HPE Aruba Networking Wireless Operating System AOS 10.7.1.0 (AP-674, AP-679)
— HPE Aruba Networking Wireless Operating System AOS-8.12.0.0 (Only AP-675, AP-677, and AP-679)
— HPE Aruba Networking Instant Operating System AOS-8.12.0.0 (Only AP-675, AP-677, and AP-679, no 6 GHz support with Instant)

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