HPE aruba networking

Data sheet



HPE Aruba Networking 630 Series Campus Access Points

Fast, resilient, and secure Wi-Fi 6E connectivity

HPE

Key features

— Unlocks the 6 GHz band to more than double the available capacity

— Comprehensive tri-band coverage across 2.4 GHz, 5 GHz, and 6 GHz to deliver 3.9 Gbps maximum aggregate data rate

— Up to seven 160 MHz channels in 6 GHz support low-latency, bandwidth-hungry applications like high-definition video and augmented reality/virtual reality applications

— Unique Ultra Tri-Band (UTB) filtering enables 5 GHz and 6 GHz to operate without restrictions or interference1

— High availability with 2.5 Gbps dual ethernets port for hitless failover of Ethernet and power

— Built-in GPS receivers and intelligent software enable APs to self-locate and act as reference points for accurate indoor location measurements

— Offered as optional eco-friendly 5-packs

For enterprises who need more wireless capacity and wider channels, HPE Aruba Networking 630 Series Campus Access Points are designed to take advantage of the 6 GHz band through three dedicated radios. By using the 6 GHz band, capacity is more than doubled—so you can meet growing demand due to bandwidth-hungry video, increasing numbers of client and IoT devices and growth in cloud. The 630 series includes ultra tri-band filtering and dual 2.5 Gbps ethernet ports to eliminate coverage gaps, provide greater resiliency, and deliver fast, secure connectivity.

More capacity and wider channels

The HPE Aruba Networking 630 Series Campus Access Points are designed to take advantage of the 6 GHz band, which translates into far greater speeds, wider channels for multi-gigabit traffic, and less interference. It delivers 3.9 Gbps maximum aggregate data rates 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 artificial reality/virtual reality applications. Only Wi-Fi 6E capable devices can use the 6 GHz band so there is no interference or slowdowns due to legacy devices.

Device class support

HPE Aruba Networking 630 Series Campus Access Points are part of the low power indoor (LPI) device class. This fixed indoor-only class uses lower power levels and does not require an Automated Frequency Coordination service (AFC) to manage incumbent outdoor services which is required for standard class access points. The connectorized models will typically operate as standard power access points but may also be allowed to operate as low power indoor devices in some countries.

Less interference

The 630 series include HPE Aruba Networking's ultra tri-band filtering, which enables enterprises to take advantage of the high end of 5 GHz with the lower end of 6 GHz without experiencing interference. Because there is only 50 MHz between 5 GHz and the 6 GHz, without advanced filtering, enterprises would likely experience problems between the bands and would therefore be limited in the number of channels available. By applying advanced filtering capabilities, enterprises can take full use of available spectrum without creating coverage gaps or islands.

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

[1] The UTB feature was not supported on the initial HPE Aruba Networking AP-635 hardware but was introduced in a hardware revision. See HPE Aruba Networking Field Bulletin AP2205-1 on the HPE Aruba Networking Support portal for more details.

Business continuity

The 630 series provide high availability with two HPE Smart Rate ethernet ports for hitless failover for both data and power. Configurable to 1 or 2.5 Gbps, these dual ports provide business continuity for mission critical applications.

Global readiness

While the need for more Wi-Fi capacity is recognized across the globe, countries are approaching 6 GHz differently. The HPE Aruba Networking 630 Series Campus Access Points are set up to automatically update regulatory rules once 6E regulations have been approved and certified.

Extend the benefits of Wi-Fi 6

The 630 series access points are based on the 802.11ax 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 so on, are fully supported on HPE Aruba Networking Wi-Fi 6E access points as well.

Advantages of OFDMA

This capability allows HPE Aruba Networking access points 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 through smaller subcarriers or resource units (RUs), which means that clients are sharing a channel and not competing for airtime and bandwidth.

Wi-Fi optimization

Client optimization

HPE Aruba Networking's patented AI-powered HPE Aruba Networking Central ClientMatch technology eliminates sticky client issues by steering a client to the access point where it receives the best radio signal. ClientMatch 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 access points to improve the user experience.

Automated Wi-Fi radio frequency management

To optimize the user experience and provide greater stability, HPE Aruba Networking AirMatch allows organization to automate network optimization using machine learning.

AirMatch provides dynamic bandwidth adjustments to support changing device density, enhanced roaming using an even distribution of Effective Isotropic Radiated Power (EIRP) to radios, and real-time channel assignments to mitigate co-channel interference.

