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Header 4

 List View

General Information [Contact](#) [Default Values](#) [Discount](#) [Document Information](#) [Clarification Request](#)

Procurement Folder: 2011308

Procurement Type: Central Purchase Order

Vendor ID: 

Legal Name: SUN MANAGEMENT INC

Alias/DBA:

Total Bid: \$86,700.00

Response Date: 

Response Time:

Responded By User ID: 

First Name:

Last Name:

Email:

Phone:

SO Doc Code: CRFQ

SO Dept: 0705

SO Doc ID: LOT27000000001

Published Date: 7/8/26

Close Date: 7/23/26

Close Time: 13:30

Status: Closed

Solicitation Description:

Total of Header Attachments: 4

Total of All Attachments: 4



Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Solicitation Response

Proc Folder: 2011308
Solicitation Description: Lottery Network Equipment - Cisco Wireless Access Points
Proc Type: Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2026-07-23 13:30	SR 0705 ESR07172600000000300	1

VENDOR
000000180526
SUN MANAGEMENT INC

Solicitation Number: CRFQ 0705 LOT2700000001
Total Bid: 86700
Response Date: 2026-07-21
Response Time: 11:12:09
Comments: Excited about a superior product being proposed to WV-Lottery. Happy to provide demo units to 'try before you buy!'

FOR INFORMATION CONTACT THE BUYER
Brandon L Barr
304-558-2652
brandon.l.barr@wv.gov

Vendor
Signature X **FEIN#** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Wireless access point	51.00000	EA	1700.000000	86700.00

Comm Code	Manufacturer	Specification	Model #
43222640			

Commodity Line Comments: HPE Networking AP47 (Compliance Matrix)
 Section Specification Requested Juniper AP47
 Details & Verification
 3.1.2 Tri-band (2.4 GHz, 5 GHz, 6 GHz) client-serving radios Compliant Features three client-facing data radios operating simultaneously across all three bands.
 3.1.3 4x4:4 MU-MIMO, OFDMA, Wi-Fi 7 (802.11be), 12 spatial streams Compliant Equipped with 4x4 MIMO and four spatial streams on each of its three client radios, delivering a total of 12 client spatial streams.
 3.1.4 Dedicated WIDS/WIPS and spectrum analytics via built-in scanning radio Compliant Includes a dedicated fourth 802.11be radio purely for continuous scanning, WIDS/WIPS security, and radio resource management.
 3.1.5 Dedicated IoT radio supporting 2.4 GHz BLE v5.3+ and 802.15.4 Compliant (Exceeds) Integrates two 802.15.4 capable IoT radios alongside its patented Virtual Bluetooth LE (vBLE) omni/directional antenna array.
 3.1.6 Aggregate wireless data rate up to 18 Gbps Compliant (Exceeds) Delivers a maximum aggregate PHY data rate of up to 28.8 Gbps across its Wi-Fi 7 interfaces.
 3.1.7 One (1) 100M/1G/2.5G/5G/10G multigigabit Ethernet uplink port Compliant (Exceeds) Features two (2) multigigabit ports auto-sensing up to 10 Gbps (100M/1G/2.5G/5G/10GBase-T), allowing for active-standby link and PoE redundancy.

Extended Description:
 See the specifications and Exhibit A - Pricing Page for more details

JUNIPER MIST WI-FI ASSURANCE

Product overview

The Juniper Mist Cloud Architecture is moving IT operations closer to the intelligent Self-Driving Network in the era of the AI-Driven Enterprise.

HPE's machine learning, the engine of our Wi-Fi Assurance service, replaces manual troubleshooting tasks with automated wireless operations. Minimize costs while maximizing Wi-Fi performance and reliability.

The Juniper Mist platform is built on a modern microservices cloud architecture, which enables elastic scalability to meet your changing wired and wireless network market requirements. Our platform delivers operational simplicity, 100% API-based programmability, and customer engagement through location-based services.

Wi-Fi Assurance replaces manual troubleshooting tasks with automated wireless operations. This subscription service makes Wi-Fi predictable, reliable, and measurable with unique visibility into user service levels. For example, you can set up and track service-level thresholds for key wireless criteria.

Anomaly detection automates triggers to capture packets for event correlation and builds network intelligence with Radio Resource Management (RRM) at the client level. These functions deliver unprecedented visibility into each user's wireless network experience, allowing you to reliably extend Wi-Fi quality to the end user.

The Juniper Mist cloud services are 100% programmable with all functions (provisioning, monitoring, alerts) available through OpenAPI, which enable you to integrate with your IT applications to automate your network and line-of-business operations.

Table 1. Key benefits of Wi-Fi Assurance

Maximize Wi-Fi user experience	Minimize IT support costs
Proactively optimize performance	Dynamic packet capture for troubleshooting
Prioritize applications, resources, and users	Proactive root cause identification
Gain simple and secure access to resources	Network automation with APIs

Set, monitor, and enforce service levels

Set up and track service-level thresholds for key wireless pre- and post-connection metrics, such as time to connect, capacity, coverage, and throughput. At any given time, you can see how your network is performing against service level expectations (SLEs) with deep visibility, including location context into impacted users, applications, and devices.

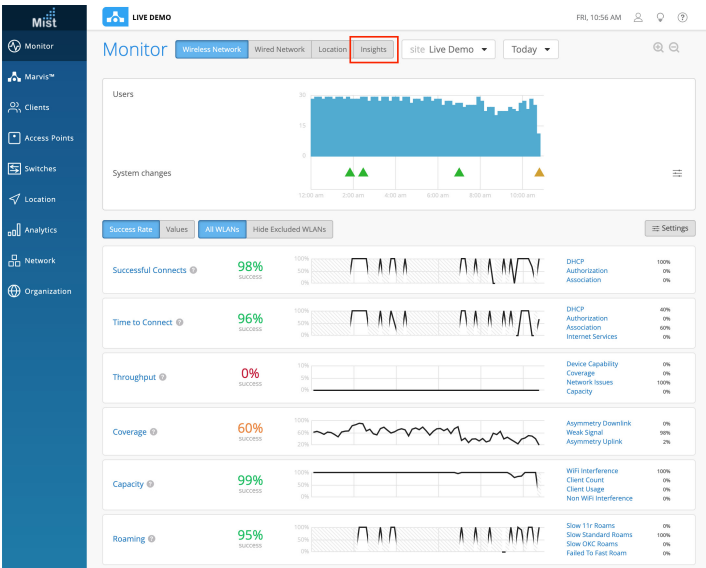


Figure 1. Mist Monitor dashboard

Comprehensive network performance and SLE dashboard analytics

In addition to proactively correlating events and providing remediation recommendations, the platform also provides a daily and weekly trend of the SLE metrics. These reports provide unprecedented visibility over the last week for longer-term trend analysis into anomalies seen at the AP, device, application, and OS levels. The current set of available SLEs are: Time to Connect, Successful Connects, Throughput, Roaming, Coverage, Capacity, AP Uptime, WAN.

Simple root-cause analysis and remediation

HPE dynamically collects information from all endpoints and correlates it for quick wireless, wired, and device problem identification. More than 150 state changes are captured for each client device and access point every few seconds. Predictive recommendations and automated workflows let you quickly remediate problems or prevent them entirely. This root-cause analysis feature can be further enhanced by the Marvis Virtual Network Assistant service.

