DATA SHEET

ARUBA AP-387 ACCESS POINT

802.11ad and 802.11ac Wave 2 for high speed outdoor point-to-point connectivity

Weatherproof and temperature hardened, the Aruba 387 APs deliver greater than one Gigabit per second aggregate throughput. It supports distances up to 400 meters (1/4 miles) and provides resilient operation in inclement weather. And, ease of deployment dramatically simplifies the skills needed to deploy point to point connections. The 60GHz radios include the ability to auto-adjust the radios between two APs that are only crudely aligned. These new APs are fully integrated into the Aruba portfolio and supported with on premise and cloud-based management.

In today's mobile era users are expecting to be connected everywhere and at any time. With the ever-growing number of IoT devices, there will be even more demand to provide reliable connectivity between two buildings or structures. Legacy point-to-point solutions can be expensive, and are vulnerable to weather conditions. They can also require highly skilled workers for installation and more importantly to ensure proper alignment of the APs.

Use cases range from connecting remote buildings to providing high bandwidth to a temporary event site. Point-to-point solutions offer an attractive option for linking two sites where a right of way is difficult to obtain, to provide a backup for existing fiber connections, or as a recovery link in the event of a line cut or crushed or flooded conduit.

The AP-387 is a dual radio solution that includes separate 5 and 60GHz radios for high performance point to point requirements, even in extreme outdoor weather use cases.

A maximum concurrent data rate of 2.5 Gbps in the 60GHz band and 867 Mbps in the 5GHz band (for an aggregate peak on air data rate of 3.37 Gbps) is supported.

KEY FEATURES

- Cost effective and simple to deploy point to point solution
- Built upon Aruba's hardened outdoor design
- Highly reliable with dual radio based 802.11ad and 802.11ac for intelligent fall back
- Delivering up to 3.37 Gbps throughput
- Supports distances up to 400m

Cost effective and simple to deploy

The AP-387 dramatically simplifies deployment compared to other point-to-point solutions. 802.11ad has provisions to autonomously form links. The APs only require a coarse alignment of the radios and then the link is intelligently adjusted for optimal performance by both ends.

This also means that even if heavy winds were to move the APs, the link would intelligently self-adjust without the need to send skilled resources to realign the APs.

The full scan range of the 60GHz radio is +/- 45 degrees in Azimuth* and +/- 17 degrees in elevation. The 5GHz radio uses a fixed sector to cover the same range.

*At initial release the auto acquisition range is limited to
+/- 10 degrees @400m
+/- 20 degrees @300m
This will be extended in subsequent software releases.

High reliability with intelligent fallback

One of the unique offerings of the AP-387 is it provides a 5GHz 802.11ac radio along with a high performance 60GHz 802.11ad radio. The 5GHz radio is bonded with the 802.11ad radio to provide:

1. A throughput boost in good conditions
2. And an intelligent fallback for the 60GHz if impacted by heavy rainfall.

Purpose built for outdoor deployments

Purpose-built to survive in the harshest outdoor environments, the AP-387 can withstand exposure to extreme temperatures changes and persistent moisture and precipitation. They are fully sealed to keep out airborne contaminants. All electrical interfaces include industrial strength surge protection.

The AP-387 also includes an integrated Bluetooth Low Energy (BLE) interface for location services. Additionally, the BLE interface can now be used for console access to manage the Wi-Fi device itself.

UNIQUE BENEFITS

Location Services

Built-in Bluetooth Low-Energy (BLE) radio

- Enables location-based services for mobile engagement and asset tracking in outdoor environments.
- Bluetooth console can be used for wireless management of the AP without the need of a console cable.

Industrial Design and Usage Features

Built for harsh outdoor environments

- Sealed connector interfaces to lock out dust and moisture.
- Includes industrial strength surge protection.

High speed low latency connections

- Superior support of remote network segment and other bandwidth intensive and jitter sensitive apps.

Spectrum analysis

- Capable of part-time or dedicated air monitoring, the spectrum analyzer remotely scans 5GHz radio bands to identify sources of RF interference.

Wireless mesh

- Configuration of the 387 is the identical to configuring other Aruba outdoor APs for mesh usage.

Intelligent app visibility and control

- Deep packet inspection with AppRF classifies and blocks, prioritizes or limits bandwidth for 2500+ enterprise apps or groups of apps.

