

# HPE Aruba Networking 610 Series Campus Access Points

Fast, resilient, and secure Wi-Fi 6E connectivity in a compact and affordable platform



#### Key features

- Opens the 6 GHz band to more than double the available capacity in wireless networks
- Comprehensive dual radio/tri-band coverage across 2.4 GHz, 5 GHz, and 6 GHz to deliver up to 3.6 Gbps combined peak data rate<sup>1</sup>
- Compact and low power consumption for virtually unrestricted operation from an 802.3af (class 3) Power over Ethernet (PoE) source<sup>2</sup>
- Up to seven 160 MHz channels in 6 GHz to support low-latency, bandwidth-hungry applications such as high-definition video, and augmented reality/virtual reality applications

<sup>&</sup>lt;sup>2</sup> By default (with Intelligent Power Monitoring [IPM] disabled) the access point will disable the USB port and limit the speed of the Ethernet port to 1Gbps when on class 3 PoE. The IPM feature can be used to avoid these restrictions.



For enterprises that need more wireless capacity and/or wider channels, HPE Aruba Networking 610 Series Campus Access Point are designed to take advantage of the newly available 6 GHz spectrum using a unique dual-radio/tri-band architecture.

Adding support for the 6 GHz band to the traditional 2.4 GHz and 5 GHz bands more than doubles the available wireless capacity in a wireless network, so you can meet growing demand due to bandwidth-hungry videos, increasing numbers of client and Internet of Things (IoT) devices, and growth in cloud.

The 610 series access points features two radios that can be tuned to any two of the three available spectrum bands for Wi-Fi (2.4 GHz, 5 GHz, 6 GHz).

More capacity and wider channels The 610 series access points are des

The 610 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 multigigabit traffic, and less interference. Its two 2x2 MIMO radios deliver a combined peak data rate of up to 3.6 Gbps when configured for concurrent 5 GHz and 6 GHz operations.

deployment and can be used with software that will intelligently and flexibly configure the radios of each of these dual-radio access points.

This flexibility provides a cost-effective and

compact platform that delivers full tri-band

coverage as part of a multiple access point

# **Table 1.** Peak radio performance numbers

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	n/a	Up to 3.6 Gbps

<sup>&</sup>lt;sup>1</sup> When configured for 5 GHz + 6 GHz operation.

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#### **Key features**

- 2.5 Gbps Smart Rate Ethernet port to help minimize wired bottlenecks
- Built-in GPS receivers and fine time measurement (FTM) (802.11mc) to enable access points to automatically locate themselves and serve as reference points for accurate indoor location measurements
- Offered as optional eco-friendly 10-packs

#### Advantages of 6 GHz

Wi-Fi 6E provides up to 1200 MHz of additional unlicensed spectrum 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 such as high-definition videos 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 due to legacy devices.

#### **Device class support**

The 610 series 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.

#### **Global readiness**

While the need for more Wi-Fi capacity is recognized across the globe, countries are approaching the 6 GHz band differently. The 610 series access points are set up to automatically update regulatory rules once Wi-Fi 6E regulations have been approved and certified.

#### Extend the benefits of Wi-Fi 6

The 610 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) and BSS coloring are fully supported on the HPE Aruba Networking Wi-Fi 6E access points as well.

#### **Advantages of OFDMA**

The 610 series access points are equipped with OFDMA 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 sub-carriers or resource units (RUs), which means that clients are sharing a channel and not competing for airtime and bandwidth.

# Wi-Fi optimization Client optimization

The patented HPE Aruba Networking ClientMatch technology helps eliminate sticky client issues by steering a client 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 client capabilities and access point settings. HPE Aruba Networking 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 organizations to automate network optimization using machine learning (ML). HPE Aruba Networking 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 AirMatch also helps ensure that the two radios of the 610 series access points are automatically configured in the most effective and efficient way to deliver full tri-band coverage.

#### **Reduce interference**

HPE Aruba Networking advanced cellular coexistence (ACC) uses built-in filtering to automatically reduce 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 access points can also be configured to enable or disable capabilities based on available PoE power, which is ideal when wired switches have exhausted their power budget. Enterprises can deploy Wi-Fi 6E access points and update switching and power later if needed based on their actual usage.