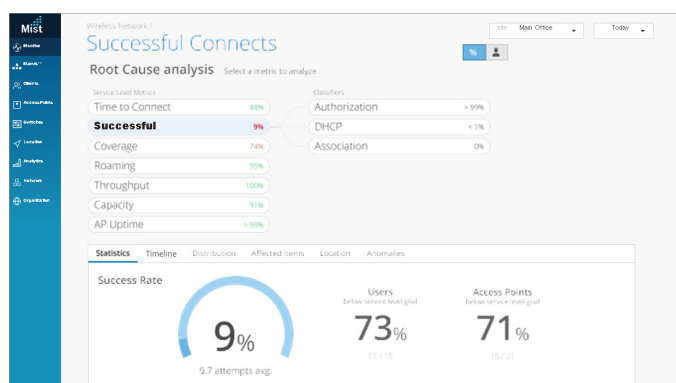


Figure 2. Mist successful connects

Automation for deployment and provisioning

The Juniper Mist platform is 100% programmable, using OpenAPI, for full automation and seamless integration with complementary products across LAN, WAN, security, engagement, and asset location domains.

Network rewind and dynamic packet capture

The Wi-Fi Assurance service automatically detects and starts capturing packets when an anomaly is detected. With this record, you are able to rewind back in time to see what was going on exactly when the event occurred. This eliminates hours or even days of guesswork or time spent trying to reproduce an issue.

ClientEvents 477total 31 Good 7 Neutral 9 Bad									
Association	Success	2	12/25/2017 10:11:11	AP	1001	Server IP Address	10.1.1.1		
Post SS DHCP Failure	Success	2	12/25/2017 10:11:11	Reason	Falling DHCP DISCOVER from 08:00:20:10:10:02 on vlan=1 with 205 12/25/2017: No DHCP	SSID	Network 1		
ID Assigned	Success	2	12/25/2017 10:11:11		Request is sent from Client's response to be	Subject	10.1.1.1/16		
DNS OK	Success	2	12/25/2017 10:11:11		ORI: 08:00:20:10:10:02	Transaction ID	32292945		
Deauth/Disauth/AB Success	Success	2	12/25/2017 10:11:11						
DHCP Stack-Bind Failure	Success	2	12/25/2017 10:11:11						
Authorization	Success	2	12/25/2017 10:11:11	DBS	-3				
DNS OK	Success	2	12/25/2017 10:11:11	URL	1				
PostRoaming 802.11B	Success	2	12/25/2017 10:11:11	Failure Count	1				
Reassociation	Success	2	12/25/2017 10:11:11						

Figure 3. Client events

Client profiling

Juniper Mist profiles clients for device types, operating systems, applications, location, and user role. This enables WxLAN to autodetect printers, Apple TVs, and other IoT devices and to categorize them for security and audit reasons, without requiring any manual database management.

Risk profiling driven by Mist AI

WAN Assurance is a key component of the Risk Profiling solution, which brings network security to the distributed network edge. Risk Profiling provides visibility into infected wired or wireless clients that's observable within the Juniper Mist cloud and assigns a threat score determined by the Juniper ATP cloud. From within the Juniper Mist cloud you can geospatially locate infected devices and take one-touch mitigation actions like ban or deauthenticate.

AI-driven radio resource management

Unlike other solutions, Mist uses data science and cumulative SLE performance to learn and improve radio settings to assure performance, while also instantaneously adapting to intermittent outside interference. Our AI-driven Radio Resource Management proactively feeds coverage and capacity anomalies based on client experience (SLE metrics) into RF decisions so that RF planning continues to improve and adapt.

WxLAN policy creation and enforcement

Juniper Mist delivers operational simplicity by allowing you to create policies for role, device type, and user-based access on the network with our inline policy engine, WxLAN. Global labels created for physical and logical resources (users, WLAN, AP, IP addresses, IP subnets, applications) enable policies to be enforced at the edge on our access points.

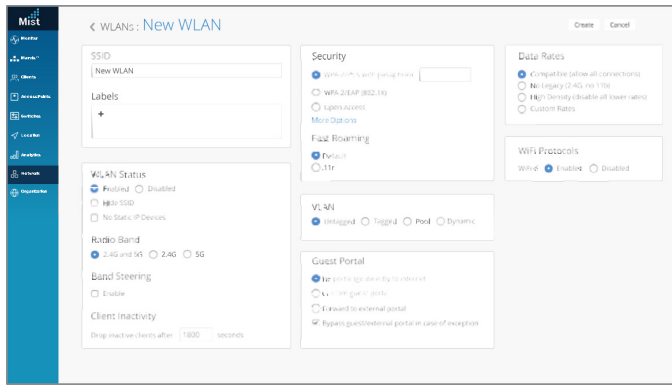


Figure 4. New WLAN setup

Personal WLAN

Create your own personal wireless network (with personalized preshared key) through a self-serve portal. This feature can be used to secure IoT and guest traffic as well as provide a scalable solution for multitenant networks.

With the Wi-Fi Assurance service, the Juniper Mist AI-driven WLAN solution is the platinum standard for any digital deployment, helping you deliver a dynamic user experience while simplifying management, planning, and troubleshooting for your IT team. This service includes comprehensive wireless, security, guest access, and network management functions with a single subscription.

Guest portal

Juniper Mist enables customers to create custom guest portals that can optionally include: terms of service, email/text login, or even social media login to help boost customer engagement.

Visit [HPE.com](https://hpe.com)

Accelerate your digital transformation with network insights

Wi-Fi Assurance includes a base analytics capability for analyzing up to 30 days of data. These analytics enable you to simplify the process of extracting network insights from data and analytics across your enterprise. Review your network throughput peaks to properly align your support resources. To extend these capabilities to third-party network elements, gain the ability to consume up to one year's worth of data, and have the option to generate customized reports, you can tap into the Mist Premium Analytics service as an additional subscription service.

About Hewlett Packard Enterprise

HPE is a leader in essential enterprise technology, bringing together the power of AI, cloud, and networking to help organizations achieve more. As pioneers of possibility, our innovation and expertise advance the way people live and work. We empower our customers across industries to optimize operational performance, transform data into foresight, and maximize their impact. Unlock your boldest ambitions, with HPE. Discover more at [HPE.com](https://hpe.com).

