Data sheet

HPE Aruba Networking 650 Series Campus Access Points

What's new

- Flagship Wi-Fi 6E APs provide tri-band coverage across 2.4 GHz, 5 GHz, and 6 GHz to deliver up to 7.8 Gbps combined aggregate data rate
- 4x4 MIMO radios to deliver peak performance and increased capacity using multi-user (MU-MIMO) and orthogonal frequency-division multiple access (OFDMA) (uplink and downlink for both)
- Patented UTB filtering enhances the use of 5 GHz and 6 GHz bands
- High availability with dual 5 Gbps wired ports for redundant Ethernet and power
- Built-in GPS receivers and intelligent software enable APs to self-locate

Overview

The HPE Aruba Networking 650 Series Campus Access Points are our flagship Wi-Fi 6E access points (APs) that take advantage of the 6 GHz band for greater capacity, wider channels, and interference-free spectrum. Designed to meet the demands of bandwidth-hungry video, a growing numbers of client and Internet of Things (IoT) devices, and the growth of cloud services, these high-performance Wi-Fi 6E APs provide comprehensive tri-band coverage across 2.4 GHz, 5 GHz, and 6 GHz to deliver up to 7.8 Gbps combined aggregate data rate.

The 650 series includes ultra tri-band (UTB) filtering to help minimize channel interference and dual configurable 5 Gbps Ethernet ports to mitigate coverage gaps, provide greater resiliency, and deliver fast, secure connectivity. Up to seven 160 MHz channels in 6 GHz support low-latency, bandwidth-hungry applications such as high-definition video and AR/VR applications. The 650 series includes a limited lifetime warranty.

and act as reference points for more accurate indoor location measurements

- IoT-ready with support for Bluetooth Low Energy (BLE) and Zigbee

Features

Flagship Wi-Fi 6E Performance

The HPE Aruba Networking 650 Series Campus Access Points, based on the 802.11ax standard, take advantage of the 6 GHz band through three 4x4 MIMO radios (2.4 GHz, 5 GHz, and 6 GHz), delivering up to 7.8 Gbps maximum tri-band aggregate data rate.

The 650 series provides high availability with two 5 GbE ports for hitless failover for both data and power, allowing these dual ports to provide business continuity for mission-critical applications with flexibility to support speeds of 1 Gbps, 2.5 Gbps, or 5 Gbps (or 100 Mbps).

Enhanced wireless experience with HPE Aruba Networking ClientMatch technology removes sticky client issues by steering a client to the AP where it receives one of the best radio signals.

Patented UTB filtering enables enterprises to take advantage of the high end of 5 GHz with the lower end of 6 GHz without creating coverage gaps or islands.

The 650 series offers precision locationing with the support of FTM 802.11mc for precision distance ranging and built-in GPS receivers for high-accuracy indoor location measurements.

Boost Security

The HPE Aruba Networking 650 Series Campus Access Points offer enhanced security with dynamic segmentation to remove the time-consuming and error-prone task of managing complex and static VLANs, ACLs, and subnets by dynamically assigning policies and keeping traffic protected and separated.

The 650 series offers stronger encryption and authentication with WPA3, protected credential/key storage for guest access with Enhanced Open, and user and IoT access policy enforcement firewalls (PEFs).

It simplifies policy enforcement by using the PEF to encapsulate all traffic from the AP to the gateway (or mobility controller) for end-to-end encryption and inspection.

For enhanced device assurance, our APs include an installed trusted platform module (TPM) for protected storage of credentials and keys, and boot code.

AI-powered Cloud Management and Flexible Deployment

The HPE Aruba Networking 650 Series Campus Access Points can operate as stand-alone access points or with a gateway for greater scalability, security, and manageability.

HPE Aruba Networking Central is an AI-powered solution that simplifies IT operations, improves agility, and reduces costs by unifying the management of campus, branch, remote, data center, and IoT networks from one dashboard.

Zero touch provisioning (ZTP) provides ease of implementation in branch offices and remote sites, without on-site technical expertise.

You can deploy models with internal antennas or connectorized models that support external antennas to meet a range of environments.

HPE Aruba Networking Wi-Fi 6E APs allow countries to take advantage of Wi-Fi 6E once it is approved in the country through automated notification and easy deployment of 6 GHz regulatory rules.

