AP64 access point

Product overview

The Juniper AP64 Series high performance Wi-Fi 6E (802.11ax) access point is a tri-band device with 2 spatial streams for transmitting and receiving data over two client-serving radios, with a third sensor radio dedicated to monitoring.

The Juniper AP64 is a ruggedized and weather-resistant indoor/outdoor Wi-Fi 6E access point that ensures business continuity and operational efficiency in harsh environments. The AP64 integrates AI for AX capabilities and an omnidirectional Bluetooth Low Energy (BLE) antenna to automate network operation and boost Wi-Fi performance while providing real-time network insights and asset visibility. Managed by the Juniper Mist cloud architecture, the AP64 is ideal for retail curbside, enterprise campus, public venue, outdoor station, and industrial environments.

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, which adds to the burden of the IT departments that manage them.

HPE AI-native network

The Juniper AI-Native Enterprise makes Wi-Fi predictable, reliable, and measurable, offering unprecedented visibility of the user experience through the use of unique service-level expectation (SLE) metrics. Proactive, AI-driven automation and self-healing replace time-consuming manual tasks, lowering Wi-Fi operational costs and saving substantial time and money. The AP64 is ideal for areas where you need a high performance, 6 GHz* capable access point but don't require advanced location-based services. All operations are managed using the

Juniper Mist Cloud. The system delivers maximum network scalability and performance while also bringing DevOps agility to WLANs and location services.

The Juniper Mist Cloud

The Juniper Mist Cloud uses a modern microservices-based design to bring 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 HPE Juniper Networking. Juniper Mist Cloud makes it easy to add or remove new features, implement new enhancements, and deliver bug fixes almost weekly without network disruption. Services scale up or down elastically when they're needed, eliminating the cost and complexity of monolithic hardware.

HPE Juniper Networking

The HPE Juniper Networking enterprise-grade access point family consists of:

— AP45 Series, AP34, AP24, and AP64, which support Wi-Fi 6E, 802.11ax (Wi-Fi 6), and Bluetooth LE

— AP43 Series, AP12, AP32, AP33, and AP63 Series, which support 802.11ax (Wi-Fi 6) and Bluetooth LE

These real-time microservices in Juniper Mist cloud manage all these access points.

Table 1 compares the supported major functions of the Juniper Wi-Fi 6E and Wi-Fi 6 access points to help in selecting the most appropriate model(s).

Table 1. Juniper Wi-Fi 6E and Wi-Fi 6 access points

	AP45	AP34	AP24	AP43	AP33	AP12	AP63	AP64
Deployment	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor Wall Plate/ Desk Mount	Outdoor	Indoor/Outdoor
Wi-Fi Standard	Wi-Fi 6E 802.11ax (Wi-Fi 6E) 4x4:4	Wi-Fi 6E 802.11ax (Wi-Fi 6E) 2x2:2	Wi-Fi 6E 802.11ax (Wi-Fi 6E) 2x2:2 2.4/6 + 5 GHz	802.11ax (Wi-Fi 6) 4x4:4	802.11ax (Wi-Fi 6) 5 GHz: 4x4:4 2.4 GHz:2x2:2	802.11ax (Wi-Fi 6) 2x2:2	802.11ax (Wi-Fi 6) 4x4:4	802.11ax (Wi-Fi 6E) 2x2:2
Wi-Fi Radios	Dedicated fourth radio for scanning	Dedicated fourth radio for scanning	Dedicated third radio for scanning	Dedicated third radio for scanning	Dedicated third radio for scanning	Dedicated third radio for scanning	Dedicated third radio for scanning	Dedicated third radio for scanning
Antenna Options	Internal/External	Internal	Internal	Internal/ External	Internal	Internal	Internal/ External	Internal
Virtual BLE	Y	—	—	Y	Y	—	Y	—
USB	Y	Y	Y	Y	Y	—	—	—
IoT Sensors	Temperature, Accelerometer	Temperature, Accelerometer	Temperature, Accelerometer	Humidity, Pressure, Temperature	Temperature, Accelerometer	—	Humidity, Pressure, Temperature	Temperature, Accelerometer
GPS/GNSS	—	—	—	—	—	—	—	Y
Warranty	Limited Lifetime	Limited Lifetime	Limited Lifetime	Limited Lifetime	Limited Lifetime	Limited Lifetime	One Year	One Year
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	2.4 GHz, 5 GHz	2.4 GHz, 5 GHz	2.4 GHz, 5 GHz,	2.4 GHz, 5 GHz, 6 GHz