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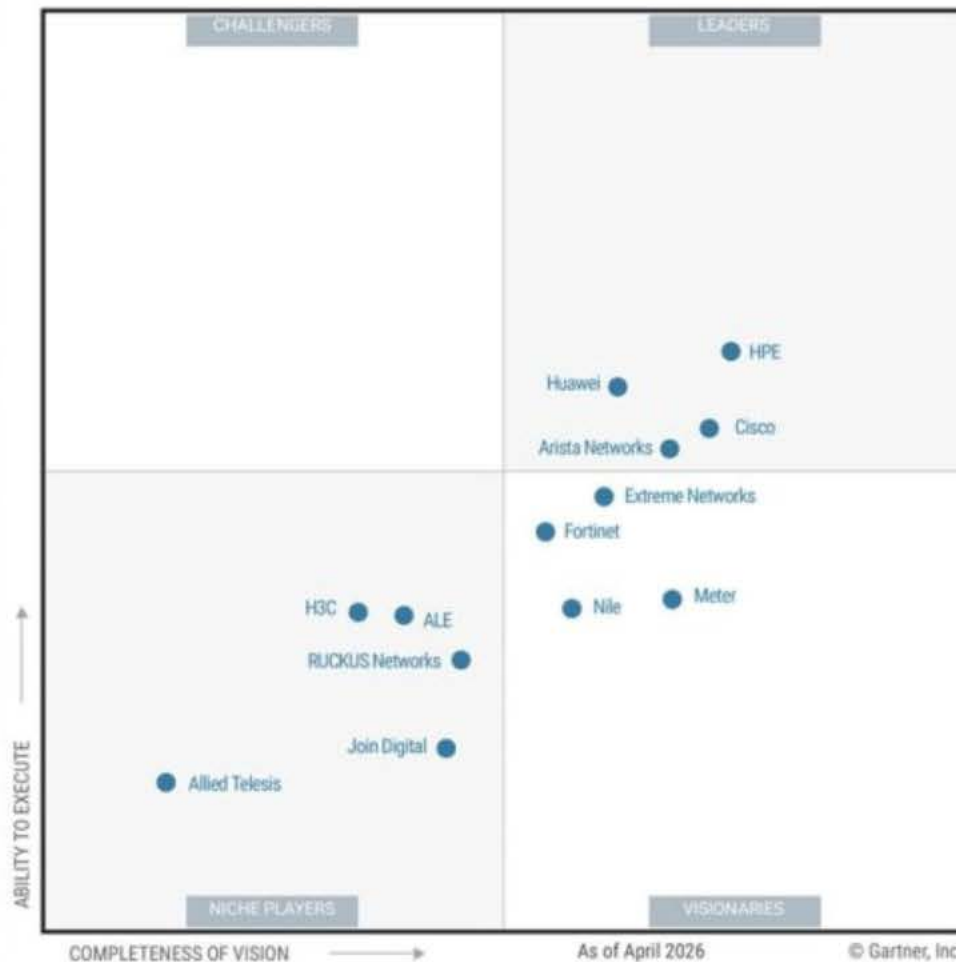
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HIGHEST IN EXECUTION FURTHEST IN VISION

2026 Gartner® Magic Quadrant™
for Enterprise Wired and Wireless LAN

Figure 1: Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure



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Gartner



* Product configuration and appearance may vary

Juniper AP47 High-Performance Access Point

Product overview

The [Juniper AP47 High-Performance Access Point](#) is HPE's flagship [Wi-Fi 7](#) access point with built-in advanced location services and Juniper Mist integration.

AP47 benefits

- Maximizes 6 GHz band, providing increased channel width and enabling multigigabit speeds
- Tri-band with dedicated fourth radio for supporting growing mobility demands
- Patented [vBLE technology](#) delivers industry-leading [indoor location services](#) accuracy and ease of use

Juniper Mist benefits

- Fast and reliable deployment and ease of ongoing management
- Centralized control and visibility
- Quick access to new features and functionality with no disruption to services
- Agility to scale as network needs grow

Product description

The Juniper AP47 High-Performance Access Point indoor Wi-Fi 7 access point (AP) delivers multigigabit speeds, enhanced security, and more resilient Wi-Fi and [IoT](#) connectivity for demanding enterprise environments. Designed as a tri-band device with a dedicated fourth scanning radio, the AP47 offers increased capacity and wider channels with less interference. It provides unparalleled support for growing mobility demands and digital transformation while ensuring exceptional user experiences.

Combining enterprise-grade Wi-Fi with patented virtual BLE (vBLE) technology, the AP47 further enhances wireless networks through support for personalized location services, including [user engagement](#), [asset visibility](#), and [contact tracing](#). The unique engineering of the AP47 eliminates the need for battery-powered BLE beacons or manual calibration. By providing one-to-three-meter accuracy, the AP47 sets a new standard in location services while ensuring business continuity and operational efficiency.

While [wired](#) and [wireless networks](#) are business critical, without the right architecture they can be harder to operate given the sheer number of mobile and IoT devices—not to mention the extensive variety of hardware, operating systems, and applications currently in use. Traditional architectures—highly manual and network-centric—lack the scale, flexibility, and end-to-end visibility required to support modern mobility requirements and the IT departments that manage them.

HPE Juniper Networking AI-driven network

[Juniper Mist](#) brings true innovation to wireless networking with the world's first AI wireless LAN (WLAN). The [HPE Juniper Networking AI-Native Networking Platform](#) makes Wi-Fi predictable, reliable, and measurable, offering unprecedented visibility into the user experience through unique service-level expectation (SLE) metrics.

Proactive, AI-driven automation and a self-healing network replace time-consuming manual tasks, lowering Wi-Fi operational costs and saving substantial time and money. All operations are managed using the open and programmable microservices that are based on the Juniper Mist Cloud architecture.

The juniper mist cloud architecture

The Juniper Mist cloud-native, AI-driven microservices architecture delivers unparalleled agility, scale, and resiliency to your network. It lowers OpEx and delivers unprecedented insights into network performance, behaviors, traffic patterns, and potential trouble spots by using data science to analyze large amounts of rich metadata collected by the [HPE Juniper Networking access points](#). HPE Juniper Networking AI solutions for Wi-Fi optimize operator and user experiences with secure client-to-cloud automation, insight, and AI-driven actions. With HPE AI Networking Platform, purpose-built to leverage [AIOps](#), the AP47 harnesses the faster speed, power, and performance of Wi-Fi 7 and assures an excellent experience for all users and devices and the best end-to-end operator experiences.

HPE Juniper Networking access point family

The real-time microservices in Juniper Mist Cloud manage the HPE Juniper Networking access point (AP) family

— [Wi-Fi 7](#): AP47

— [Wi-Fi 6E](#): [AP45](#), [AP34](#), [AP24](#), and [AP64](#)

Table 1 compares the supported major functions of the HPE Juniper Networking access points to help in selecting the most appropriate model(s).

Table 1. HPE Juniper Networking AP comparison chart

	AP47	AP45	AP34	AP24	AP64
Deployment	Indoor	Indoor	Indoor	Indoor	Indoor/ Outdoor
Wi-Fi Standard	Wi-Fi 7 802.11be	Wi-Fi 6E 802.11ax	Wi-Fi 6E 802.11ax	Wi-Fi 6E 802.11ax	Wi-Fi 6E 802.11ax
Frequencies Supported	2.4 GHz, 5 GHz, 6 GHz	2.4 GHz, 5 GHz, 6 GHz	2.4 GHz, 5 GHz, 6 GHz	2.4 GHz, 5 GHz, 6 GHz	2.4 GHz, 5 GHz, 6 GHz
Chains/Streams	Serving: 4x4:4	Serving: 4x4:4	Serving: 2x2:2	Serving: 2x2:2	Serving: 2x2:2
Number of Wi-Fi Radios	4	4	4	3	3
Wi-Fi Radio Modes	2.4/5/6 GHz + 5 GHz + 6 GHz	2.4/5 GHz + 5 GHz + 6 GHz	2.4 + 5 + 6 GHz	2.4/6 + 5 GHz	2.4/6 + 5 GHz
Band Selectable	Y	Y	—	Y	Y
Scanning Radio	Dedicated	Dedicated	Dedicated	Dedicated	Dedicated
Antenna Options	Internal/ Directional/ External	Internal/External	Internal	Internal	Internal
Virtual BLE	Y	Y	—	—	—
Ultra-wideband (UWB)	Y	—	—	—	—
USB	Y	Y	Y		Y
IoT Sensors	Pressure, Temperature, Accelerometer	Temperature, Accelerometer	Temperature, Accelerometer	Temperature, Accelerometer	Temperature, Accelerometer
GPS/GNSS	L1/L5	—	—	—	L1/L5
Ethernet Redundancy	Dual PoE with seamless fail-over between Ethernet ports				
Warranty	Limited Lifetime	Limited Lifetime	Limited Lifetime	Limited Lifetime	One Year