Energy Saving and IoT Ready

The HPE Aruba Networking 650 Series Campus Access Points can serve as flexible IoT platforms that bolster network security and provide coverage for a broad range of IoT devices without the need for network overlays. Integrated BLE and Zigbee support make it easier to deploy and manage IoT.

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

HPE Aruba Networking Central Client Insights uses deep packet inspection to provide additional context and behavioral information that help verify devices are receiving proper policy enforcement and continuously monitor for rogue devices.

AI-powered dynamic power save mode enables the HPE Aruba Networking 650 Series Campus Access Points to automatically wake up at a schedule when connectivity demand arises, reducing power demands and lowering the energy footprint to align with the organization's sustainability initiatives.

The target wake time (TWT) establishes a schedule for when clients need to communicate with an AP to help improve client power savings and reduce airtime contention.

Technical specifications	HPE Aruba Networking 650 Series Campus Access Points
Deployment	Indoor
Wi-Fi generation	Wi-Fi 6E (802.11ax with 6 GHz)
Wi-Fi radios	4x4:4
Radio configuration options	2.4 GHz, 5 GHz and 6 GHz
Max bandwidths and peak data rate per band	20/40 (2.4 GHz), 20/40/80/(80+80) (5 GHz), 20/40/80/160 (6 GHz), and maximum peak data rate 7.8 Gbps
Wi-Fi antenna	HPE Aruba Networking 650 Series Campus Access Points models: AP-654: Two sets of four (female) RP-SMA connectors for external antennas. AP-655: Integrated downtilt omnidirectional antennas for 4x4 MIMO. Built-in antennas are optimized for horizontal ceiling-mounted orientation of the access point. The downtilt angle gain is roughly 30° to 40°.
Ultra tri-band (UTB) filtering	Yes
IoT support	Bluetooth Low Energy (BLE5.0) and Zigbee (802.15.4) radio, USB 2.0 host interface (Type A connector)
Integrated sensor	No
Location services	802.11 FTM support GNSS receiver
Cellular support	USB LTE modem (sold separately)
Wired network interface	2 x 5 Gbps
MACsec support	No
Ports	Ports E0, E1: Ethernet wired network ports (RJ-45) U0: USB 2.0 host interface (Type A connector) Kensington security slot Serial console interface (proprietary, micro B USB physical jack)

Technical specifications	HPE Aruba Networking 650 Series Campus Access Points
AP operating system support	AP-654 (excluding 6 GHz support): HPE Aruba Networking Wireless Operating System and HPE Aruba Networking Instant OS 8.11.2.0, HPE Aruba Networking Wireless Operating System 10.6.0.0 AP-654 (including 6 GHz support): HPE Aruba Networking Wireless Operating System and HPE Aruba Networking Instant OS 8.12.0.0, HPE Aruba Networking Wireless Operating System 10.7.0.01 AP-655: HPE Aruba Networking Wireless Operating System and HPE Aruba Networking Instant OS 8.10.0.1, HPE Aruba Networking Wireless Operating System 10.4.0.0 Standard power product class operation of the AP-654 is only supported on HPE Aruba Networking Wireless Operating System software release 10.7.0.0 and later deployments and HPE Aruba Networking Wireless Operating System software release 8.12.0.0 and later deployments that include a HPE Aruba Networking Virtual Mobility Conductor. SP operation is not supported on Instant OS deployments or 8.x OS deployments without a HPE Aruba Networking Virtual Mobility Conductor.
AP management	On-premises Public Cloud Virtual Private Cloud (VPC) as a Service
Certifications	UL2043 plenum rating Wi-Fi Alliance® 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 6)
Regulatory	FCC/ISED CE Marked Low Voltage Directive 2014/35/EU UL/IEC/EN 62368-1 EN 60601-1-2 For country-specific regulatory information and approvals, contact your HPE representative.
Warranty	Limited lifetime warranty. See the warranty duration.

