Overview

HPE Aruba Networking 670 Series Outdoor Access Points

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

Weatherproof, temperature hardened, and ready for hazardous environments, the HPE Aruba Networking 670 Series Outdoor APs 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 meet the speed and reliability needed by enterprise and industrial 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 3.9Gbps maximum aggregate data rates with a Tri-radio 2x2:2 MIMO AP. For the most extreme conditions, the 670 Series includes 670EX models that are Hazardous Location (HazLoc) compliant1 , making them ideal for environments such as oil rigs, industrial manufacturing, and transportation sites.

Standard Features

Ruggedized and outdoor ready

Purpose-built to survive harsh outdoor environments and deliver maximum wireless capacity and range, the 670 Series APs 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 include industrial-strength surge protection. Available with choice of internal antenna (omni, directional, or point-to-point) 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 AP models for outdoor environments

The 670 models (AP-675, AP-677, AP-679) are ideal for deployment in harsh outdoor weather conditions such as parking lots, stadiums, and public venues.

670EX AP models for hazardous environments

The 670EX models (AP-675EX, AP-677EX, AP-679EX) are Class 1 Division 2 and ATEX Zone 2 certified1 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 APs 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, Wi-Fi 6E can better support low-latency, bandwidth hungry applications like 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 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.

Standard power support

HPE Aruba Networking 670 Series Outdoor APs will operate as Standard Power (SP) devices and, where required, will use an Automated Frequency Coordination service (AFC) before enabling the 6GHz 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 AP will only enable the 6GHz radio once the standard power requirements are met and the 6GHz radio is authorized, however the 2.4 GHz and 5 GHz radios will function normally regardless of the 6GHz radio's state.

6 GHz global readiness

At launch, the 670 Series will be orderable in U.S. and Canada only. Other countries may become available as they begin or announce their 6GHz 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. HPE Aruba Networking 670 Series APs 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

HPE Aruba Networking 670 Series APs 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 etc. are fully supported on the HPE Aruba Networking Wi-Fi 6E APs as well.

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.

Standard Features

Simplified deployment and operations

HPE Aruba Networking APs can operate as standalone APs 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. With HPE Aruba Networking Central, onboarding, configuring, and provisioning are simpler and require no manual CLI configuration or maintenance windows. Once the AP 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. 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 **Central Ordering Guide.**

Flexible power deployment

Power via PoE 802.3bt (802.3at w/IPM) or for AC or DC power, use outdoor power injector (PD-9501-5GCO AD/DC Outdoor PoE Injectors).

Key Wi-Fi features

Wi-Fi 6E

HPE Aruba Networking 670 Series Outdoor APs meet the requirements for Wi-Fi 6E (802.11ax) for greater efficiency including OFDMA, MU-MIMO, and Target Wake Time to extend the battery life of devices.

Client optimization

HPE Aruba Networking's patented AIpowered ClientMatch technology eliminates sticky client issues by steering a client to the AP where it receives the best radio signal. Client Match steers traffic from the noisy 2.4 GHz band to the preferred 5 GHz or 6 GHz band depending on client capabilities. ClientMatch also dynamically steers traffic to load balance APs to improve the user experience

RF optimization

Machine learning-based radio frequency optimization known as AirMatch dynamically adjusts resources such as power to optimize coverage and eliminate coverage gaps

HPE Aruba Networking Advanced Cellular Coexistence

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 APs

The 670 Series APs 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 HPE Aruba Networking's location solutions, they serve as reference points for client devices and other technologies using fine time measurement. Open Locate, an emerging standard that allows APs to share their location over the air and through cloud-based APIs, enables mobile devices to locate themselves and applications to support network analytics.

IoT ready

HPE Aruba Networking 670 Series Outdoor APs 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 APs as an IoT transport, which eliminates the need for an overlay infrastructure and additional IT resources and can accelerate IoT initiatives. In addition, Target Wake Time (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, 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 maximum capacity without the impact of interference.