HPE Aruba Networking Advanced Cellular Coexistence (ACC)

Unique Advanced Cellular Coexistence uses built-in filtering to automatically minimize the impact of interference from cellular networks, distributed antenna systems (DAS), and commercial small cell or femtocell equipment.

Intelligent Power Monitoring (IPM)

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 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 access points and update switching and power at a later if needed based on their actual usage.

Self-locating access points

Indoor location shouldn't require guesswork or costly or complex overlay technologies. HPE Aruba Networking's Wi-Fi 6 and 6E access points help organizations leverage their wireless investment to deliver indoor location—everywhere.

The HPE Aruba Networking 630 Series Campus access points include built-in GPS receivers and intelligent software to allow them to automatically locate themselves accurately within the universal framework of latitude and longitude.

As part of HPE Aruba Networking's indoor location solutions, they serve as reference points for client devices and other technologies using fine time measurement.

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

Access points as an IoT platform

The 630 series includes an integrated Bluetooth 5 and 802.15.4 radio for Zigbee support to simplify deploying and managing IoT-based location services, asset tracking services, security solutions and IoT sensors. There is also a USB-port extension to provide IoT connectivity to a wider range of devices. These IoT capabilities allows organizations to leverage the access points as an IoT platform, 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 access point. This helps improve client power savings and reduces airtime contention with other clients, which is ideal for IoT.

HPE Aruba Networking secure infrastructure

The 630 series includes build-security capabilities such as:

WPA3 and Enhanced Open

Support for stronger encryption and authentication is provided through the latest version of WPA for enterprise-protected networks. Enhanced Open offers seamless new protection for users connecting to open networks where each session is automatically encrypted to protect user passwords and data on guest networks.

WPA2-MPSK

MPSK enables simpler passkey management for WPA2 devices—should the Wi-Fi password on one device or device type change, no additional changes are needed for other devices. This capability requires HPE Aruba Networking ClearPass Policy Manager.

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.

Seamless handoffs to cellular

Built on the technical foundations of Passpoint® and Wi-Fi Calling, HPE Aruba Networking Air Pass creates a roaming network across the HPE Aruba Networking enterprise customer footprint, extending cellular coverage and enhancing the visitor and subscriber experience to deliver a great experience for your guests while reducing costs and management overhead for DAS.

Flexible operation and management

Our unified APs can operate as stand-alone 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 access points can be managed using cloud-based or on-premises solutions for any campus, branch, or remote work environment. HPE Aruba Networking Central provides a single pane of glass for overseeing every aspect of wired and wireless LANs, WANs, and VPNs. AI-powered analytics, end-to-end orchestration and automation, and advanced security features are built natively into the solution.

Summary

HPE Aruba Networking 630 Series Campus Access Points are designed to take advantage of the 6 GHz band using three radios for comprehensive tri-band coverage to meet the growing demands of Wi-Fi due to increased use of video, growth in client and IoT devices, and expanded use of cloud. With a maximum aggregate 3.9 Gbps data rate for higher throughput and faster speeds, the 630 series delivers added capacity, wider channels, hitless failover, and less interference between the 5 GHz and 6 GHz bands.

Technical specifications

Hardware variants

— HPE Aruba Networking AP-634: External antenna models

— HPE Aruba Networking AP-635: Internal antenna models

Wi-Fi radio specifications

— Access point type: Indoor, 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 client devices

— 5 GHz radio: Two spatial stream single user (SU) MIMO for up to 1.2 Gbps wireless data rate with 2SS HE80 802.11ax client devices

— 6 GHz radio: Two spatial stream single user (SU) MIMO for up to 2.4 Gbps wireless data rate with 2SS HE160 802.11ax client devices

— Downlink multiuser (MU) MIMO is supported on all radios but disabled by default

— Up to 512 associated client devices per radio, and up to 16 BSSIDs per radio (limited to 8 for the 6 GHz radio when using version 8 software)

— 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)

— 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 frequency-division multiplexing (OFDM)
  - 802.11ax: Orthogonal frequency-division multiple access (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): +21 dBm (18 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

— Ultra Tri-Band (UTB)[2] enables ultimate flexibility in 5 GHz and 6 GHz channel selection without performance degradation

— Maximum ratio combining (MRC) for improved receiver performance

— Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance

— Space-time block coding (STBC) for increased range and improved reception

— Low-density parity check (LDPC) for high-efficiency error correction and increased throughput

— Transmit 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-634: Two sets of two (female) RP-SMA connectors for external antennas (A0 & A1 corresponding with radio chains 0 and 1 for the 2.4 GHz and 5 GHz radios, and B0 & B1 corresponding with radio chains 0 and 1 for the 6 GHz radio). Worst-case internal loss between radio interface and external antenna connectors: 1.0 dB in 2.4 GHz, 1.0 dB in 5 GHz and 1.0 dB in 6 GHz.

