JUNIPER AP17 HIGH-PERFORMANCE ACCESS POINT

Product overview

The Juniper AP17 High-Performance Access Point, an HPE Wi-Fi 7 access point, driven by HPE Mist AI, delivers self-driving network operations and Wi-Fi performance boost for environments that require easy, flexible deployments and simultaneous device support.

AP17 benefits

- Supports Wi-Fi 7 (802.11be) with key features like multi-link operation (MLO) for enhanced reliability
- Improves the 6 GHz band, providing increased channel width and enabling multigigabit speeds
- 2x2 MIMO on 2.4 GHz, 5 GHz, and 6 GHz
- Tri-band with dedicated fourth radio for supporting growing mobility demands
- 10G mGig and 3 x 1G Ethernet ports to support simultaneous devices

HPE Mist AI 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 AP17 High-Performance Access Point is a purpose-built Wi-Fi 7 wallplate access point designed to deliver enterprise-class performance in space-constrained indoor environments. Optimized for growing organizations that require high capacity, low latency, and reliable simultaneous device connectivity, the AP17 features a tri-band configuration across 2.4 GHz, 5 GHz, and 6 GHz, and a dedicated scanning radio for continuous network assurance. This cost-effective design enables top-level performance and efficiency, making AP17 an ideal solution for hospitality, retail stores, campus classrooms, student housing, multi-dwelling unit buildings, and distributed business location deployments where discreet form factors and consistent user experience are critical.

To support modern in-room requirements, the AP17 extends its capabilities beyond Wi-Fi with an integrated Internet of Things (IoT) radio supporting Bluetooth Low Energy (BLE) and 802.15.4 based standards like Zigbee and Thread. This allows organizations to seamlessly deploy IoT devices for smart locks, occupancy sensors, and environmental controls, without the cost and complexity of an overlay network. The AP17 also includes Ethernet ports to provide secure wired connectivity for critical devices like IP phones, point of sale (POS) terminals, or streaming media players, consolidating all in-room network services into a single, cloud-managed platform.

HPE Juniper Networking AI-native network

HPE Mist AI brings true innovation to wireless networking with the world's first AI-Native WLAN. HPE 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-native automation and self-healing network replaces 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 cloud architecture of the HPE Mist AI platform.

The cloud architecture of HPE Mist AI platform

The platform's cloud-native, AI-native 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-native actions. With HPE Mist AI, purpose-built to leverage AIOps, the AP17 harnesses the faster speed, power, and performance of Wi-Fi 7 and offers excellent experience for all users and devices and superior end-to-end operator experiences.

HPE Juniper Networking access point family

The real-time microservices in HPE Mist AI platform cloud manage the HPE Juniper Networking access point family.

– Wi-Fi 7: AP47, AP37, AP36, AP27, AP17, and AP66

– 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 models.

Table 1. HPE Juniper Networking Wi-Fi 7 AP comparison chart

	AP47	AP37	AP36	AP27	AP17	AP66
Deployment	Indoor	Indoor	Indoor	Indoor	Indoor/wallplate	Indoor/outdoor
Wi-Fi standard	Wi-Fi 7 802.11be (4x4:4)	Wi-Fi 7 802.11be 5/6 GHz: (4x4:4) 2.4 GHz: (2x2:2)	Wi-Fi 7 802.11be 5/6 GHz: (4x4:4) 2.4 GHz: (2x2:2)	Wi-Fi 7 802.11be (2x2:2)	Wi-Fi 7 802.11be (2x2:2)	Wi-Fi 7 802.11be (2x2:2)
Wi-Fi radio modes	2.4/5/6 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	2.4 GHz + 5 GHz + 6 GHz
Scanning radio	Dedicated	Dedicated	Dedicated	Dedicated	Dedicated	Dedicated
Antenna options	Internal/ directional/ external	Internal	Internal/ directional/ external	Internal/external	Internal	Internal/ directional
Virtual BLE	Yes	Yes	No	No	No	No
Ultra-wideband (UWB)	Yes	No	No	No	No	No
USB	Yes	Yes	Yes	Yes	No	No
IoT sensors	Pressure, temperature, accelerometer	Pressure, temperature, accelerometer	Pressure, temperature, accelerometer	Pressure, temperature, accelerometer	Pressure, temperature	Temperature, accelerometer
GNSS/GPS	L1/L5	L1/L5	L1/L5	L1/L5	No	L1/L5
Secondary Ethernet port	Yes, dual PoE failover	Yes, PoE out	Yes, PoE out	Yes	Yes, 3 x 1GbE ports (1x PoE Out)	No
Warranty	Limited lifetime	Limited lifetime	Limited lifetime	Limited lifetime	Limited lifetime	One year