Standard Features

Intelligent power monitoring (IPM)

For better insights into energy consumption, our APs continuously monitor and report hardware energy usage. Unlike other vendor's APs, our APs 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 APs and update switching and power at a later date if needed based on their actual usage.

Key security features

AI client insights

ML-based classification of all clients via Client 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 resolve issues caused by rogue APs and clients. 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), WPA3 ensures 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 ClearPass Policy Manager).

Trusted platform module (TPM)

For enhanced device assurance, all HPE Aruba Networking APs 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 eliminates 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.

Configuration Information

BTO Models

Remarks	Description	SKU
	HPE Aruba Networking 670 Series Outdoor Access Points	
2	HPE Aruba Networking AP-675 (US) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP	S0P50A
1	HPE Aruba Networking AP-675 (RW) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP	S0P51A
5	HPE Aruba Networking AP-675 (JP) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP	S0P52A
4	HPE Aruba Networking AP-675 (IL) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP	S0P53A
3	HPE Aruba Networking AP-675 (EG) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional Outdoor AP	S0P54A
2	HPE Aruba Networking AP-677 (US) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP	S0P55A
1	HPE Aruba Networking AP-677 (RW) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP	S0P56A
5	HPE Aruba Networking AP-677 (JP) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP	S0P57A
4	HPE Aruba Networking AP-677 (IL) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP	S0P58A
3	HPE Aruba Networking AP-677 (EG) Tri Radio 2x2 Wi-Fi 6E Internal Directional Outdoor AP	S0P59A
2	HPE Aruba Networking AP-679 (US) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP	S0P60A
1	HPE Aruba Networking AP-679 (RW) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP	S0P61A
5	HPE Aruba Networking AP-679 (JP) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP	S0P62A
4	HPE Aruba Networking AP-679 (IL) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP	S0P63A
3	HPE Aruba Networking AP-679 (EG) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional Outdoor AP	S0P64A
	HPE Aruba Networking 670 Series TAA Outdoor Access Points	
2	HPE Aruba Networking AP-675 (USF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP	S0Q35A
1	HPE Aruba Networking AP-675 (RWF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP	S0Q38A
5	HPE Aruba Networking AP-675 (JPF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP	S0Q37A
4	HPE Aruba Networking AP-675 (ILF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP	S0Q36A
3	HPE Aruba Networking AP-675 (EGF1) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional TAA Outdoor AP	S0Q39A
2	HPE Aruba Networking AP-677 (USF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP	S0Q44A
1	HPE Aruba Networking AP-677 (RWF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP	S0Q43A
5	HPE Aruba Networking AP-677 (JPF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP	S0Q42A
4	HPE Aruba Networking AP-677 (ILF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP	S0Q41A
3	HPE Aruba Networking AP-677 (EGF1) Tri Radio 2x2 Wi-Fi 6E Internal Directional TAA Outdoor AP	S0Q40A
2	HPE Aruba Networking AP-679 (USF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP	S0Q49A
1	HPE Aruba Networking AP-679 (RWF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP	S0Q48A
5	HPE Aruba Networking AP-679 (JPF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP	S0Q47A
4	HPE Aruba Networking AP-679 (ILF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP	S0Q46A
3	HPE Aruba Networking AP-679 (EGF1) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional TAA Outdoor AP	S0Q45A