#### **Self-locating access points**

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

The 610 series 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 indoor location services solution, they serve as reference points for client devices using FTMs (802.11mc) and other location technologies.

The Wi-Fi 6 and 6E access points support Open Locate, an emerging standard that allows access points to share their location over the air and through cloud-based APIs, enabling mobile devices to locate themselves and applications to support network analytics.

#### Access points as an IoT transport platform

The 610 series access points include an integrated Bluetooth 5 and 802.15.4 radio for Zigbee support to simplify deploying and managing IoT-based location services, asset tracking services, security solutions, and IoT sensors. There is also a USB port extension to provide IoT connectivity to a wider range of devices. These IoT capabilities allow organizations to leverage HPE Aruba Networking access points as an IoT transport platform, which helps eliminate the need for an overlay infrastructure and additional IT resources and can accelerate IoT initiatives.

In addition, Target Wake Time (TWT), part of the 802.11ax standard, 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 610 series access points include 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 so 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 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.

- 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 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 for ease of
  implementation in branch offices and for remote work.
  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. Al-powered analytics, end-to-end orchestration
  and automation, and advanced security features are
  built natively into the solution.

#### Summary

HPE Aruba Networking 610 Series Campus Access Points are designed to take advantage of the 6 GHz band using two radios that can deliver comprehensive tri-band coverage in a multi-access point environment and better meet the growing demands of Wi-Fi due to increased use of videos, growth in client and IoT devices, and expanded use of cloud.

With a 3.6 Gbps combined peak data rate for higher throughput and faster speeds for indoor use, the 610 series access points deliver a cost-effective enterprise Wi-Fi 6E solution with increased capacity, wider channels, and reduced power consumption.

#### **Specifications**

#### **Hardware variants**

• AP-615: Internal antenna models

#### Wi-Fi radio specifications

 Access point type: Indoor, dual-radio/tri-band 2.4 GHz, 5 GHz, and 6 GHz (dual 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 (287 Mbps for HE20)
- 5 GHz radio: Two spatial stream SU MIMO for up to 1.2 Gbps wireless data rate with 2SS HE80 802.11ax client devices
- 6 GHz radio: Two spatial stream SU MIMO for up to 2.4 Gbps wireless data rate with 2SS HE160 802.11ax client devices
- 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)<sup>3</sup>:
  - -2.400 to 2.4835 GHz->ISM
  - -5.150 to 5.250 GHz->U-NII-1
  - -5.250 to 5.350 GHz->U-NII-2A
  - -5.470 to 5.725 GHz->U-NII-2C
  - -5.725 to 5.850 GHz->U-NII-3/ISM
  - -5.850 to 5.895 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: OFDMA with up to 8 resource units
- 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); 1083 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 1201 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE80)
- -802.11ax (6 GHz): 3.6 to 2402 (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.
- ACC helps reduce 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 high-efficiency error correction and increased throughput
- Transmit beamforming (TxBF) for increased signal reliability and range
- 802.11ax TWT to support low-power client devices
- 802.11mc FTM for precision distance ranging

<sup>&</sup>lt;sup>3</sup> When configured for concurrent operation in 5 GHz and 6 GHz (only), the U-NII-4 band will be disabled.

#### Wi-Fi antennas

- AP-615: Integrated downtilt omni-directional antennas for 2x2 MIMO with peak antenna gain of 2.8 dBi in 2.4 GHz, 4.5 dBi in 5 GHz, and 4.5 dBi in 6 GHz. Built-in antennas are optimized for horizontal ceiling-mounted orientation of the access point. The downtilt 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 2.0 dBi in 2.4 GHz, 3.5 dBi in 5 GHz, and 3.4 dBi in 6 GHz.