Services available for the AP17

Wi-Fi cloud services

Juniper Wi-Fi Assurance

For IT and NOC teams

–Predictable and measurable Wi-Fi

–SLE support

–WLAN policy fabric for role-based access

–Customizable guest Wi-Fi portal

–Radio resource management (RRM), driven by AI

Marvis AI Assistant

For IT help desk teams

–AI-native virtual network assistant

–Natural language processing interface

–Anomaly detection

–Client SLE visibility and enforcement

–Data science–driven root cause analysis

Bluetooth cloud services

Juniper 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)
- Application programming interfaces (APIs) for viewing assets and analytics

Analytics cloud services

Juniper Premium Analytics

For network teams

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

Access point features

High performance Wi-Fi

AP17 is a four-radio, 802.11be Wi-Fi 7 access point (AP). Three two-spatial stream data serves radios with maximum data rates of 5.8 Gbps in the 6 GHz band, 2.9 Gbps in the 5 GHz band, and 688 Mbps in the 2.4 GHz band. A dedicated fourth tri-band scanning radio provides 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, AP17 offers performance at unprecedented levels to support new bandwidth-demanding 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 provide double the throughput, 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.

AI for AX

HPE 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 optimal radio to boost the overall performance of the network.

Improved IoT operations

The AP17 extends network monitoring and insights to omnidirectional BLE, Thread, Zigbee*, or Matter* to increase IoT capabilities with dual 802.15.4 radios for concurrent location services and electronic shelf labels (ESL).

* Future considerations

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.

Automatic RF optimization

Reliable RF optimization is even more critical with the addition of 6 GHz spectrum. RRM uses a dedicated sensor radio to automate dynamic channel and power assignments, thus avoiding Wi-Fi and external sources of interference. The Marvis AI Assistant 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 classification

AP17 US/WW: Low power indoor wallplate with built-in omnidirectional antennas

Proactive insight and action

A dedicated, tri-band fourth radio collects data for HPE Mist AI, 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 help 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 6.0, AP17 helps extend the battery life of IoT devices, particularly as additional ones join the network.

Dynamic debugging

It constantly monitors services running on the AP17, sending 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 HPE Mist AI platform automatically captures packets and radio frequency spectrum and streams them to the cloud when major issues are detected. AI-native dynamic packet capture and dynamic spectrum capture enable **network rewind** to identify and resolve wireless interference issues more efficiently. Both features save IT teams time and effort. They use sniffers to reproduce and capture data for troubleshooting, which reduce the need for truck rolls.

Marvis AI Assistant

Marvis AI Assistant is a natural language processing-based assistant with a conversational interface that helps with the understanding of user intent and goals, simplifies troubleshooting, and collects network insights. Marvis AI Assistant 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 AI Assistant reduces the need to manually search through endless dashboards and CLI commands.