Configuration Information

	HPE Aruba Networking 670EX Series HazLoc Access Points	
2	HPE Aruba Networking AP-675EX (US) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional HazLoc AP	S0Q50A
1	HPE Aruba Networking AP-675EX (RW) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional HazLoc AP	S0Q51A
5	HPE Aruba Networking AP-675EX (JP) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional HazLoc AP	S0Q52A
4	HPE Aruba Networking AP-675EX (IL) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional HazLoc AP	S0Q53A
3	HPE Aruba Networking AP-675EX (EG) Tri Radio 2x2 Wi-Fi 6E Internal Omni-Directional HazLoc AP	S0Q54A
2	HPE Aruba Networking AP-677EX (US) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP	S0Q55A
1	HPE Aruba Networking AP-677EX (RW) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP	S0Q56A
5	HPE Aruba Networking AP-677EX (JP) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP	S0Q57A
4	HPE Aruba Networking AP-677EX (IL) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP	S0Q58A
3	HPE Aruba Networking AP-677EX (EG) Tri Radio 2x2 Wi-Fi 6E Internal Directional HazLoc AP	S0Q59A
2	HPE Aruba Networking AP-679EX (US) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP	S0Q60A
1	HPE Aruba Networking AP-679EX (RW) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP	S0Q61A
5	HPE Aruba Networking AP-679EX (JP) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP	S0Q62A
4	HPE Aruba Networking AP-679EX (IL) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP	S0Q63A
3	HPE Aruba Networking AP-679EX (EG) Tri Radio 2x2 Wi-Fi 6E Internal Dyn Directional HazLoc AP	S0Q64A

Configuration Rules

Rule #	Description
1	Available everywhere except, US, Israel, Egypt and Japan.
2	Available in US only
3	Available in Egypt only
4	Available in Israel only
5	Available in Japan only

Notes: OCA Only Model Selection Form -
Aruba > Wireless > Access Points > Outdoor / Rugged:
HPE Aruba Networking Aruba 670 Series Outdoor Access Points

Mounting Accessories

Remarks	Description	SKU
	AP Mount Kits	
	For 675, 677, 679 Std (Min 0 // max 1) User Selection (min 0 // max 1)	
	HPE Aruba Networking AP-OUT-MNT-V1A Outdoor AP Long Arm Pole/Wall Mounting Bracket	R9H97A
	• AP-OUT-MNT-V1A Outdoor AP Pole/Wall Long Mount Kit v2	
	HPE Aruba Networking AP-270-MNT-V2 Outdoor AP Short Arm Pole/Wall Mounting Bracket	JW053A
	• AP-270-MNT-V2 AP-270 Series Outdoor Pole/Wall Short Mount Kit	
	HPE Aruba Networking AP-270-MNT-H1 Outdoor AP Hanging One-Way Tilt Pole/Wall Mounting Bracket	JW054A
	• AP-270-MNT-H1 AP-270 Series Outdoor AP Hanging or Tilt Install Mount Kit	
	HPE Aruba Networking AP-270-MNT-H2 Outdoor AP Flush Wall Mounting Bracket	JW055A
	• AP-270-MNT-H2 AP-270 Series Access Flush Wall or Ceiling Mount	

Configuration Information

	HPE Aruba Networking AP-270-MNT-H3 Outdoor AP Hanging Dual-Tilt Pole/Wall Mounting Bracket	R6W11A
	• AP-270-MNT-H3 AP-270 Series Access Flush Wall or Ceiling Mount	

Notes: OCA Blue Note:
For 675:
V1A bracket most often used for pole mount.
V2 bracket most often used for wall mount.
H1 bracket most often used for hanging from inclined or horizontal structure.
For 677 and 679:
H1 bracket most often with AP-677 or AP-679 for mounting to a wall. Allows chassis tilt.
V1A and V2 brackets can be used but will result in the AP-677 or AP-679 pointing down.
– The AP-67x chassis does not ship with bracket. .

Power Options

Rule #	Description	SKU
	PoE Power Options	
	For 675, 677, 679 Std (Min 0 // max 1) User Selection (min 0 // max 1)	
	HPE Aruba Networking PD-9501-5GCO-AC 60W 802.3bt Smart Rate Otdr Surge Protection Midspan Injector	R7T40A
	HPE Aruba Networking PD-9501-5GCO-DC 60W 802.3bt Smart Rate Otdr Surge Protection Midspan Injector	R7T41A
*	HPE Aruba Networking AP-POE-BTSR 1-Port Smart Rate 802.3bt 60W Midspan Injector	R1C73A
Notes:	Add AC power cord, Unrestricted	
Remarks:	– * If this Power Injector is selected, bring in (Min 1 // Max 1) Localized power cord based on the Aruba Localization Menu	
	– OCA Blue Note:	
	– Indoor Injector provides no surge protection	
	– Indoor injector requires indoor AC power cord	
	– AP-670 Series are powered by PoE Only	
	– The listed power injectors are not HazLoc certified and must be located outside of classified areas	
	– R7T40A and R7T41A do not include a power cord, power cord must be constructed by installer using the included power connector parts and assembled per the user guide by a cerified installer	
	Power Injector Mounts	
	For 675, 677, 679 Std (Min 0 // max 1) User Selection (min 0 // max 1)	
	HPE Aruba Networking PD-MOUNT-OD Outdoor PoE Midspan Injectors Pole/Mast Mount Kit	JW620A
Notes:	This is optional but recommended for outdoor injectors	