Services Available for the Juniper AP64
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 Helpdesk Teams

— AI-Powered Virtual Network Assistant

— Natural Language Processing Interface

— Anomaly Detection

— Client SLE Visibility and Enforcement

— Data Science-Driven Root-Cause Analysis

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, Mobile 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, Mobile Engagement, and Asset Visibility Subscriptions

— Customer Segmentation and Reporting Based on Visitor Telemetry

— Customized Dwell and Third-Party Reporting for Traffic and Trend Analysis* (*Juniper Mist Premium Analytics service subscription is needed)

— Correlation of Customer-Guest Traffic and Trend Analysis

— Correlated Customer-Guest Traffic and Trend Analysis

Access Point Features
High Performance Wi-Fi

The AP64 supports new bandwidth-hungry applications and moderate device densities. The AP64 is comprised of tri-band capable, dual band concurrent tri-radio 2x2 802.11ax (Wi-Fi 6E) with maximum data rates of 2400 Mbps in the 6 GHz band, 1200 Mbps in the 5 GHz band, and 575 Mbps in the 2.4 GHz band. The third radio functions as a network, location, and security sensor, as well as a spectrum monitor. With 802.11ax Orthogonal Frequency Division Multiple Access (OFDMA), Multi-User Multiple Input Multiple Output (MU-MIMO), and Basic Service Set (BSS) Coloring technologies, the AP64 delivers high performance client connections and seamless user experiences.

AI for AX

The added performance and spectrum efficiency of 802.11ax (Wi-Fi 6) has added to the complexity of configuring and operating wireless networks. HPE Juniper Networking automates and optimizes AP management and performance with AI for AX capabilities. HPE Juniper Networking access points reduce interference due to congestion and ensure consistent service to multiple connected devices in high-density environments by optimizing BSS Coloring, improving data transmission scheduling within OFDMA and MU-MIMO, and assigning clients to the best radio to boost the overall performance of the network.

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, which 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

Radio Resource Management automates dynamic channel and power assignment, taking Wi-Fi and external sources of interference into account with a dedicated sensor radio. 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.

Proactive insight and action

A dedicated, tri-band third radio collects data for HPE patent-pending Proactive Analytics and Correlation Engine (PACE), 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). This access point also functions as a Marvis Minis client to proactively detect and mitigate network anomalies.

Improved IoT battery efficiency

By incorporating the 802.11ax target wake time (TWT) capability and Bluetooth 5.0, AP64 access points help extend the battery life of IoT devices, particularly as additional ones join the network.

Dynamic debugging

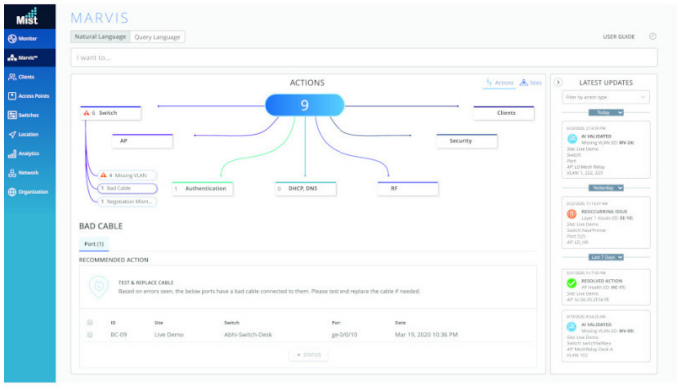
The AP64 has constant monitoring services and sends alerts whenever a service behaves abnormally. Dynamic debugging relieves IT of having to worry about an AP going offline or any services running on it becoming unavailable.

Dynamic packet capture

The Juniper Mist platform automatically captures packets and streams them to the cloud when major issues are detected. This saves IT time and effort and eliminates the need for truck rolls with sniffers to reproduce and capture data for troubleshooting.