Services available for the Juniper AP47

Wi-Fi cloud services

Juniper Mist Wi-Fi Assurance

For IT and NOC teams

- Predictable and measurable Wi-Fi
- Service-Level Expectations (SLEs) support
- WxLAN policy fabric for role-based access
- Customizable guest Wi-Fi portal
- Radio Resource Management (RRM), driven by AI

Marvis virtual network assistant

For IT help desk teams

- AI-powered virtual network assistant
- Natural language processing interface
- Anomaly detection
- Client SLE visibility and enforcement
- Data science-driven root-cause analysis

Bluetooth cloud services

Juniper mist mobile engagement

For digital experience teams

- Accurate (1-3m) turn-by-turn navigation
- Sensor fusion with dead reckoning
- Unsupervised machine learning
- Virtual beacons with custom notifications
- Mobile SDK for iOS and Android™

Juniper mist asset visibility

For process and resource improvement teams

- Identification of assets by name and location visibility
- Zonal/Room accuracy for third-party tags
- Historical analytics for asset tags

- Telemetry for asset tags (temperature, motion, and other data)

- APIs for viewing assets and analytics

Analytics cloud services

Juniper mist premium analytics

For network teams

- Baseline analytics features come included with [Wi-Fi Assurance](#), User Engagement, and Asset Visibility subscriptions
- End-to-end network visibility
- Orchestrated networking and application performance queries
- Simplified network transparency

For business teams

- Baseline analytics features come included with Wi-Fi Assurance, User Engagement, and Asset Visibility subscriptions
- Customer segmentation and reporting based on visitor telemetry
- Customized Dwell and third-party reporting for traffic and trend analysis
- Correlation of customer-guest traffic and trend analysis
- Correlated customer-guest traffic and trend analysis

Access point features

High-performance Wi-Fi

The AP47 Series is a four-radio, 802.11be Wi-Fi 7 access point. Three four-spatial stream data serving radios with maximum data rates of 11528 Mbps in the 6 GHz band, 5764 Mbps in the 5 GHz band, and 1376 Mbps in the 2.4 GHz band. A dedicated fourth tri-band scanning radio providing WIDS/WIPS, spectrum analysis, sensor and location analytics. With 802.11be Multi-Link Operation (MLO), Orthogonal Frequency Division Multiple Access (OFDMA), Multi-User Multiple Input Multiple Output (MU-MIMO), and BSS Coloring technologies, the AP47 Series offers performance at unprecedented levels to support new bandwidth-hungry applications and soaring device densities.

Wi-Fi 7 amendment

The new 802.11be amendment (Wi-Fi 7) expands the capabilities of [Wi-Fi 6E](#), including the use of up to 1200 MHz of the 6 GHz band for higher throughput and improved application performance. New capabilities include 320 MHz channels which provides double the throughput, Multi-Link Operation (MLO) for more efficient load balancing and failover, Multi-Resource Units (Multi-RU), preamble puncturing, and 4K QAM for higher transmission rates and better user experiences. Only Wi-Fi 7 and 6E client devices can use the 6 GHz band so there is no interference due to IoT or legacy devices.

AP redundancy

Automation in Juniper Mist helps simplify the validation of AP placements and AP-switch uplinks for highly-redundant coverage in mission-critical deployments. In addition, the AP47 provides high availability with two 10 Gbps Ethernet ports for seamless failover for both data and power. The dual ports provide business continuity for mission-critical applications.

AI for AX

HPE Juniper Networking automates and optimizes Wi-Fi 7 features with AI for AX capabilities to optimize BSS Coloring, improve data transmission scheduling within OFDMA and MU-MIMO, and assign clients to the best radio to boost the overall performance of the network.

Improved IoT operations

The AP47 Series extends network monitoring and insights to vBLE, Thread*, Zigbee*, or Matter* to increase IoT capabilities with dual 802.15.4 radios for concurrent location services and electronic shelf labels (ESL). Ultra-wideband (UWB) ready.

Greater spectral efficiency

OFDMA improves spectral efficiency so that an increasing density of devices can be supported on the network. Density has become an issue with the rapid growth of IoT devices that often utilize smaller data packets than mobile devices and, hence, increase the burden and contention on the network. Additionally, BSS Coloring improves the coexistence of overlapping BSSs and allows spatial reuse within a given channel by reducing packet collisions.

* future

Automatic RF optimization

Reliable RF optimization is even more critical with the addition of 6 GHz spectrum. Radio Resource Management uses a dedicated sensor radio to automate dynamic channel and power assignments, thus avoiding Wi-Fi and external sources of interference. The AI engine continuously monitors coverage and capacity SLE metrics to learn and optimize the RF environment. A learning algorithm uses hysteresis on a 24-hour window to conduct a sitewide rebalancing for optimal channel and power assignment.

6 GHz Device Operation

In some regulatory domains, there are special rules to govern the usage of 6 GHz when the AP has either removable External Antennas or is weatherized.

The Automatic Frequency Coordination (AFC) mandated by the FCC specifies that when using the 6 GHz band (in the US) with either an access point that has a removable external antenna or a weatherized access point, it must operate in Standard Power (SP) mode.

AP47E-US:

- Standard Power only (US only)

AP47E-WW:

- Low Power Indoor in most regulatory domains
- Standard Power only in some regulatory domains (Canada)

AP47-US / AP47D-US

- Low Power Indoor and Standard Power (US only)

AP47-WW / AP47D-WW

- Low Power Indoor only in most regulatory domains
- Low Power Indoor and Standard Power in some regulatory domains (Canada)

Proactive insight and action

A dedicated, tri-band fourth radio collects data for Juniper Mist, which uses machine learning to analyze user experiences, correlate problems, and automatically detect their root causes. These metrics are used to monitor SLEs and provide proactive recommendations to ensure problems don't occur (or are fixed as quickly as possible when they do).

Improved IoT battery efficiency

By incorporating the 802.11ax target wake time (TWT) capability and Bluetooth 5.4, AP47 Access Points help extend the battery life of IoT devices, particularly as additional ones join the network.

Dynamic debugging

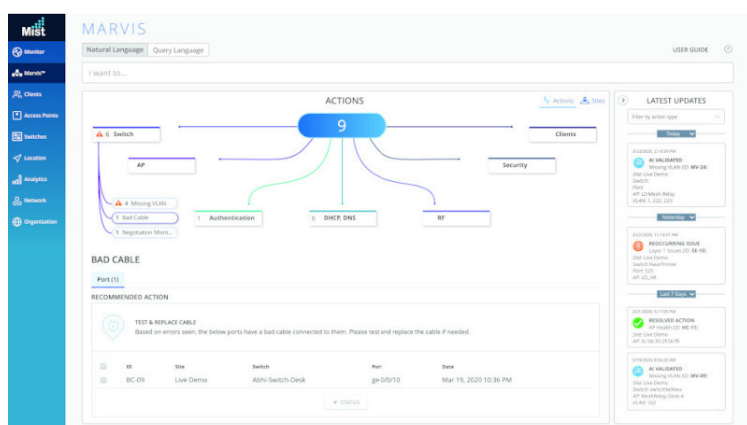
Constantly monitor services running on the AP47 and send alerts whenever a service behaves abnormally. Dynamic debugging relieves IT of having to worry about an AP going offline or any services running on it becoming unavailable.

Dynamic packet capture and dynamic spectrum capture

The Juniper Mist platform automatically captures packets and radio frequency spectrum and streams them to the cloud when major issues are detected. AI dynamic packet capture and dynamic spectrum capture enables “network rewind” to identify and resolve wireless interference issues more efficiently. Both features save IT time and effort and eliminate the need for truck rolls with sniffers to reproduce and capture data for troubleshooting.