— HPE Aruba Networking AP-635: Integrated down-tilt omni-directional antennas for 2x2 MIMO with peak antenna gain of 4.6 dBi in 2.4 GHz, 7.0 dBi in 5 GHz and 6.3 dBi in 6 GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The down-tilt angle for maximum gain is roughly 30° to 40°.

  • Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 2.9 dBi in 2.4 GHz, 4.9 dBi in 5 GHz and 4.3 dBi in 6 GHz.

Other interfaces and features

— E0, E1: Two Ethernet wired network ports (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 PoE (class 4 or higher)

  • 802.3az Energy Efficient Ethernet (EEE)

  • Link aggregation (LACP) support between both network ports for redundancy and increased capacity

— DC power interface: 12 Vdc (nominal, +/– 5%), accepts 2.1 mm/5.5 mm center-positive circular plug with 9.5 mm length

— USB 2.0 host interface (Type A connector)

  • Capable of sourcing up to 1A/5W to an attached device

— Bluetooth Low Energy (BLE5.0) and Zigbee (802.15.4) radio

  • BLE: up to 5 dBm transmit power (class 1) and –100 dBm receive sensitivity (125 kbps)

  • Zigbee: up to 5 dBm transmit power and –97 dBm receive sensitivity (250 kbps)

  • Integrated omnidirectional antenna with roughly 30° to 40° down-tilt and peak gain of 3.0 dBi

— GNSS L1 (1575.42 MHz) receiver supporting GPS, Galileo, GLONASS, and BeiDou signal

  • Receive sensitivity: –160 dBm (tracking)

  • Integrated omnidirectional antenna with roughly 30° to 40° down-tilt and peak gain of 3.6 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 (four multicolor LEDs): for system (1x) and radio (3x) status

— Reset button: factory reset, LED mode control (normal/off)

— Serial console interface (proprietary, micro-B USB physical jack)

— Kensington security slot

— Automatic thermal shutdown and recovery function

Power sources and power consumption

— The access point supports direct DC power and Power over Ethernet (PoE) on port E0 and/or E1

— When both DC and PoE power sources are available, DC power takes priority over PoE

— When PoE power is supplied to both Ethernet ports, either port can be configured as the active power source

— Inactive/standby PoE power sources can be used to deliver hitless failover

— Power sources are sold separately; see the HPE Aruba Networking 630 Series Ordering Guide for details

— When powered by DC or 802.3bt (class 5) PoE, the access point will operate without restrictions.

— When powered by 802.3at (class 4) PoE with the IPM feature disabled, the access point will disable the USB port. No other restrictions will be applied.

  • Operating the access point with an 802.3af (class 3 or lower) PoE source is not supported (except for access point staging).

[2] The UTB feature was not supported on the initial HPE Aruba Networking AP-635 hardware but was introduced in a hardware revision. See HPE Aruba Networking Field Bulletin AP2205-1 on the HPE Aruba Networking Support Portal for more details.

Table 2. Default PoE power modes (IPM disabled). Enable the IPM feature to manage or avoid restrictions

Single PoE source	Class 5 (802.3bt)	Class 4 (802.3at)	Class 3 (802.3af)
Available power budget	40W	25.5W	13.9W
AP power mode	Unrestricted	Restricted	Staging support only, no radios will be enabled
USB port	Enabled	Disabled	Staging support only, no radios will be enabled
Ethernet ports	Both ports enabled	Both ports enabled	Staging support only, no radios will be enabled
MIMO operation	2x2	2x2	Staging support only, no radios will be enabled
Reduced max RF transmit power	0 dB	0 dB	Staging support only, no radios will be enabled

— 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.
— Maximum (worst-case) power consumption (without/with a USB device attached):
  • DC powered: 20.7W/26.4W.
  • PoE powered: 23.8W/29.4W.
  • This assumes that up to 5W is supplied to the attached USB device.
— Maximum (worst-case) power consumption in idle mode: 8.7W/14.2W (DC) or 11.7W/17.2W (PoE).
— Maximum (worst-case) power consumption in deep-sleep mode: 1.1W (DC) or 1.9W (PoE).