Transceivers

Remarks	Description	SKU
	SFP	
	For 675, 677, 679 Std (Min 0 // max 1) User Selection (min 0 // max 1)	
*	HPE Aruba Networking 1G Ind-Temp SFP LC SX 500m MMF Transceiver	JL780A
*	HPE Aruba Networking 1G Ind-Temp SFP LC LX 10km SMF Transceiver	JL781A
	HPE Aruba Networking Outdoor SFP Weathertight Strain Relief Kit	Q8N54A
	HPE Aruba Networking CKIT-EX-OD-SFP Outdoor HazLoc SFP Fiber Strain Relief	R7L09A
Notes:	– OCA Display Note:	
	– Q8N54A is required if using SFP on AP-670 or AP-670-TAA	
	– R7L09A is required if using SFP on AP-670EX	

Configuration Information

Accessories

Spare Items

Std (Min 0 // max 99) User Selection (min 0 // max 99)

1	HPE Aruba Networking Otdr AP Covers/Glands 1pk M25/5pk M20 Cover and Gland/2pk M16 Cover Ground Kit	Q8N47A
2	HPE Aruba Networking Outdoor AP Metric to Standard M20 to 1/2 inch NPT 5-pk Thread Adapter	Q8N48A

Configuration Rules

Rule #	Description
1	OCA Blue Note: This is a collection of extra covers and cabling glands, replicating what is in the shipping box This covers and glands kit IS NOT HazLoc compliant and should not be used on AP-670EX
2	OCA Blue Note: This thread adapter normally used to allow direct interface for 1/2" NPT conduit This thread adapter is NOT HazLoc compliant and should not be used on AP-670EX

Technical Specifications

Standards Based Technologies.

HPE Aruba Networking 670 Series Outdoor APs also include the following standards-based technologies:

- Transmit Beamforming 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

HPE Aruba Networking 670 Series Outdoor Access Points Specifications

Hardware variants

- HPE Aruba Networking AP-675
  - Built-in Omnidirectional Antennas
  - 2.4 GHz Antennas 3.5dBi
  - 5 GHz Antennas 5dBi
  - 6 GHz Antennas 5dBi
  - BLE/Zigbee: Integrated omnidirectional antenna with peak gain of 6dBi
- HPE Aruba Networking AP-677
  - Built-in Directional Antennas
  - 2.4 GHz Antennas 5.6dBi
  - 5 GHz Antennas 6dBi
  - 6 GHz Antennas 7dBi
  - BLE/Zigbee: Integrated omnidirectional antenna with peak gain of 8dBi
- HPE Aruba Networking AP-679
  - Built-in Dynamic Directional Antennas
  - 2.4 GHz Antennas 6dBi
  - 5 GHz Antennas
    - Wide 9dBi
    - Narrow 12dBi
  - 6 GHz Antennas
    - Wide 9dBi
    - Narrow 13dBi
  - BLE/Zigbee: Integrated omnidirectional antenna with peak gain of 6dBi

Wi-Fi radio specifications

- AP type: Outdoor, tri radio, 2.4GHz, 5GHz and 6GHz (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 HE40802.11ax client devices
- 5 GHz radio: Two spatial stream Single User (SU) MIMO for up to 1.2 Gbps wireless data rate with 2SS HE80802.11ax client devices
- 6 GHz radio: Two spatial stream Single User (SU) MIMO for up to 2.4 Gbps wireless data rate with 2SS HE160802.11ax client devices
- Up to 512 associated client devices per radio, and up to 16 BSSIDs per radio(limited to 8 for the 6GHz radio)
- Supported frequency bands (countryspecific 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