Marvis virtual network assistant

[Marvis](#) is a natural language processing (NLP)-based assistant with a conversational interface who helps the understanding of user intent and goals, simplifies troubleshooting, and collects network insights. Marvis uses AI and data science to proactively identify issues, determine the root causes and scope of impact, and gain insights into your network and user experiences. Marvis eliminates the need to manually hunt through endless dashboards and CLI commands.

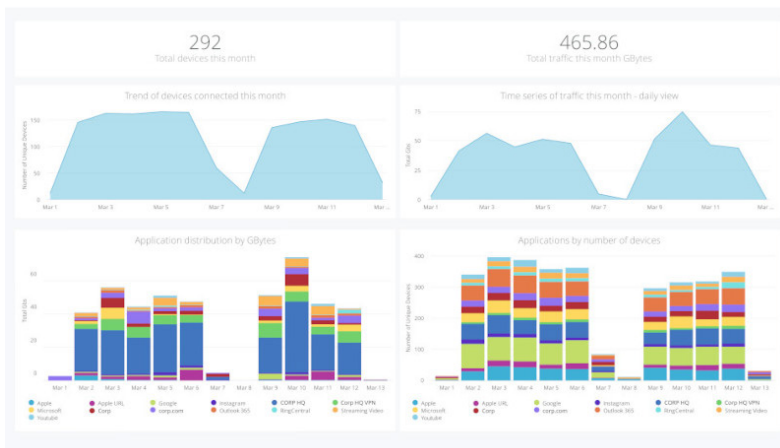


Effortless, cloud-based setup and updates

The AP47 automatically connects to the Juniper Mist Cloud, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and security updates.

Premium analytics

Juniper Mist [Wireless Assurance](#), [User Engagement](#), and [Asset Visibility](#) services include a base analytics capability for analyzing up to 30 days of data, which enables you to simplify the process of extracting network insights across your enterprise. If you require dynamic insights like motion paths and other third-party data and would like the option of customized reports, the [Juniper Mist Premium Analytics](#) service is available as an additional subscription.



High-accuracy indoor location

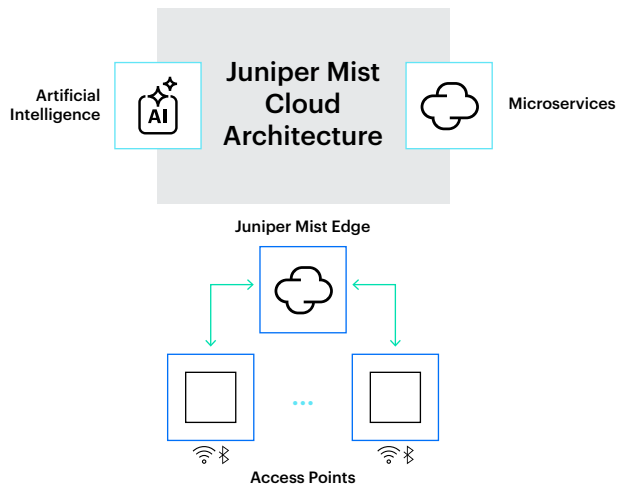
The AP47 has a patented vBLE antenna array controlled from the Juniper Mist Cloud. Passive antennas enhance the power of a single transmitter and produce directional beams (or can be combined to act as an omnidirectional radio) to accurately detect distance and location with 1-3-meter accuracy. With HPE patented vBLE technology, you can deploy an unlimited number of virtual beacons in your physical environment with no need to install battery-powered physical BLE beacons. Support for Bluetooth 5.1 boosts IoT device range and battery life.



Patented vBLE technology

In addition to the industry-leading Wi-Fi technology at the heart of the AP47 Access Points, our next-generation, patented, and dynamic vBLE antenna array combines with machine learning to eliminate the need for battery-powered beacons. This maximizes scalability and optimizes your deployment investment in location-based services.

vBLE enables businesses to provide rich location-based experiences that are engaging, accurate, real-time, and scalable.



Juniper Mist Edge

HPE Juniper Networking APs offer a flexible data plane. [Juniper Mist Edge](#) is an on-premises appliance that runs a tunnel termination service. Traffic can be broken out locally or tunneled to Juniper Mist Edge. Juniper Mist Edge use cases include seamless mobility in large campus environments, tunneling of guest traffic to a DMZ, IoT segmentation, and teleworker services.



Top view of AP47, AP47E, and AP47D



Bottom view of AP47 and AP47D



Bottom view of AP47E

* Product configuration and appearance may vary

Specifications

Wi-Fi Standard	Wi-Fi 7 802.11be Backwards compatibility with 802.11a/b/g/n/ac/ax
Wi-Fi Radios	2.4/5/6 GHz 802.11a/b/g/n/ac/ax/be radio 5 GHz 802.11a/n/ac/axbe radio 6 GHz 802.11ax/be
Combined Highest Supported Data Rates	Tri-Band: 28.8 Gbps—Dual 6 GHz + 5 GHz
2.4 GHz	4x4:4 802.11be up to 1,376 Mbps data rate
5 GHz	4x4:4 802.11be up to 5764 Mbps data rate
6 GHz	4x4:4 802.11be up to 11528 Mbps data rate
MIMO Operation	— Four spatial stream SU-MIMO for up to 11,528 Mbps wireless data rate to individual 4x4 EHT320 — Four spatial stream MU-MIMO for up to 11,528 Mbps wireless data rate to up to four MU-MIMO capable client devices simultaneously
Dedicated Fourth Radio	2.4 GHz, 5 GHz, and 6 GHz tri-band WIDS/WIPS, spectrum analysis, sensor and location analytics radio
AP47 Internal Omni Antennas	Four 2.4 GHz omnidirectional antennas with 4 dBi peak gain Four 5 GHz omnidirectional antennas with 6 dBi peak gain Four 6 GHz omnidirectional antennas with 6 dBi peak gain
AP47D Internal Directional Antennas	Pattern approximately 60 x 60° Four 2.4 GHz directional antennas with 6 dBi peak gain Four 5 GHz directional antennas with 8 dBi peak gain Four 6 GHz directional antennas with 8 dBi peak gain
IoT Radios	Dual Multi Personality 802.15.4 radios and dual omnidirectional antennas, vBLE Directional Antenna Array, Bluetooth 5.4 Ultra-wideband (UWB)
Beam Forming	Transmit Beamforming and Maximal Ratio Combining
Power Options	Dual Hitless PoE PD support via Eth0 + Eth1 — 802.3bt (Class 6): Full function, tri radio 4x4. Scan, Dual IoT radios, UWB, GPS, eth0 10 Gbps, eth1 10 Gbps, and USB enabled — 802.3at: Any two radios 4x4 or 2x2 with three radios. Scan, Dual IoT radios, UWB, GPS, eth0 10 Gbps, and eth1 10 Gbps enabled. No USB. — 802.3af: Radios disabled, cloud connectivity only
Dimensions	AP47, AP47E : 254 mm x 254 mm x 60 mm / 10" x 10" x 2.36" AP47D : 254 mm x 254 mm x 66 mm / 10" x 10" x 2.6"
Shipping Box	315 mm x 292 mm x 90 mm / 12.4" x 11.5" x 3.54"
Weight	AP47, AP47D, AP47E—2.0 kg / 4.41 lbs
Operating Temperature	AP47, AP47D—0°C to 40°C (32°F—104°F), AP47E -20°C to 50°C (-4°F—122°F)
Operating Humidity	10% to 90% maximum relative humidity, non-condensing