Marvis Virtual Conversational Assistant

Marvis is a natural language processing (NLP)-based assistant with a Conversational Interface to understand user intent and goals, simplifying troubleshooting and the collection of network insights. It uses AI and data science to proactively identify issues, determine the



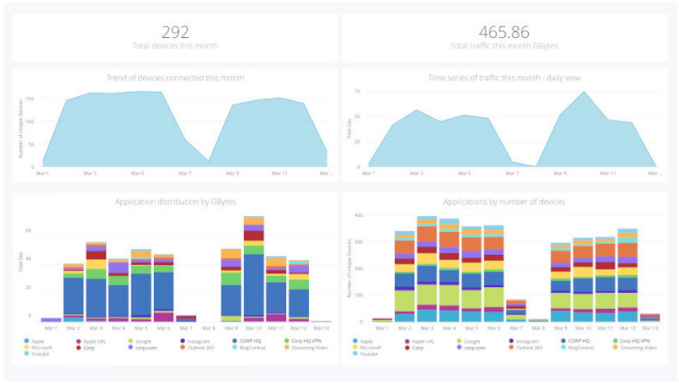
root causes and scope of impact, and gain insights into your network and user experiences. It eliminates the need to manually hunt through endless dashboards and CLI commands.

Effortless, cloud-based setup and updates

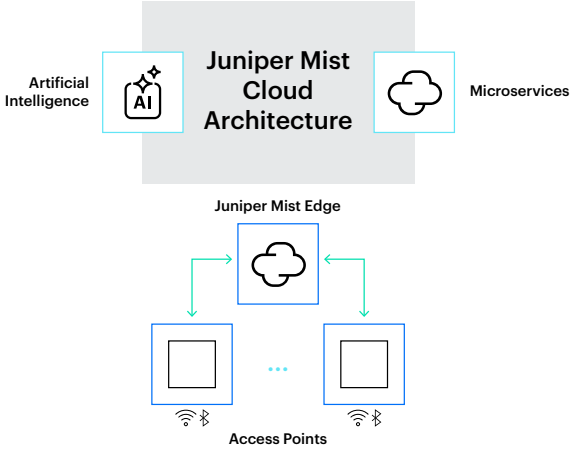
The AP64 automatically connects to the Juniper Mist Cloud, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and security updates.

Juniper Mist Premium Analytics

Juniper Mist Wi-Fi 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.



Juniper Mist Edge

HPE Juniper Networking APs offer a flexible data plane. Juniper Mist Edge is an on-zpremises 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.

Specifications

Wi-Fi Standard	802.11ax (Wi-Fi 6E) with 6 GHz, including support for OFDMA, 1024-QAM, MU-MIMO, Target Wake Time (TWT), and Spatial Frequency Reuse (BSS Coloring). Backwards compatibility with 802.11a/b/g/n/ac
Combined Highest Supported Data Rates	Tri-Band: 6 Gbps 2.4 GHz / 5 GHz: 1.8 Gbps, 5 GHz/ 6 GHz: 3.6 Gbps.
2.4 GHz	2x2:2 802.11ax up to 575 Mbps data rate
5 GHz	2x2:2 802.11ax up to 1,200 Mbps data rate
6 GHz	2x2:2 802.11ax up to 2,400 Mbps data rate
MIMO Operation	Two spatial stream SU-MIMO for up to 2400 Mbps wireless data rate to individual 2x2 HE160 Two spatial stream MU-MIMO for up to 2400 Mbps wireless data rate to up to two MU-MIMO capable client devices simultaneously

Specifications (continued)

Dedicated Third Radio	2.4 GHz, 5 GHz, and 6 GHz tri-band WIDS/WIPS, spectrum analysis, and location analytics radio
Internal Antennas (AP64)	Two 2.4 GHz omnidirectional antennas with 4 dBi peak gain Two 5 GHz omnidirectional antennas with 6 dBi peak gain Two 6 GHz omnidirectional antennas with 6 dBi peak gain *Subject to change
IoT Radio	Multi Personality with BLE 5.3 and Omni Antenna
Beam Forming	Transmit Beamforming and Maximal Ratio Combining
Power Options	802.3af: Full functionality 5 GHz 2x2 + 2.4 GHz 2x2 + 1x1 scan (tri-band) 5 GHz 2x2 + 6 GHz 2x2 + 1x1 scan (tri-band)
Dimensions	8.5 x 8.5 x 2.5 in (215 x 215 x 64 mm)
Weight	3.3 lbs (1.5 kg)
Packaged Weight	5.7 lbs (2.6 kg)
Shipping Box	11.5 x 11.1 x 3.9 in (292 x 282 x 98 mm)
Operating Temperature	–40° to 55° C with solar loading –40° to 65° C without solar loading
Operating Humidity	10% to 90% maximum relative humidity, non-condensing
Enclosure	IP67 / NEMA 4 compliant
Operating Altitude	3,048m (10,000 ft)
Trusted Platform	Includes a TPM for infrastructure security