SKU overview

SKU	Description
S1G53A	HPE Aruba Networking AP-654 (RW) Tri Radio 4x4 Wi-Fi 6E External Antennas Campus AP
S1G55A	HPE Aruba Networking AP-654 (RWF1) Tri Radio 4x4 Wi-Fi 6E External Antennas TAA Campus AP
S1G54A	HPE Aruba Networking AP-654 (US) Tri Radio 4x4 Wi-Fi 6E External Antennas Campus AP
S1G56A	HPE Aruba Networking AP-654 (USF1) Tri Radio 4x4 Wi-Fi 6E External Antennas TAA Campus AP
R7J35A	HPE Aruba Networking AP-655 (EG) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J40A	HPE Aruba Networking AP-655 (EG) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas TAA Campus AP
S5E08A	HPE Aruba Networking AP-655 (ID) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J36A	HPE Aruba Networking AP-655 (IL) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J41A	HPE Aruba Networking AP-655 (IL) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas TAA Campus AP
R7J37A	HPE Aruba Networking AP-655 (JP) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J42A	HPE Aruba Networking AP-655 (JP) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas TAA Campus AP
R7J38A	HPE Aruba Networking AP-655 (RW) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J43A	HPE Aruba Networking AP-655 (RW) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas TAA Campus AP
R7J39A	HPE Aruba Networking AP-655 (US) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas Campus AP
R7J44A	HPE Aruba Networking AP-655 (US) Tri Radio 4x4 802.11ax Wi-Fi 6E Internal Antennas TAA Campus AP

Related Options

The following options are available for these series:

SKU	Description
Cables/Cable Kits	
R8L34A	HPE Aruba Networking AP-CBL-EXT10 10-pack CAT6A Ethernet Extension Cables
JY728A	HPE Aruba Networking AP-CBL-SERU Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable
R6Q99A	HPE Aruba Networking AP-MOD-SERU Micro-USB TTL3.3V to RJ45 RS232 AP Console Adapter Module
Enterprise Networking Products	
S1F79A	HPE Aruba Networking AP-ANT-311 Direct-Mount RP-SMA Tri-Band 1x1 Omni Dipole Antenna
S1F80A	HPE Aruba Networking AP-ANT-312 Direct-Mount RP-SMA Tri-Band 1x1 Low-Profile Omni Dipole Antenna
S1F81A	HPE Aruba Networking AP-ANT-313 Cabled RP-SMA Tri-Band 1x1 Omni Dipole Antenna
S1F82A	HPE Aruba Networking AP-ANT-340 Cabled RP-SMA Tri-Band 4x4 Downtilt Omni Ceiling Antenna
S1F83A	HPE Aruba Networking AP-ANT-345 Cabled RP-SMA Tri-Band 4x4 Medium Gain Directional Panel Antenna
S1F84A	HPE Aruba Networking AP-ANT-348 Cabled RP-SMA Tri-Band 4x4 High Gain Directional Panel Antenna
S1J09A	HPE Aruba Networking AP-ANT-MNT-U Universal AZ/EL Adjustable Antenna Pole Wall Mount Kit
S0J40A	HPE Aruba Networking AP-MNT-MP10-U Campus AP Universal 10-pack Mount Bracket Kit
R8F34A	HPE Aruba Networking USB LTE Modem for Access Points and Gateways
Mounting Rack/Rail Options	
R3J15A	HPE Aruba Networking AP-MNT-A Campus AP Type A Suspended Ceiling Rail Flat 9/16 Mount Bracket Kit
R3J16A	HPE Aruba Networking AP-MNT-B Campus AP Type B Suspended Ceiling Rail Flat 15/16 Mount Bracket Kit
R3J17A	HPE Aruba Networking AP-MNT-C Campus AP Type C Suspended Ceiling Rail 9/16 Profile Mnt Bracket Kit
R3J18A	HPE Aruba Networking AP-MNT-D Campus AP Type D Solid Surface Mount Bracket Kit
R3J19A	HPE Aruba Networking AP-MNT-E Campus AP Type E Wall-Box Mount Bracket Kit
JZ370A	HPE Aruba Networking AP-MNT-MP10-A Campus AP 10-Pack 9/16 Flat Ceiling Rail Mount Bracket Kit
R6T34A	HPE Aruba Networking AP-MNT-MP10-B1 Campus AP 10-Pack 15/16 Adj Flat Ceiling Rail Mount Bracket Kit
Q9G69A	HPE Aruba Networking AP-MNT-MP10-B Campus AP 10-Pack 15/16 Flat Ceiling Rail Mount Bracket Kit
Q9G70A	HPE Aruba Networking AP-MNT-MP10-C Campus AP 10-Pack Profile 9/16 Ceiling Rail Mount Bracket Kit
Q9G71A	HPE Aruba Networking AP-MNT-MP10-D Campus AP 10-Pack Solid Surface Mount Bracket Kit
R1C72A	HPE Aruba Networking AP-MNT-MP10-E Campus AP 10-Pack Wall-box Mount Bracket Kit
R3T20A	HPE Aruba Networking AP-MNT-MP10-X Campus AP 10-Pack Mount Adapter Kit
S4K79A	HPE Aruba Networking AP-MNT-U Campus Access Point Type U Universal Mount Bracket Kit