Technical Specifications

  - 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)
- Dynamic frequency selection (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 frequencydivision multiplexing (OFDM)
  - 802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 8 resource units (37 for the 6GHz 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 (2.4GHz): 3.6 to 574 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE40)
  - 802.11ax (5GHz): 3.6 to 1,201 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE80)
  - 802.11ax (6GHz): 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.
- 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 highefficiency error correction and increased throughput
- Transmit beamforming (TxBF) for increased signal reliability and range
- 802.11ax Target Wait Time (TWT) to support low-power client devices
- 802.11mc Fine Timing Measurement (FTM) for precision distance ranging

Wi-Fi antennas

- HPE Aruba Networking AP-675: Two integrated tri-band omni-directional antennas for 2x2 MIMO with antenna gain of 3.8dBi in 2.4GHz, 5.7dBi in 5GHz, and 5.9dBi in 6Ghz. Built-in antennas are optimized for a horizontally mounted orientation of the AP. The downtilt angle for maximum gain is roughly 5-10 degrees.
  - 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 4.6dBi in 2.4GHz, 7.9dBi in 5GHz, and 6.2dBi in 6Ghz

Technical Specifications

- HPE Aruba Networking AP-677: Two integrated tri-band directional antennas for 2x2 MIMO with antenna gain of 6.9dBi in 2.4GHz, 6.5dBi in 5GHz, and 6.9dBi in 6Ghz. Built-in antennas are optimized for either wall/pole vertically oriented (or with downtilt), or down-firing in a horizontally mounted orientation of the AP. The antenna beamwidth is approx. 90° x 90°.
  - 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 6.9dBi in 2.4GHz, 6.5dBi in 5GHz, and 6.9dBi in 6Ghz
- 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 AP. The antenna beamwidth is approx. 90° x 90°.
  - Wide 90°x30° has 7.1dBi in 5Ghz and 8.1dBi in 6Ghz (peak of 7.7dBi and 8.6dBi respectively)
  - Narrow 30°x30° has 10.5dBi in 5Ghz and 10.1dBi in 6Ghz (peak of 11dBi and 11.2dBi respectively)
  - 6.1dBi in 2.4GHz (approx. 90°x90°) in either mode –6.6dBi for BLE/IoT in either mode
  - Cross-polarized antenna elements are used

Other interfaces and features

- Wired network interface (E0)
  - Auto-sensing link speed (100/1000/2500BASE-T) and MDI/MDX
  - 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/SFP+ modules should be used for optimal performance
- USB 3.0 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 ~2 dBi
- Advanced IoT Coexistence (AIC) allows concurrent operation of multiple radios in the 2.4 GHz band
- Built-in Trusted Platform Module (TPM) for enhanced security and anti-counterfeiting
- Visual indicators for System and Radio status (1x multi-color LED), auto-disable after 15 min when 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 Power over Ethernet (PoE) on port E0
- Power sources are sold separately; see the HPE Aruba Networking 670 Series Ordering
- Guide for details
- When powered by 802.3bt (class 6) PoE, the AP will operate without restrictions.
- When powered by 802.3bt (class 5) PoE with the IPM feature disabled, the AP will disable the USB-C port.
- Operating the AP with an 802.3at (class 4) PoE with the IPM feature disabled, the AP will disable the USB ports, the SFP port, and one of the two chains on the 2.4Ghz radio

Technical Specifications

- With IPM enabled, the AP 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 AP with an 802.3af (class 3 or lower) source is not supported (except for AP 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).