#### Other interfaces and features

- E0: 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) 802.3af/at PoE (class 3 or higher)
  - -802.3az Energy Efficient Ethernet (EEE)
- 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° downtilt and peak gain of 2.6 dBi
- GNSS L1 (1575.42 MHz) receiver supporting GPS, Galileo, GLONASS and BeiDou signals
  - Receive sensitivity: -162 dBm (tracking)
  - Integrated omnidirectional antenna with roughly 30° to 40° downtilt and peak gain of 2.3 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 multi-color 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 PoE on port EO.
- When both DC and PoE power sources are available, DC power takes priority over PoE.
- Power sources are sold separately; see the <u>HPE Aruba</u> Networking 610 series ordering guide for details.
- When powered by DC or 802.3at (class 4) PoE, the access point will operate without restrictions.
- When powered by 802.3af (class 3) PoE with the IPM feature disabled, the access point will disable the USB 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.
- Maximum (worst-case) power consumption (without/ with a USB device attached):
- DC powered: 12.5W/18.2W.
- POE powered: 14.7W/20.9W.
- This assumes that up to 5W is supplied to the attached USB device.
- Maximum (worst-case) power consumption in idle mode: 5.6W/11.0W (DC) or 6.9W/12.9W (PoE).
- Maximum (worst-case) power consumption in deep-sleep mode: 1.0W (DC) or 1.8W (PoE).

**Table 2.** PoE operating modes and default restrictions with IPM disabled

PoE source	class 4 (802.3at)	class 3 (802.3af)
Power budget	25.5W	13.9W
Power mode	Unrestricted	Restricted
USB port	Enabled	Disabled
Ethernet	Enabled	Enabled
МІМО	2x2	2x2
Max RF power reduction	O dB	O dB

#### **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 <a href="HPE Aruba Networking 610">HPE Aruba Networking 610</a> series ordering guide for details.

## **Mechanical specifications**

- Dimensions/weight (AP-615; unit without mount bracket):
  - -160 mm (W) x 160 mm (D) x 39 mm (H)
  - -520g
- Dimensions/weight (AP-615; shipping):
  - -212 mm (W) x 194 mm (D) x 66 mm (H)
  - -800g

#### **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
- The access point 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

#### Reliability

Mean time between failure (MTBF): 540 khrs (62 years) at +25°C operating temperature

#### **Regulatory compliance**

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

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

#### **Regulatory model numbers**

• AP-615 (all models): APIN0615

#### 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
- Wi-Fi Certified Location™
- Bluetooth SIG
- Ethernet Alliance (PoE, PD device, class 4)

#### Warranty

HPE Aruba Networking's hardware limited lifetime warranty

#### Minimum operating system software versions

- HPE Aruba Networking Wireless Operating System and HPE Aruba Networking InstantOS 8.11.0.0
- HPE Aruba Networking Wireless Operating System 10.5.0.0

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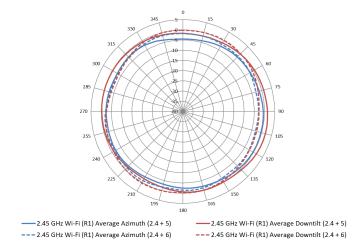
Table 3. RF performance

Band, rate	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz, 802.11b		
1 Mbps	18.0	-95.0
11 Mbps	18.0	-87.0
2.4 GHz, 802.11g		
6 Mbps	18.0	-93.0
54 Mbps	18.0	-75.0
2.4 GHz, 802.11n HT20		
MCS0	18.0	-93.0
MCS7	16.0	-74.0
2.4 GHz, 802.11ax HE20		
MCS0	18.0	-93.0
MCS11	13.0	-62.0
5 GHz, 802.11a		
6 Mbps	18.0	-93.0
54 Mbps	16.0	-75.0
5 GHz, 802.11n HT20/HT40		
MCS0	18.0/18.0	-92.0/-89.0
MCS7	16.0/16.0	-73.0/-70.0
5 GHz, 802.11ac VHT20/VHT40/V	/HT80	
MCS0	18.0/18.0/18.0	-92.0/-89.0/-86.0
MCS9	15.0/15.0/15.0	-67.0/-64.0/-61.0
5 GHz, 802.11ax HE20/HE40/HE8	30	
MCS0	18.0/18.0/18.0	-91.0/-89.0/-86.0
MCS11	13.0/13.0/13.0	-62.0/-59.0/-56.0
6 GHz, 802.11ax HE20/HE40/HE8	30/HE160	
MCS0	18.0/18.0/18.0/18.0	-91.0/-88.0/-85.0/-82.0
MCS11	13.0/13.0/13.0	-62.0/-59.0/-56.0/-53.0