Mounting details

A mounting bracket has been preinstalled on the back of 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 630 Series ordering guide for details.

Mechanical specifications

— Dimensions/weight (HPE Aruba Networking AP-635; unit without mount bracket):
  • 220 mm (W) x 220 mm (D) x 51 mm (H)
  • 1300g
— Dimensions/weight (AP-635; shipping):
  • 250 mm (W) x 240 mm (D) x 85 mm (H)
  • 1650g
  • Environmental specifications
— Operating conditions
  • Temperature: 0°C to +50°C/+32°F to +122°F
  • Relative humidity: 5% to 95%
  • ETS 300 019 class 3.2 environments
  • AP is plenum rated for use in air-handling spaces
— Storage conditions
  • Temperature: –25°C to +55°C/–13°F to +131°F
  • Relative humidity: 10% to 100%
  • ETS 300 019 class 1.2 environments
— Transportation conditions
  • Temperature: –40°C to +70°C/–40°F to +158°F
  • Relative humidity: up to 95%
  • ETS 300 019 class 2.3 environments

Regulatory compliance

— FCC/ISED
— CE marked
— Low voltage directive 2014/35/EU
— UL/IEC/EN 62368-1
— EN 60601-1-2

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

Reliability

— Mean time between failure (MTBF): 520 khrs (59 years) at +25ºC operating temperature (AP-635).

Regulatory model numbers

— HPE Aruba Networking AP-634 (all models): APIN0634
— HPE Aruba Networking AP-635 (all models): APIN0635

Regulatory considerations for AP-634

The HPE Aruba Networking AP-634 will be offered in countries where there is an existing or clear and defined path to allow operation of 6 GHz radios with external connectorized antennas, either as a low-power indoor (LPI) or standard power (SP) product. Contact your HPE Aruba Networking representative to confirm (existing or planned) availability for the country where the access point will be deployed.

Standard power product class operation of the HPE Aruba Networking AP-634 (that is, most countries where the platform is supported) is only supported on HPE Aruba Networking Wireless Operating System OS 10.7.0.0 and later deployments and HPE Aruba Networking Wireless Operating System OS 8.12.0.0 and later deployments that include a Mobility Conductor. Standard Power operation is not supported on Instant OS deployments or 8.x HPE Aruba Networking Wireless Operating System deployments without a Mobility Conductor.

Certifications

- UL2043 plenum rating
- Wi-Fi Alliance (WFA):
  - Wi-Fi CERTIFIED a, b, g, n, ac
  - Wi-Fi CERTIFIED 6E (ax, 6 GHz)
  - WPA, WPA2 and WPA3 — Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE)
  - WMM, WMM-PS, W-Fi Agile Multiband
- Bluetooth SIG
- Ethernet Alliance (PoE, PD device, class 5)

Warranty

HPE Aruba Networking's hardware limited lifetime warranty.

Minimum operating system software versions

- AP-634 (excluding 6 GHz support):
  - HPE Aruba Networking Wireless Operating System and HPE Aruba Networking Wireless Operating System Instant OS 8.11.2.0, HPE Aruba Networking Wireless Operating System 10.6.0.0
- HPE Aruba Networking AP-634 (including 6 GHz support):
  - HPE Aruba Networking Wireless Operating System and HPE Aruba Networking Wireless Operating System Instant OS 8.12.0.0, HPE Aruba Networking Wireless Operating System 10.7.0.0[3]
- HPE Aruba Networking AP-635:
  - HPE Aruba Networking Wireless Operating System and HPE Aruba Networking Wireless Operating System Instant OS 8.9.0.0, HPE Aruba Networking Wireless Operating System 10.4.0.0

[3] Standard power product class operation of the AP-634 (i.e., most countries where the platform is supported) is only supported on HPE Aruba Networking OS 10.7.0.0 and later deployments and HPE Aruba Networking OS 8.12.0.0 and later deployments that include a Mobility Conductor. Standard power operation is not supported on Instant OS deployments or 8.x HPE Aruba Networking OS deployments without a Mobility Conductor.