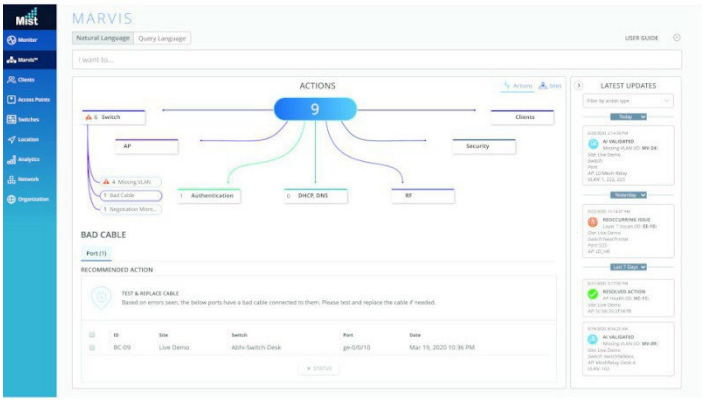


Figure 1. HPE Mist AI dashboard depicting Marvis Actions on client network

Effortless, cloud-based setup and updates

The AP17 automatically connects to the HPE Mist AI platform, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, helping ensuring that the network is up to date with new features, bug fixes, and security updates.

Juniper Premium Analytics

Juniper Wi-Fi Assurance, Juniper User Engagement, and Juniper Asset Visibility services include a base analytics capability that analyzes up to 30 days of data, which simplifies 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 Premium Analytics service is available as an additional subscription.

Figure 2. HPE Mist AI dashboard depicting Juniper Premium Analytics dataset

HPE Mist Edge

HPE Juniper Networking APs offer a flexible data plane. HPE Mist Edge is an on-premises appliance that runs a tunnel termination service. Traffic can be broken out locally or tunneled to HPE Mist Edge.

HPE Mist Edge use cases include seamless mobility in large campus environments, tunneling of guest traffic to a demilitarized zone (DMZ), IoT segmentation, and teleworker services.

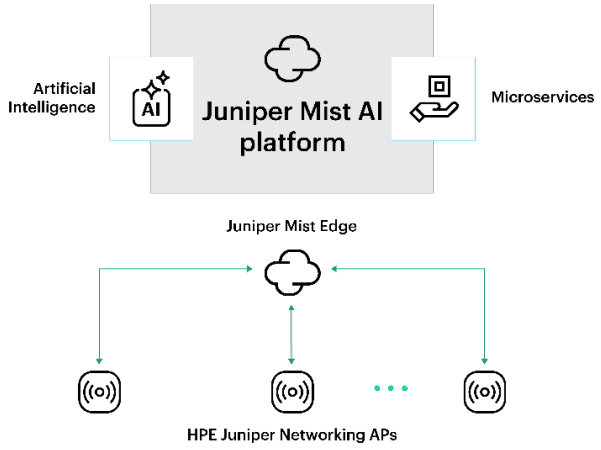


Figure 3. AI-native enterprise solution with HPE Mist Edge

AP17 product images

Figure 4. Front view of AP17

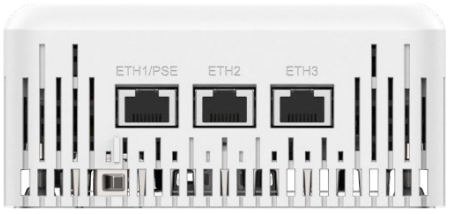


Figure 5. Rear view of AP17

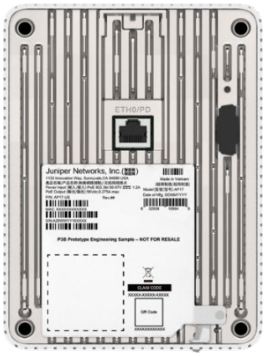


Figure 6. Bottom view of AP17

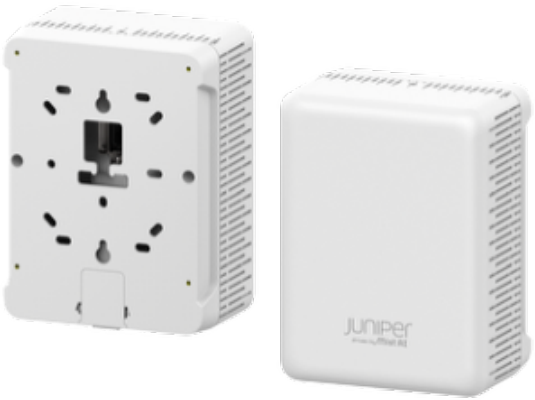


Figure 7. APBR-SP2: optional spacer mounting bracket for AP17 to support PoE passthrough use cases