Operating Altitude	3,048 m (10,000 ft)
Trusted Platform Module (TPM)	Includes a TPM for infrastructure security
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-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

I/O and Indicators

IoT Sensors	Pressure, Temperature, Accelerometer
USB	USB 2.0 support interface, 900 mA output
Eth0	100/1000/2500/5000/10000Base-T (802.3bz); RJ45; PoE PD; MACsec (802.1AE)
Eth1	100/1000/2500/5000/10000Base-T (802.3bz); RJ45; PoE PD
AP47E External Antenna	Three pluggable antenna connectors; 2.4/5/6 GHz (6 pin), 6 GHz + Scan (6 pin), 5 GHz (4 pin)
Reset	Reset to the factory default settings
Indicators	One multicolor status LED
Traffic Forwarding Options	Eth0, Eth1, Juniper Mist Edge

Mounting brackets

APBR-U¹	Universal bracket
APBR-ADP-M16	16mm threaded rod (M16-2)
APBR-ADP-T58	5/8" Threaded Rod
APBR-ADP-CR9	9/16" T-Rail, Channel Rail
APBR-ADP-RT15	15/16" T-Rail
APBR-ADP-WS15	1-1/2" T-Rail
APBR-ADP-T12	1/2" threaded rod

¹ The AP package includes one Universal Bracket.

Ordering information

United States Only

AP47-US (Internal Omni Antenna)
AP47D-US (Internal Directional Antenna)
AP47E-US (External Antenna)

Outside of United States

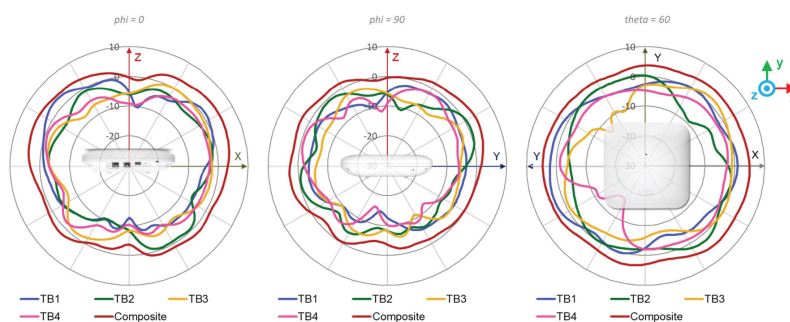
AP47-WW (Internal Omni Antenna)
AP47D-WW (Internal Directional Antenna)
AP47E-WW (External Antenna)

* HPE products are manufactured in accordance with local regulations specific to certain regions and countries. For example, customers should not use any SKUs designated for outside of the US in the US. Customers are responsible for ensuring that any regional or country-specific SKUs are only used in the specified authorized area and accept all associated liability. Failure to comply with the applicable regional designations of SKUs may void the warranty of the Juniper products.