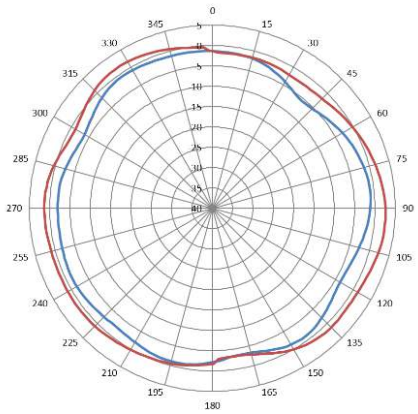
Table 3. RF performance table

Band, rate	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz, 802.11b		
1 Mbps	18.0	–96.0
11 Mbps	18.0	–88.0
2.4 GHz, 802.11g		
6 Mbps	18.0	–92.0
54 Mbps	16.0	–74.0
2.4 GHz, 802.11n HT20		
MCS0	18.0	–91.0
MCS7	16.0	–73.5
2.4 GHz, 802.11ax HE20		
MCS0	18.0	–91.0
MCS11	14.0	–61.0
5 GHz, 802.11a		
6 Mbps	18.0	–88.0
54 Mbps	16.0	–71.5
5 GHz, 802.11n HT20/HT40		
MCS0	18.0/18.0	–88.0/–85.0
MCS7	15.0/15.0	–70.0/–67.0
5 GHz, 802.11ac VHT20/VHT40/VHT80		
MCS0	18.0/18.0/18.0	–88.5/–85.5/–82.5
MCS9	14.0/14.0/14.0	–64.5/–61.5/–58.5
5 GHz, 802.11ax HE20/HE40/HE80		
MCS0	18.0/18.0/18.0	–88.5/–85.5/–82.5
MCS11	14.0/14.0/14.0	–59.0/–56.0/–53.0
6 GHz, 802.11ax HE20/HE40/HE80/HE160		
MCS0	18.0/18.0/18.0/18.0	–90.0/–87.0/–84.0/–81.0
MCS11	14.0/14.0/14.0/14.0	–63.5/–60.5/–57.5/–54.5

Antenna patterns AP-635

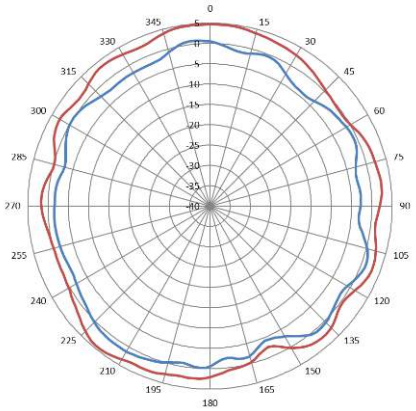
Horizontal planes (top view)

Showing both azimuth 0° and 30° down-tilt patterns (averaged patterns for all applicable antennas)



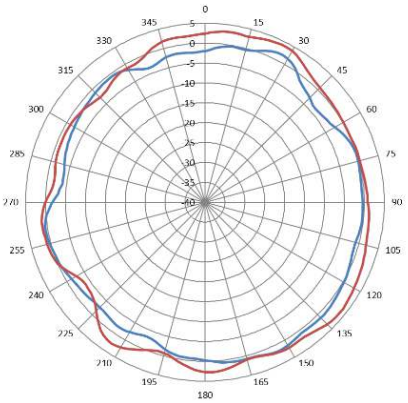
2.45 GHz Wi-Fi (R1) Average Azimuth — 2.45 GHz Wi-Fi (R1) Average Downtilt

Figure 1. 2.45 GHz Wi-Fi antenna patterns (horizontal)



5.5 GHz Wi-Fi (R0) Average Azimuth — 5.5 GHz Wi-Fi (R0) Average Downtilt

Figure 2. 5.5 GHz Wi-Fi antenna patterns (horizontal)



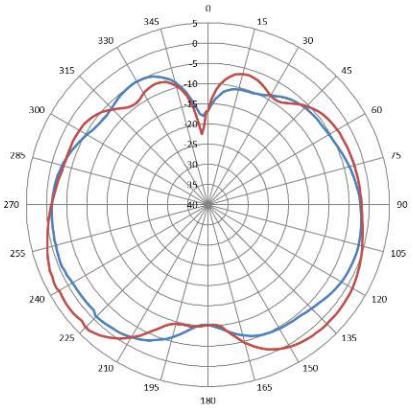
6.5 GHz Wi-Fi (R2) Average Azimuth — 6.5 GHz Wi-Fi (R2) Average Downtilt