I/O and Indicators

IoT Sensors	Temperature, Accelerometer
GPS	GNSS L1 supporting GPS, Galileo, GLONASS, BeiDou, and QZSS GNSS L5 supporting GPS, Galileo, BeiDou, and NavIC
Eth0	100/1000/2500 Base-T (802.3bz); RJ45; PoE PD
Reset	Reset to the factory default settings
Indicators	One multicolor status LED
Traffic Forwarding Options	Eth0, Juniper Mist Edge

Mounting brackets

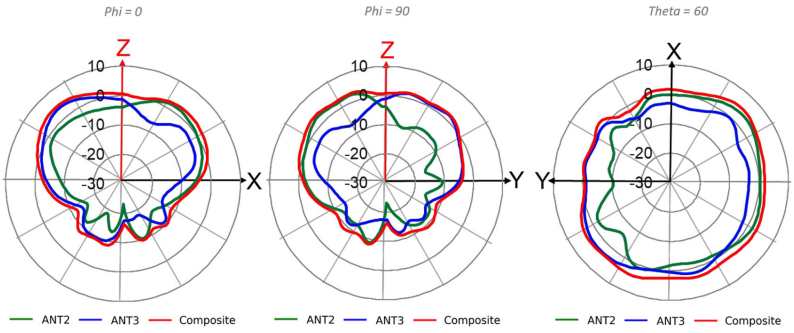
APOUTBR-FM2	Flush mount bracket (included in box)
APOUTBR-ART2	Articulating mount

Ordering information

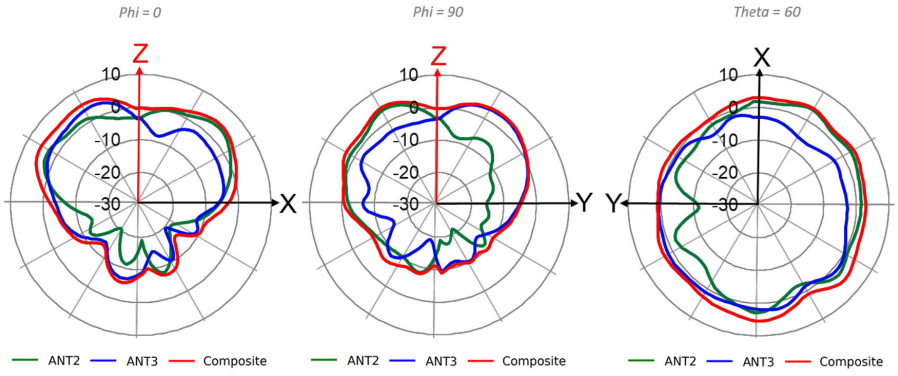
US/FCC Domain	AP64-US (Internal Antenna)
Rest of the World	AP64-WW (Internal Antenna)

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 HPE products.