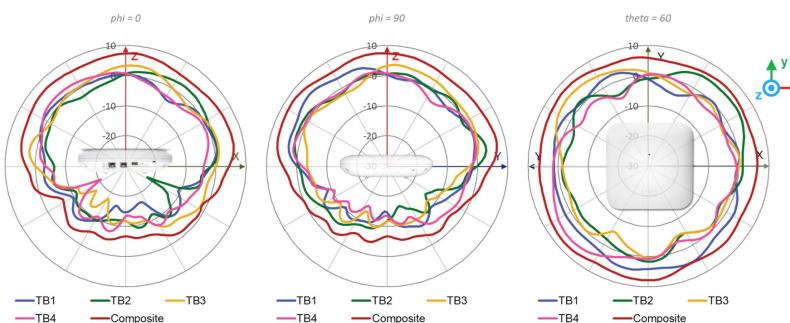
AP47 Antenna Plots

AP47 Tri Band Radio Wi-Fi Antenna Plots

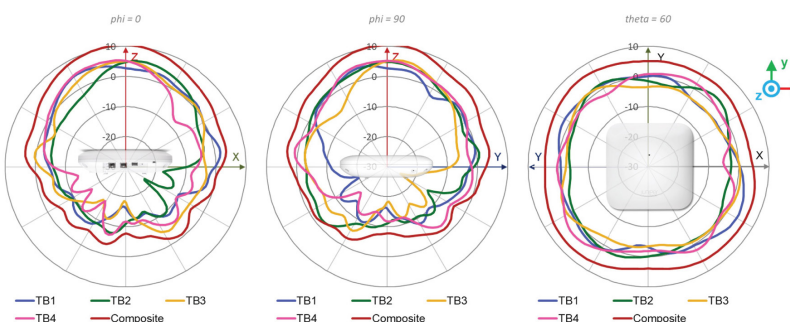
2.5 GHz @ 2450 MHz



5 GHz @ 5550 MHz

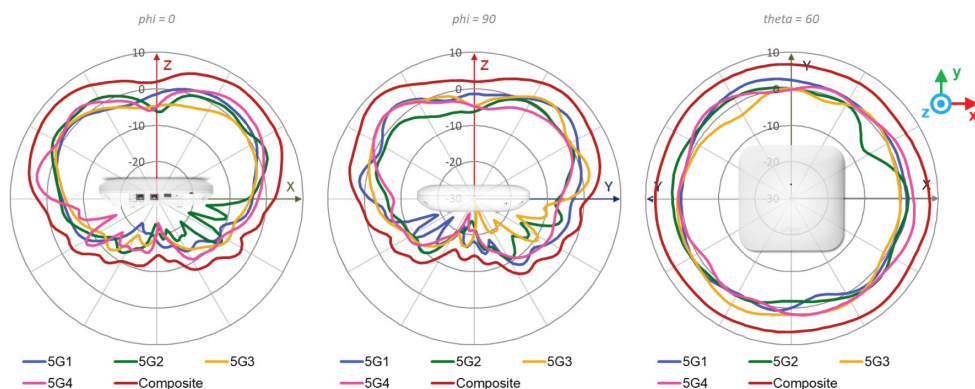


6 GHz @ 6565 MHz



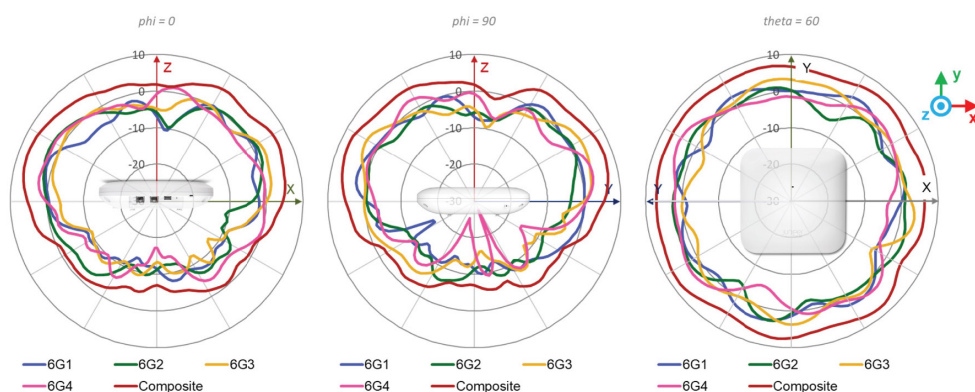
AP47 5 GHz Wi-Fi Antenna Plots

5 GHz @ 5550 MHz



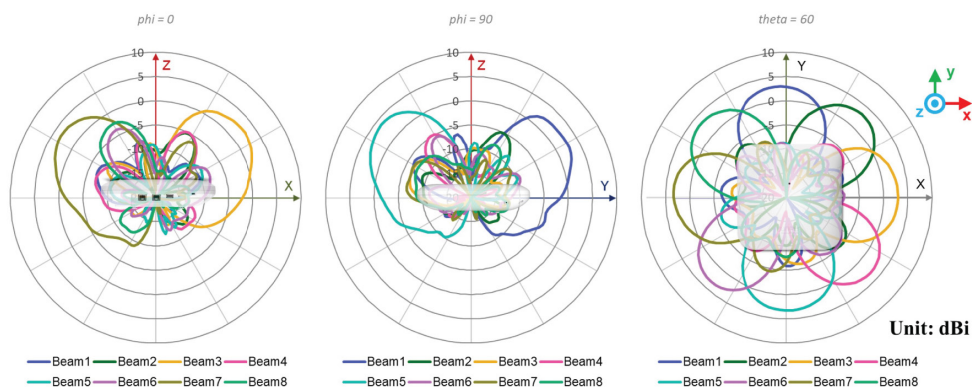
AP47 6 GHz Wi-Fi Antenna Plots

6 GHz @ 6565 MHz



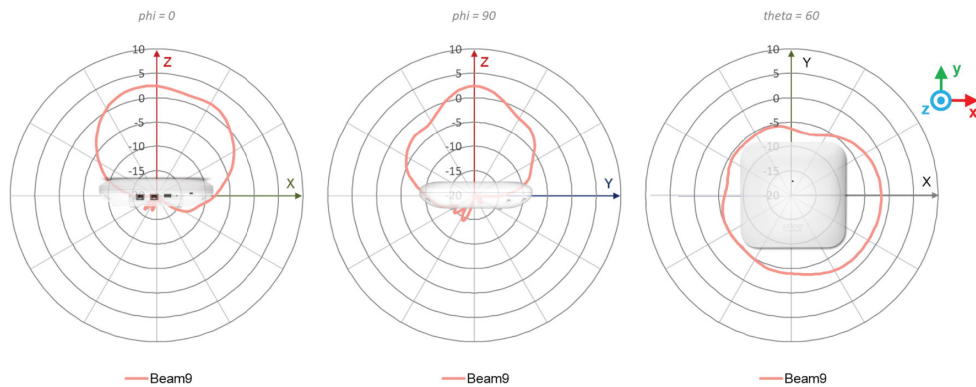
AP47 2.4 GHz Directional BLE Antenna Plots