Figure 8. APWP-KIT (optional), wallplate stand with PoE injector for desktop deployment

Specifications

Wi-Fi standard	Wi-Fi 7 802.11be backwards compatibility with 802.11a/b/g/n/ac/ax
Wi-Fi radios	2.4 GHz 802.11b/g/n/ac/ax/be radio; 5 GHz 802.11a/n/ac/ax/be radio; 6 GHz 802.11ax/be
Combined highest supported data rates	Tri-Band: 9.38 Gbps—2.4 GHz + 5 GHz + 6 GHz
2.4 GHz	2x2:2 802.11be up to 688 Mbps data rate
5 GHz	2x2:2 802.11be up to 2.9 Gbps data rate
6 GHz	2x2:2 802.11be up to 5.8 Gbps data rate
MIMO operation	2 spatial stream SU-MIMO for up to 5.8 Gbps wireless data rate to individual 2x2 ETH 320, 2 spatial stream MU-MIMO for up to 5.8 Gbps wireless data rate to four MU-MIMO capable client devices simultaneously
Dedicated forth radio	2.4 GHz, 5 GHz, and 6 GHz tri-band WIDS/WIPS, spectrum analysis, and sensor and location analytics radio
Internal omni antennas	2 x 2.4 GHz omnidirectional antennas with 4 dBi peak gain 2 x 5 GHz omnidirectional antennas with 6 dBi peak gain 2 x 6 GHz omnidirectional antennas with 6 dBi peak gain
IoT radios	Dual core 802.15.4 radios and dual omnidirectional antennas, Bluetooth 6.0
Beam forming	Transmit beamforming and maximal ratio combining
Power options	PoE PD support via Eth0: - 802.3bt: Full functionality, including Eth1 PSE - 802.3at: Full functionality, no PSE - 802.3af: Cloud connectivity only
Product dimensions	120 mm x 160 mm x 55 mm / 4.72" x 6.3" x 2.17"
Shipping box	168 mm x 178 mm x 82 mm / 6.61" x 7.01" x 3.23"
Product weight	0.8 kg / 1.76 lbs
Operating temperature	0°C to 40°C (32°F to 104°F)
Operating humidity	10% to 90% maximum relative humidity, non-condensing
Operating altitude	3,048 m (10,000 ft)
Trusted Platform Module (TPM)	Included 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 5.925 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
USB	USB 2.0 support interface (up to 4.5W)
Eth0	100/1000/2500/5000/10000 Base-T (802.3bz); RJ45, PoE PD
Eth1	10/100/1000 Base-T; RJ45, PoE 15.4W PSE mode (requires 802.3bt on Eth0)
Eth2	10/100/1000 Base-T; RJ45
Eth3	10/100/1000 Base-T; RJ45
Reset	Reset to the factory default settings
Indicators	One multicolor status LED
Traffic Forwarding Options	Eth0, Juniper Mist Edge

Mounting brackets

APBR-WP2[1]	Wallplate bracket for AP17
APBR-SP2	Spacer mount for AP17

[1] The AP package includes one APBR-WP2 wallplate bracket, also available as an accessory purchase.