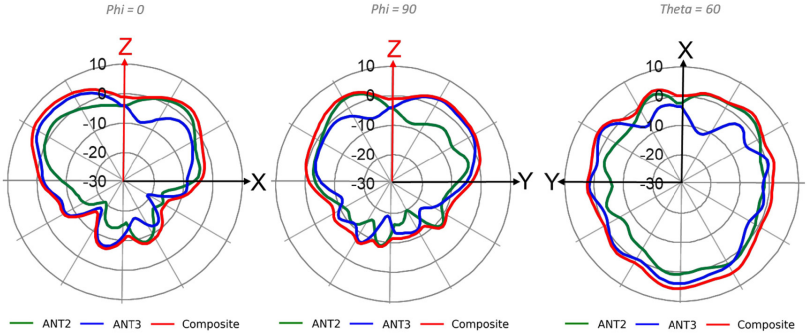
AP64 5 GHz Wi-Fi
AP64 Wi-Fi @ 5150 MHz



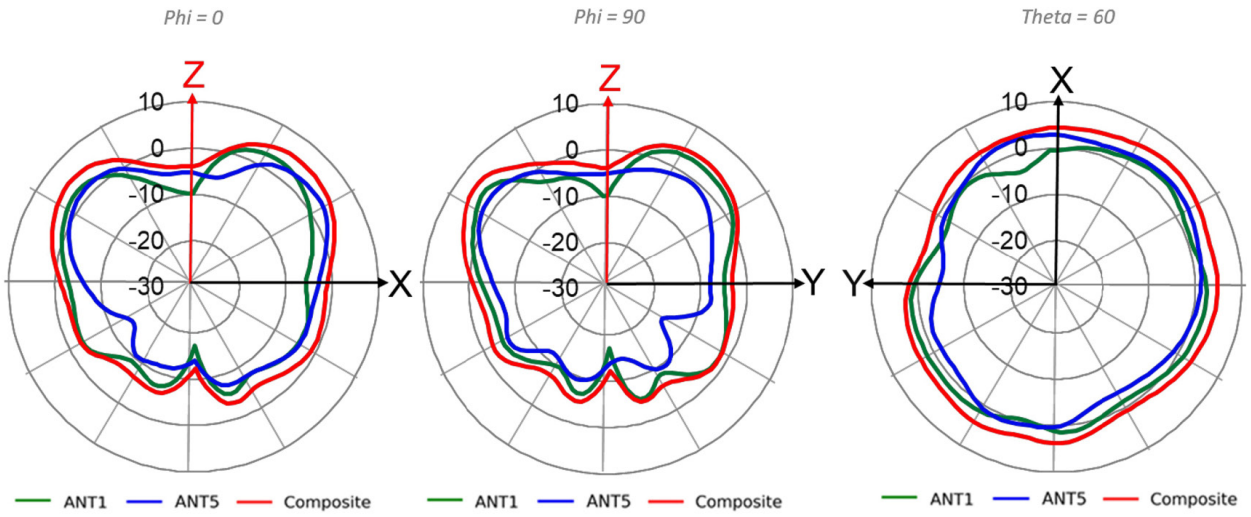
AP64 Wi-Fi @ 5550 MHz