Figure 3. 6.5 GHz Wi-Fi antenna patterns (horizontal)

Antenna patterns AP-635

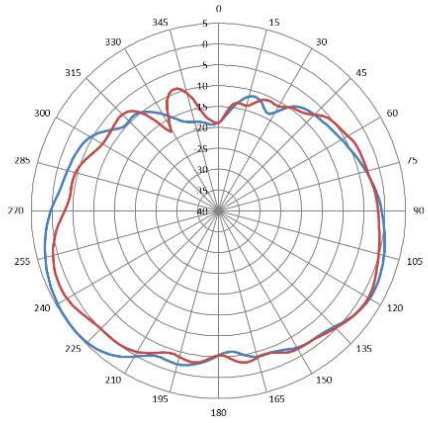
Vertical (elevation) planes (side view, access point facing down)

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



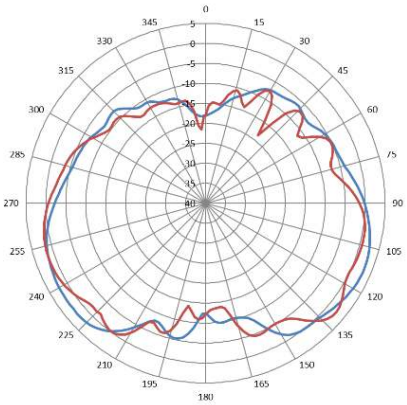
2.45 GHz Wi-Fi (R1) Average Elevation 0 — 2.45 GHz Wi-Fi (R1) Average Elevation 90

Figure 4. 2.45 GHz Wi-Fi antenna patterns (vertical)



5.5 GHz Wi-Fi (R0) Average Elevation 0 — 5.5 GHz Wi-Fi (R0) Average Elevation 90

Figure 5. 5.5 GHz Wi-Fi antenna patterns (vertical)



6.5 GHz Wi-Fi (R2) Average Elevation 0 — 6.5 GHz Wi-Fi (R2) Average Elevation 90

Figure 6. 6.5 GHz Wi-Fi antenna patterns (vertical)

Table 4. Ordering information

Part number	Description
Internal antenna access points	
R7J24A	HPE Aruba Networking AP-635 (EG) Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J25A	HPE Aruba Networking AP-635 (IL) Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J26A	HPE Aruba Networking AP-635 (JP) Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J27A	HPE Aruba Networking AP-635 (RW) Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J28A	HPE Aruba Networking AP-635 (US) Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
S5E07A	HPE Aruba Networking AP-635 (ID) Tri Radio 2x2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
Internal antenna access points (eco-friendly 5-packs)	
S3J35A	HPE Aruba Networking AP-635 (RW) Tri Radio 2x2 Wi-Fi 6E Internal Antennas 5-pack Campus Access Point
S3J36A	HPE Aruba Networking AP-635 (US) Tri Radio 2x2 Wi-Fi 6E Internal Antennas 5-pack Campus Access Point
External antenna access points	
S1G49A	HPE Aruba Networking AP-634-RW Tri-radio 2x2:2 Wi-Fi 6E External Antennas Campus AP
S1G50A	HPE Aruba Networking AP-634-US Tri-radio 2x2:2 Wi-Fi 6E External Antennas Campus AP
Internal antenna access points—TAA models	
R7J29A	HPE Aruba Networking AP-635 (EG) TAA Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J30A	HPE Aruba Networking AP-635 (IL) TAA Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J31A	HPE Aruba Networking AP-635 (JP) TAA Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J32A	HPE Aruba Networking AP-635 (RW) TAA Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J33A	HPE Aruba Networking AP-635 (US) TAA Tri-radio 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP
External antenna access points—TAA models	
S1G51A	HPE Aruba Networking AP-634-RWF1 TAA Tri-radio 2x2:2 Wi-Fi 6E External Antennas Campus AP
S1G52A	HPE Aruba Networking AP-634-USF1 TAA Tri-radio 2x2:2 Wi-Fi 6E External Antennas Campus AP

Note: All hardware SKUs can be managed by HPE Aruba Networking Central. Central Managed (CM) SKUs are used for simplified ordering within US and Canada only.

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

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