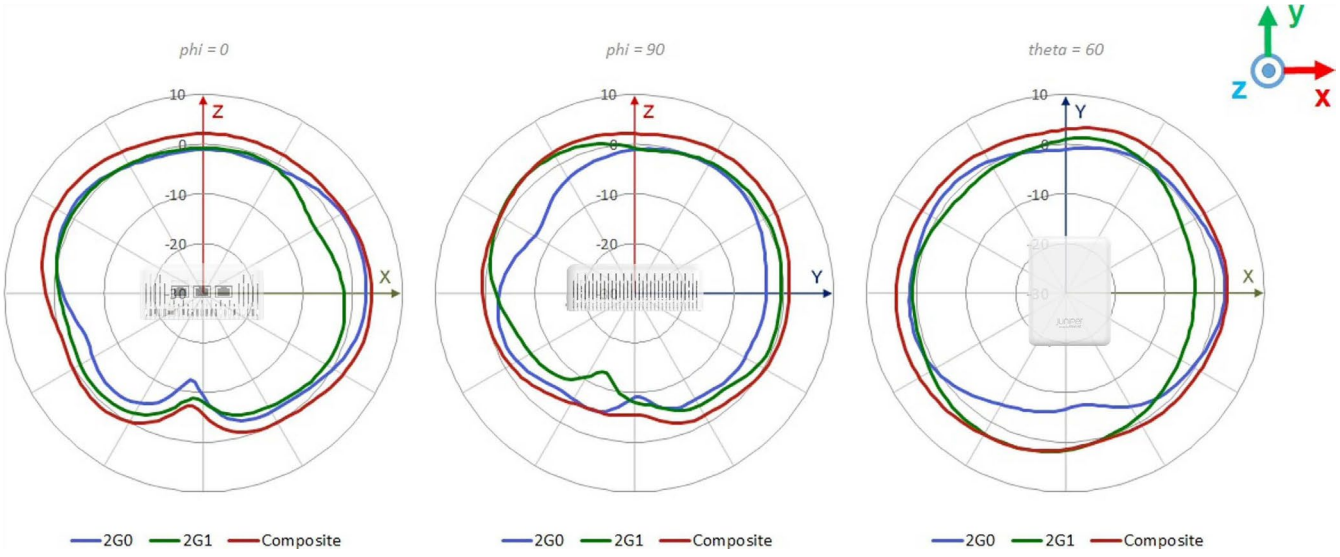
Ordering information

United States only	AP17-US (wallplate with BLE))
Outside of United States	AP17-WW (wallplate with BLE)

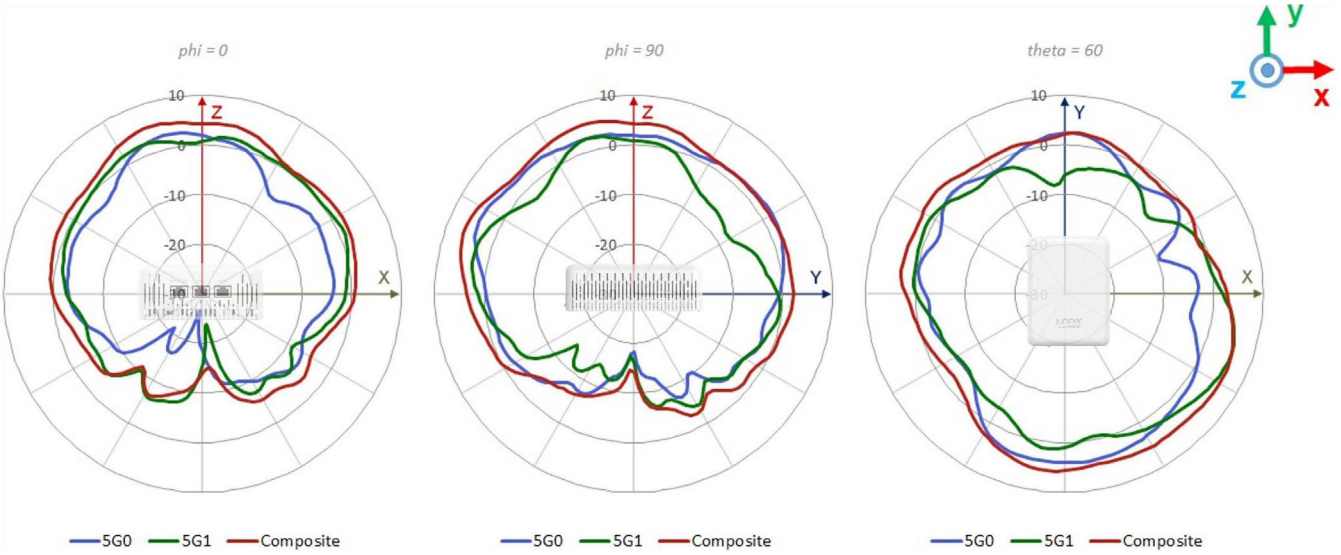
HPE products are manufactured in accordance with local regulations specific to certain regions and countries. For example, customers should not use any SKUs designated for outside of the US in the US. Customers are responsible for ensuring that any regional or country-specific SKUs are only used in the 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.