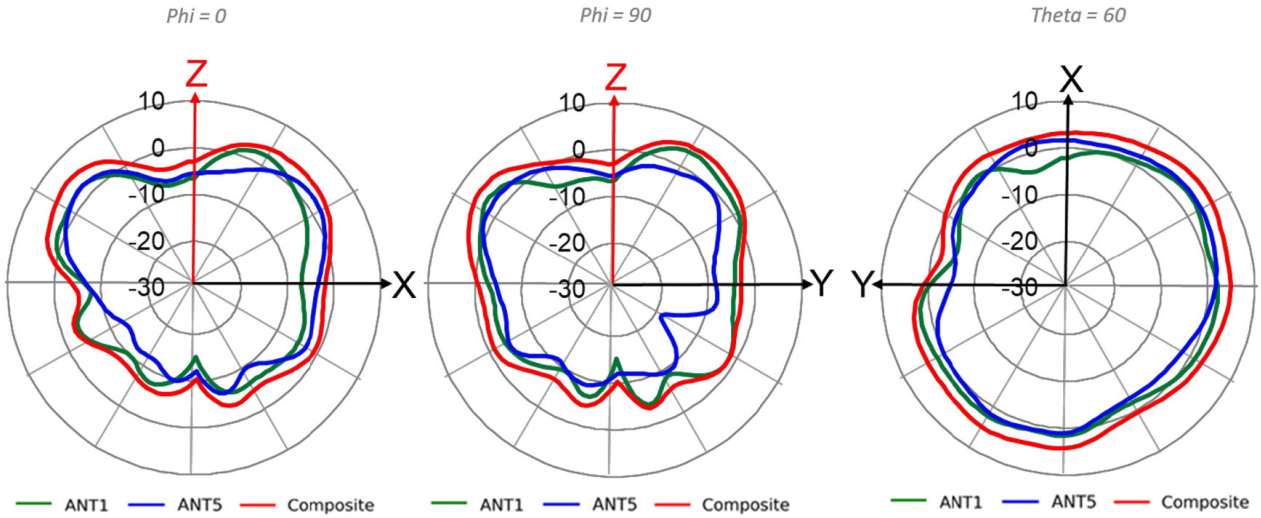
AP64 Wi-Fi @ 5850 MHz



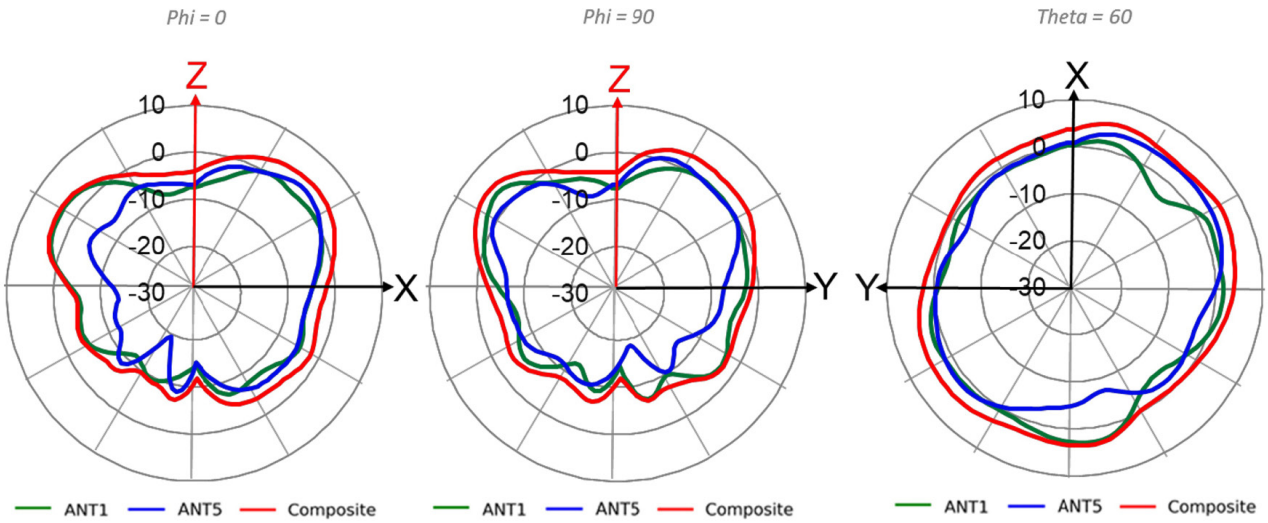
AP64 2.4 GHz Wi-Fi
AP64 Wi-Fi @ 2400 MHz