Networking Options

R8G76A	HPE Aruba Networking USB Extender Cable Kit

Power Management Options

R3K00A	HPE Aruba Networking AP-AC2-12B 12V/48W AC/DC Desktop Style Power Adapter with 2.1/5.5mm Connector
R3K01A	HPE Aruba Networking AP-AC2-48C 48V/50W AC/DC Desktop Style Power Adapter with 1.35/3.5mm Connector
S3J26A	HPE Aruba Networking AP-POE-BT10 1-port 10G 60W Midspan 802.3bt PoE Injector
R1C73A	HPE Aruba Networking AP-POE-BTSR 1-Port Smart Rate 802.3bt 60W Midspan Injector

Private and Hybrid Cloud

Q9Y63AAE	HPE Aruba Networking Central AP Advanced 1 year Subscription E-STU
Q9Y64AAE	HPE Aruba Networking Central AP Advanced 3 year Subscription E-STU
Q9Y65AAE	HPE Aruba Networking Central AP Advanced 5 year Subscription E-STU
Q9Y66AAE	HPE Aruba Networking Central AP Advanced 7 year Subscription E-STU
Q9Y67AAE	HPE Aruba Networking Central AP Advanced 10 year Subscription E-STU
Q9Y58AAE	HPE Aruba Networking Central AP Foundation 1-year Subscription E-STU
Q9Y59AAE	HPE Aruba Networking Central AP Foundation 3 year Subscription E-STU
Q9Y60AAE	HPE Aruba Networking Central AP Foundation 5 year Subscription E-STU
Q9Y61AAE	HPE Aruba Networking Central AP Foundation 7 year Subscription E-STU
Q9Y62AAE	HPE Aruba Networking Central AP Foundation 10 year Subscription E-STU
R6U63AAE	HPE Aruba Networking Central on Prem AP Foundation 1 year Subscription E-STU
R6U64AAE	HPE Aruba Networking Central on Prem AP Foundation 3 year Subscription E-STU
R6U65AAE	HPE Aruba Networking Central on Prem AP Foundation 5 year Subscription E-STU
R6U66AAE	HPE Aruba Networking Central on Prem AP Foundation 7 year Subscription E-STU
R6U67AAE	HPE Aruba Networking Central on Prem AP Foundation 10 year Subscription E-STU

Wireless Devices

S1E83A	HPE Aruba Networking AP-503 (RW) 10-Pack Dual Radio 2x2:2 Wi-Fi 6 Campus Access Point
S1E84A	HPE Aruba Networking AP-503 (US) 10-Pack Dual Radio 2x2:2 Wi-Fi 6 Campus Access Point

HPE Aruba Networking Services

HPE Aruba Networking services simplify and accelerate the network technology lifecycle, enabling your network to scale with better predictability and cost-effectiveness. Whether you operate your own network and need to improve your IT efficiencies, or you want to offload some of the burden, we have the services you need to reach your goals.

Learn more about what HPE Services - Aruba Networking has to offer at: hpe.com/edge/services

Support Services

Our support portfolio provides the essential support elements as well as proactive and preventive features to help you improve your team's productivity and get the most from your network. Our support customers benefit from faster issue resolution, simplified operations and efficiencies, and reduced network issues.

Professional Services

With deep intellectual capital and purpose-built tools, our team delivers a range of standard and custom professional services designed to accelerate your value from HPE Aruba Networking technology.

Project based services include:

— Planning, audit, and assessment
— Architecture review and design
— Deployment, migration, and knowledge transfer

Annual subscription services include:

— Network optimization
— Intelligent Operations
— Customer Experience Management

Our Education Services allow your team to come up to speed quickly.

GreenLake for Networking

Deliver innovative business outcomes by leveraging new ways to consume, deploy and manage networks.

For additional technical information, available models and options, please reference the QuickSpecs

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