AP17 Antenna Plots

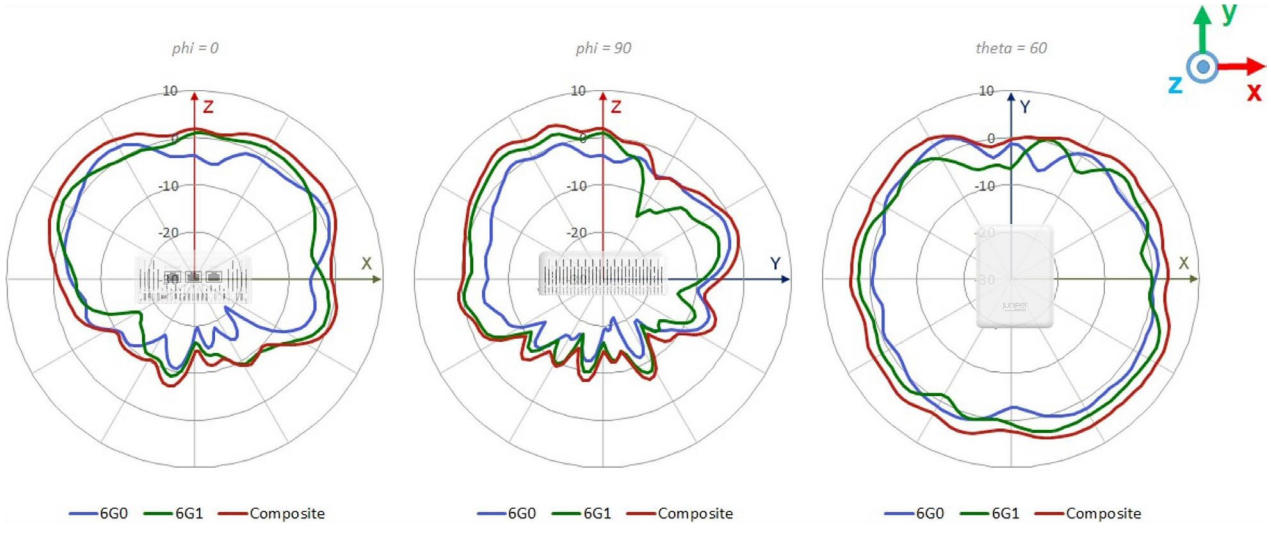
AP17 Wi-Fi - 2.4 GHz @ 2450MHz



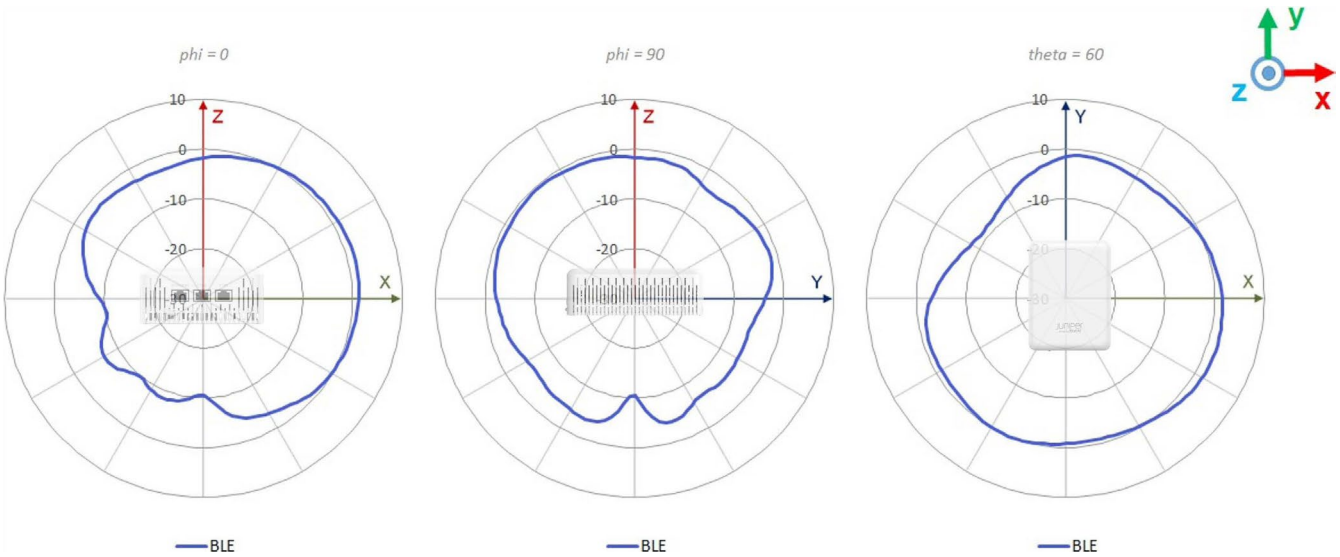
AP17 Wi-Fi - 5 GHz @ 5550MHz



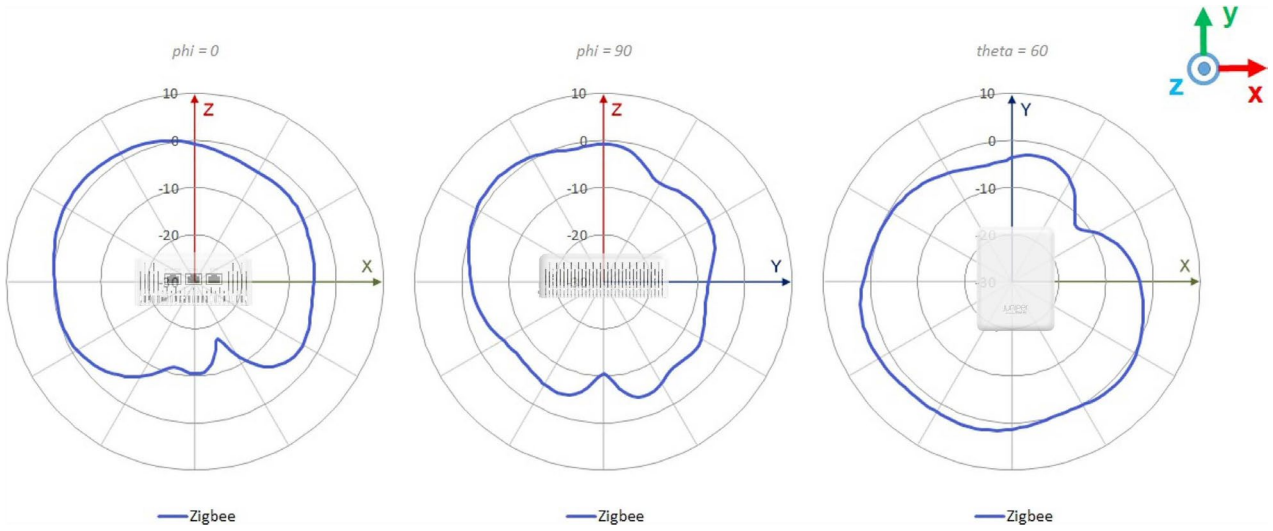
AP17 - 6 GHz @ 6565MHz



AP17 Omni BLE - 2.4 GHz @ 2440MHz



AP17 Zigbee - 2.4 GHz @ 2440MHz



About HPE

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.

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