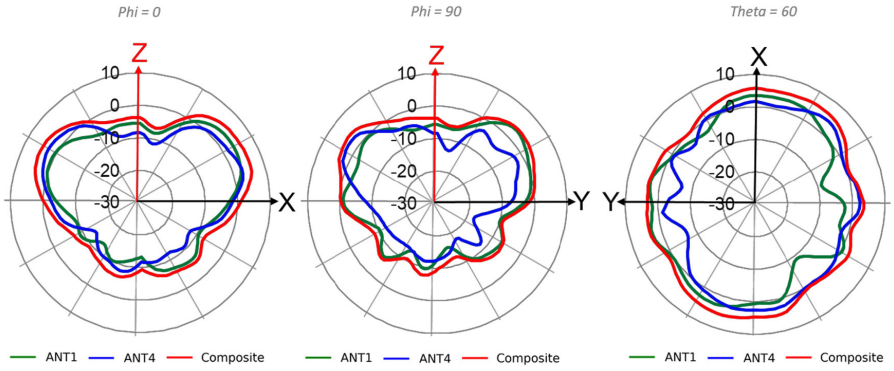
AP64 Wi-Fi @ 2450 MHz



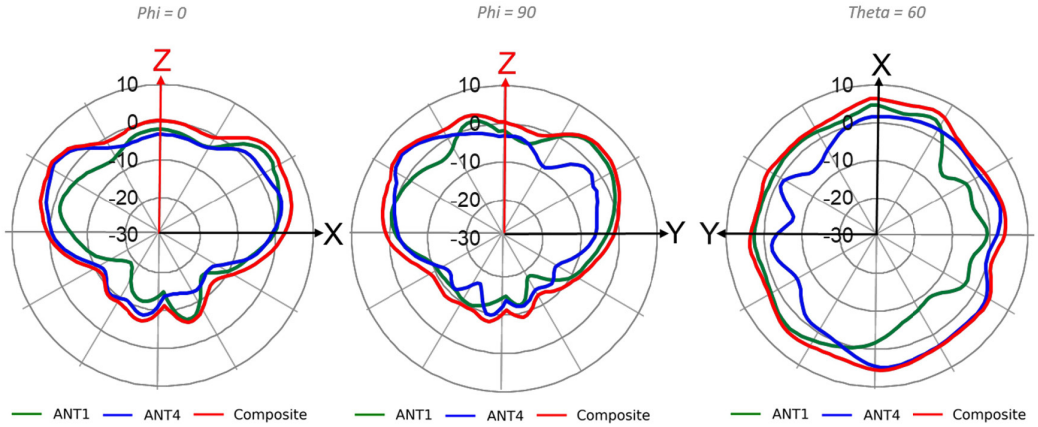
AP64 Wi-Fi @ 2500 MHz



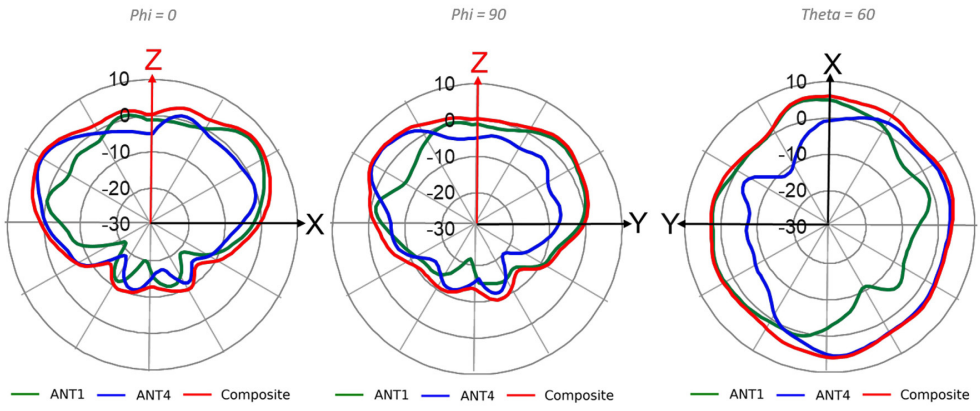
AP64 6 GHz Wi-Fi
AP64 Wi-Fi @ 5925 MHz



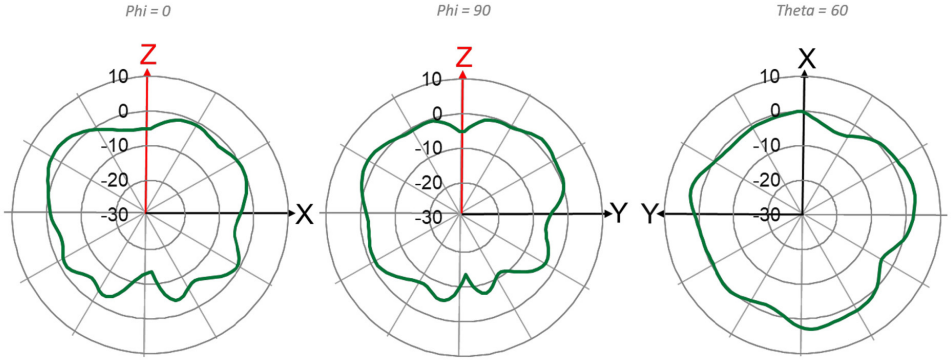
AP64 Wi-Fi @ 6550 MHz



AP64 Wi-Fi @ 7125 MHz



AP64 802.15.4/BLE Radio
AP64 Omni BLE @ 2450 MHz



About HPE

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