# **Antenna patterns AP-615**

## Horizontal planes (top view)

Showing azimuth (0°) and 30° downtilt patterns (averaged patterns for all applicable antennas)



**Figure 1.** 2.45 GHz Wi-Fi antenna patterns (horizontal) for both 2.4 GHz + 5 GHz mode and 2.4 GHz + 6 GHz mode

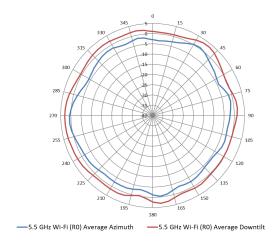
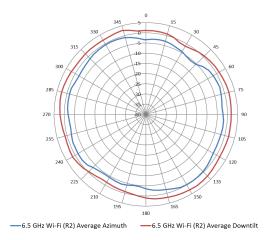


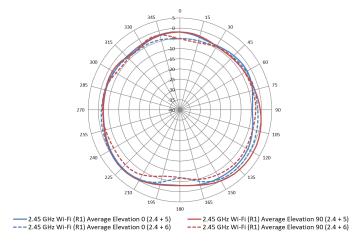
Figure 2. 5.5 GHz Wi-Fi antenna patterns (horizontal)



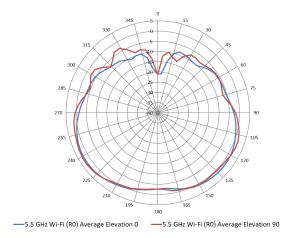
**Figure 3.** 6.5 GHz Wi-Fi antenna patterns (horizontal)

## Vertical (elevation) planes (side view, AP facing down)

Showing side view with AP rotated  $0^{\circ}$  and  $90^{\circ}$  (averaged patterns for all applicable antennas)



**Figure 4.** 2.45 GHz Wi-Fi antennas patterns (vertical) for both 2.4 GHz + 5 GHz mode and 2.4 GHz + 6 GHz mode



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

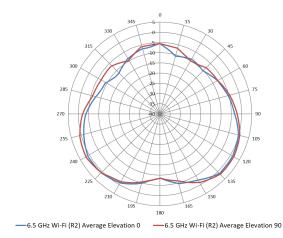


Figure 6. 6.5 GHz Wi-Fi antennas patterns (vertical)

#### **Data sheet**

Table 4. Ordering information

Part number Description

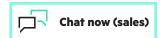
HPE Aruba Networking 610 Series Campus Access Points				
Internal antenna access points				
R7J46A	HPE Aruba Networking AP-615 (EG) Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J47A	HPE Aruba Networking AP-615 (IL) Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J48A	HPE Aruba Networking AP-615 (JP) Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J49A	HPE Aruba Networking AP-615 (RW) Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J50A	HPE Aruba Networking AP-615 (US) Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
S5E06A	HPE Aruba Networking AP-615 (ID) Dual Radio Tri-band 2x2 802.11ax Wi-Fi 6E Internal Ants Campus AP			
Internal antenna	a access points (eco-friendly 10 packs)			
S3J33A	HPE Aruba Networking AP-615 (RW) 2-radio 3-band 2x2 Wi-Fi 6E Internal Antennas 10-Pack Campus AP			
S3J34A	HPE Aruba Networking AP-615 (US) 2-radio 3-band 2x2 Wi-Fi 6E Internal Antennas 10-Pack Campus AP			
Internal antenna	a access points—TAA models			
R7J51A	HPE Aruba Networking AP-615 (EG) TAA Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J52A	HPE Aruba Networking AP-615 (IL) TAA Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J53A	HPE Aruba Networking AP-615 (JP) TAA Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J54A	HPE Aruba Networking AP-615 (RW) TAA Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			
R7J55A	HPE Aruba Networking AP-615 (US) TAA Dual-radio Tri-band 2x2:2 802.11ax Wi-Fi 6E Internal Antennas Campus AP			

For compatible accessories, refer to the HPE Aruba Networking 610 series ordering guide

# **Learn more at**

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