2.4 GHz @ 2440 MHz



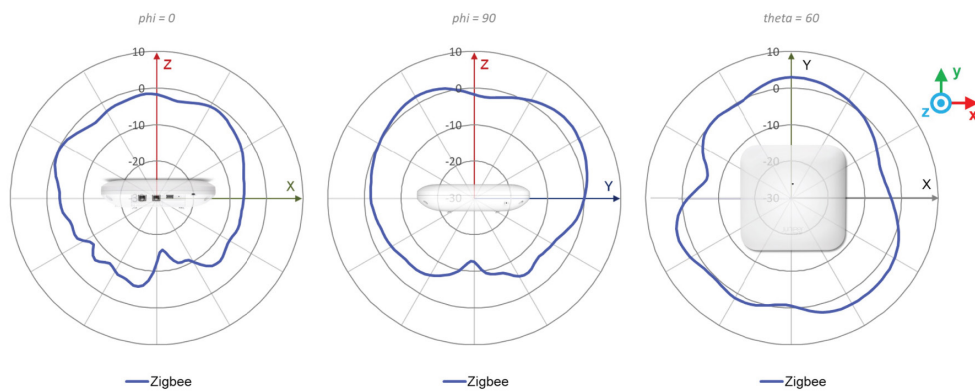
AP47 2.4 GHz Omni BLE Antenna Plots

2.4 GHz @ 2440 MHz



AP47 2.4 GHz Zigbee Antenna Plots

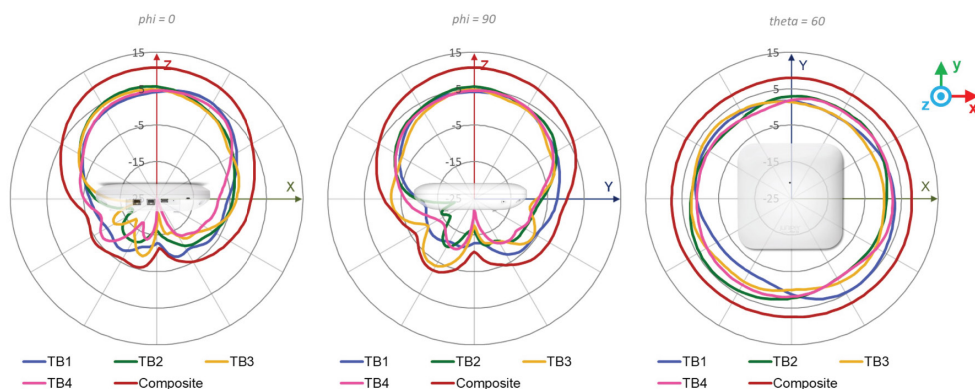
2.4 GHz @ 2440 MHz



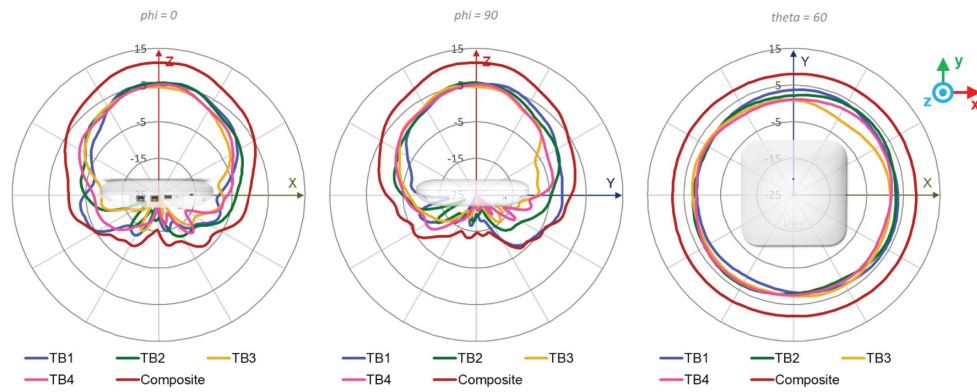
AP47D Antenna Plots

AP47D Tri Band Radio Wi-Fi Antenna Plots

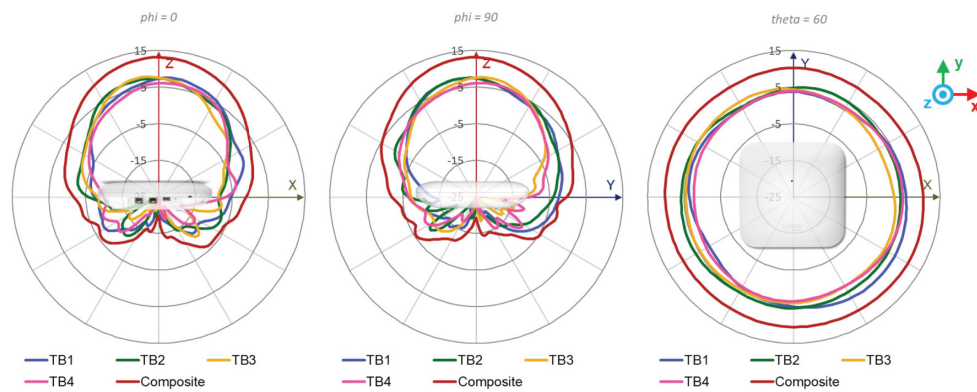
2.4 GHz @ 2450 MHz



5 GHz @ 5550 MHz

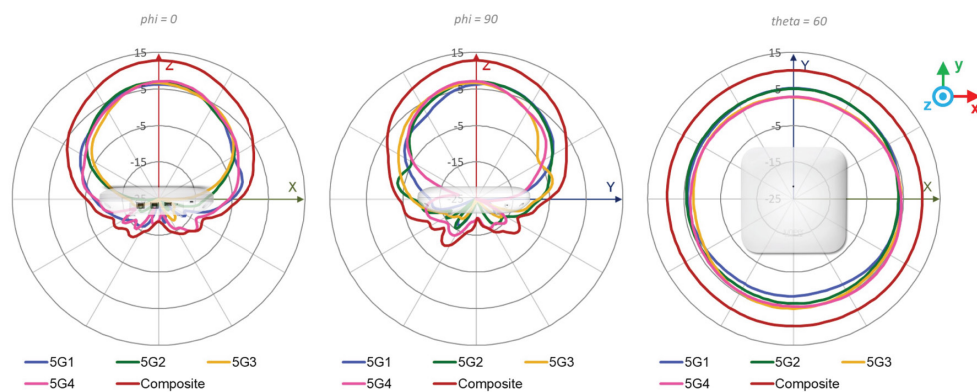


6 GHz @ 6565 MHz



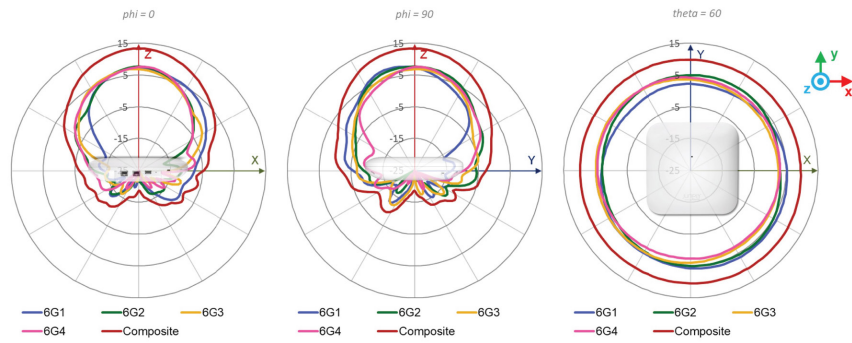
AP47D 5 GHz Wi-Fi Antenna Plots

5 GHz @ 5550 MHz



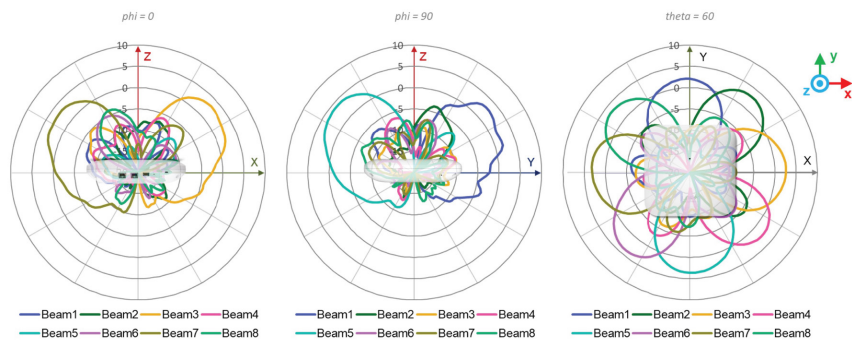
AP47D 6 GHz Wi-Fi Antenna Plots

6 GHz @ 6565 MHz



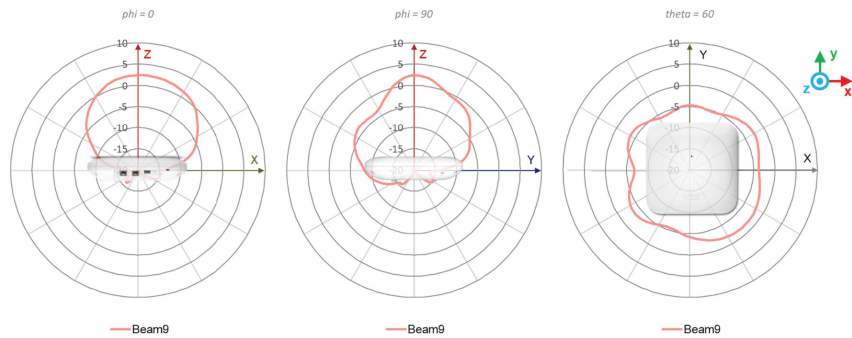
AP47D 2.4 GHz Directional BLE Antenna Plots

2.4 GHz @ 2440 MHz



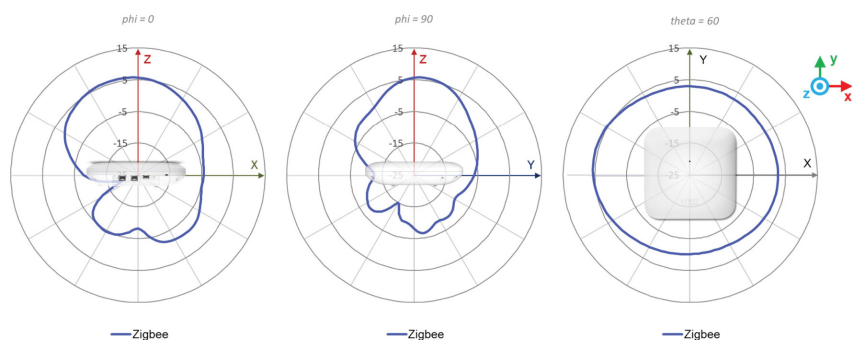
AP47D 2.4 GHz Omni BLE Antenna Plots

2.4 GHz @ 2440 MHz



AP47D 2.4 GHz Zigbee BLE Antenna Plots

2.4 GHz @ 2440 MHz



About HPE

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HPE Networking AP47 (Compliance Matrix)

Section Specification Requested Juniper AP47		Details & Verification
3.1.2	Tri-band (2.4 GHz, 5 GHz, 6 GHz) client-serving radios Compliant	Features three client-facing data radios operating simultaneously across all three bands.
3.1.3	4x4:4 MU-MIMO, OFDMA, Wi-Fi 7 (802.11be), 12 spatial streams Compliant	Equipped with 4x4 MIMO and four spatial streams on <i>each</i> of its three client radios, delivering a total of 12 client spatial streams .
3.1.4	Dedicated WIDS/WIPS and spectrum analytics via built-in scanning radio Compliant	Includes a dedicated fourth 802.11be radio purely for continuous scanning, WIDS/WIPS security, and radio resource management.
3.1.5	Dedicated IoT radio supporting 2.4 GHz BLE v5.3+ and 802.15.4 Compliant (Exceeds)	Integrates two 802.15.4 capable IoT radios alongside its patented Virtual Bluetooth LE (vBLE) omni/directional antenna array.
3.1.6	Aggregate wireless data rate up to 18 Gbps Compliant (Exceeds)	Delivers a maximum aggregate PHY data rate of up to 28.8 Gbps across its Wi-Fi 7 interfaces.
3.1.7	One (1) 100M/1G/2.5G/5G/10G multigigabit Ethernet uplink port Compliant (Exceeds)	Features two (2) multigigabit ports auto-sensing up to 10 Gbps (100M/1G/2.5G/5G/10GBase-T), allowing for active-standby link and PoE redundancy.