Mounting

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

- 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

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

- AP-675/AP-675EX
  - Dimensions/weight (unit only):
    - 290mm (W) x 288mm (D) x 312mm (H)
    - 11.4 in (W) x 11.3 in (D) x 12.3in (H)
    - 4kg / 8.8lbs
- AP-677/AP-677EX
  - Dimensions/weight (unit only):
    - 290mm (W) x 288mm (D) x 171mm (H)
    - 11.4 in (W) x 11.3 in (D) x 6.7 in (H)
    - 3.6kg / 7.9lbs
- AP-679/AP-679EX
  - Dimensions/weight (unit only):
    - 290mm (W) x 288mm (D) x 171mm (H)
    - 11.4 in (W) x 11.3 in (D) x 6.7 in (H)
    - 3.8kg / 8.4lbs
- 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: -40C to +65C / -40F to +149F with full solar loading
  - Humidity: 5% to 100% non-condensing internal
  - Rated for operation in all weather conditions
- Storage and transportation conditions
  - Temperature: -40C to +70C / -40F to +158F
- Operating Altitude: 3000m
- Water and Dust
  - IP66/67

Technical Specifications

- Salt Tolerance
  - Test to ASTM B117-07A Salt Spray 200hrs
- Wind Survival: 150mph (GR-487)

Reliability

Mean Time Between Failure (MTBF): 500,562hrs (59.4 yrs.) at +25C ambient operating temperature.

Regulatory compliance

- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- IEC/EN 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-675: APEX0675
- AP-677: APEX0677
- AP-679: APEX0679

Certifications

- Wi-Fi Alliance:
- Bluetooth SIG
- Ethernet Alliance (E0, PoE PD device, class 6)

Warranty

HPE Aruba Networking hardware limited lifetime warranty
https://www. arubanetworks.com/support-services/ product-warranties/

Minimum Operating System Software Versions

- HPE Aruba Networking Wireless Operating System AOS-10.7.0.0,
- HPE Aruba Networking Wireless Operating System AOS-8.12.0.0,
- HPE Aruba Networking Instant Operating System AOS-8.12.0.0 (no 6GHz support with Instant)

Support

HPE Aruba Networking network devices (APs, switches, and gateways) that have an active HPE Aruba Networking Central SaaS subscription are fully supported and include:

- 24x7 priority technical support for troubleshooting
- Software updates and upgrades for HPE Aruba Networking Central and hardware products managed by HPE Aruba Networking Central

Learn more about our support services:
https://www.arubanetworks.com/supportservices/

Learn more

HPE Aruba Networking access points boost IT, user, and IoT experiences with enterprise connectivity that's intelligent, fast, and secure. Find out **more.**

Technical Specifications

RF Performance Table		
	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/ac HT20		
MCS0	22	-92
MCS8	20	-74
2.4 GHz, 802.11ax HE20		
MCS0	22	-92
MCS11	18	-62
5 GHz, 802.11a		
6 Mbps	22	-93
54 Mbps	20	-75
5GHz, 802.11n HT20/HT40		
MCS0	22 / 22	-93 / -90
MCS7	21 / 21	-73 / -70
5GHz, 802.11ac VHT20/ VHT40 / VHT80		
MCS0	22 / 22 / 22	-93 / -90 / -87
MCS9	20 / 20 / 20	-68 / -65 / -62
5GHz, 802.11ax HE20/ HE40 / HE80		
MCS0	22 / 22 / 22	-92 / -89 / -86
MCS11	18 / 18 / 18	-62 / -59 / -56
6GHz, 802.11ax HE20 / HE40 / HE80 / HE160		
MCS0	22/ 22 7 21 / 20	-92/ -89 / -86 / -83
MCS11	18/ 17/ 17/ 17	-63/ -66 / -57 / -54

Summary of Changes

Date	Version History	Action	Description of Change
05-Feb-2024	Version 1	New	New QuickSpecs

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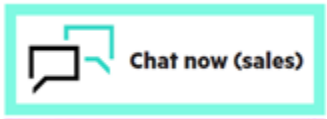

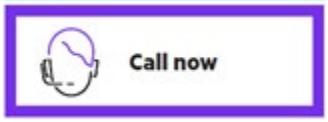

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To learn more, visit**: http://www.hpe.com/networking**

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