Security

Hardware and software features

- Integrated wireless intrusion protection offers threat protection and mitigation to eliminates the need for separate RF sensors and security appliances.
- IP reputation and security services identify, classify, and block malicious files, URLs and IP addresses to provide comprehensive protection against advanced online threats.
- Encrypted IPsec VPN tunnels securely connect remote users to corporate network resources.
- Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys.

CHOOSE YOUR OPERATING MODE

Unified APs can be deployed with or without a controller (Instant mode). They can also be readily switched between Controller and Instant modes to accommodate for changing network needs.

- Controller mode: When managed by Aruba Mobility Controllers, AP-387 offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding or,
- Controllerless (Instant) mode: As a mesh extension in Aruba Instant mode, an AP-387 adds capability and reach for instant deployments.

Other functionality includes:

- Aruba Activate significantly reduces deployment time by automating device provisioning, firmware upgrades, and inventory management for large installations across multiple sites. APs are factory-shipped to any site and configure themselves based on your desired mode as they power up.

AP-387 SPECIFICATIONS

Wi-Fi Radio Specifications

- AP type: Outdoor hardened, dual radio, 60GHz 11ad and 5GHz 802.11ac 2x2 MIMO
- 60GHz 802.11ad 1x1 (2502.5 Mbps max rate) radio
  - 1 Spatial Stream for up to 2.5 Gbps
  - Internal scanning antenna
    - » +/- 45° Azimuth Scan
    - » +/- 17° Vertical Scan
- 5GHz 802.11ac 2x2 MU-MIMO (867 Mbps max rate)
  - Two spatial stream MIMO for up to 867 Mbps wireless data
  - Internal directional antenna 9 dBi
- Software-configurable dual radio supports 5GHz (Radio 0) and 60GHz (Radio 1)
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835GHz (BLE)
  - 5.150 to 5.250GHz
  - 5.250 to 5.350GHz
  - 5.470 to 5.725GHz
  - 5.725 to 5.850GHz
  - 5.825 to 5.875GHz
  - 57 to 64GHz
- Available channels: Dependent on configured regulatory domain.
- Dynamic frequency selection (DFS) maximizes the use of available 5GHz RF spectrum.
- Supported radio technologies:
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
  - 802.11ad: Single carrier (SC)
- Supported modulation types:
  - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
  - 802.11ad: BPSK, QPSK
- Transmit power: Configurable in increments of 0.5 dBm for 5GHz
- Maximum EIRP (limited by local regulatory requirements):
  - 60GHz band: 40 dBm EIRP max
  - 5GHz band: 387: 34 dBm EIRP
- Maximum ratio combining (MRC) for improved receiver performance on 5 GHz.
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance.
- Short guard interval for 20MHz, 40MHz, 80MHz on 5GHz.
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput.
- 802.11ac Transmit beam-forming (TxBF) for increased signal reliability and range
- 802.11ad Beam Steering
- Supported 11a/ac data rates (Mbps):
  - 802.11a 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n (5GHz): 6.5 to 600 (MCS0 to MCS15)
  - 802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80/160
- 802.11ad
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Power

- Worst-case power consumption -13.5 W
- Idle power consumption 4.5W
- Power sources sold separately
- Power over Ethernet (PoE+): 802.3at-compliant
- Power over Ethernet (PoE): 802.3af with some operational restriction.
  - Max conducted power per chain for 5GHz drops to 19 dBm

Other Interfaces

- One 10/100/1000BASE-T Ethernet network interfaces (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
- Bluetooth Low Energy (BLE) radio
  - Up to 4 dBm transmit power (class 2) and -91 dBm receive sensitivity
- Visual indicator (multi-color LED): For system and radio status
- Reset button: Factory reset (during device power up)
- Micro USB console interface

Mounting

- AP-270-MNT-V1
- AP-270-MNT-V2
- AP-270-MNT-H1*
- AP-270-MNT-H2*

*Recommended bracket solutions for most apps.

Mechanical

- Dimensions/weight (excluding mount adapter):
  - 18 cm (W) x 18 cm (D) x 10.1 cm (H)
  - 1.198 kg

Environmental

- Operating:
  - Temperature: -40° C to +60° C (-40° F to +140° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)
- Operating Altitude: 3,000 m
- Water and Dust
  - IP66/67
- Salt Tolerance
  - Tested to ASTM B117-07A Salt Spray 200hrs
- Wind Survival: Up to 165 Mph
- Shock and Vibration ETSI 300-19-2-4

Regulatory

- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- UL/IEC/EN 60950
- EN 60601-1-1, EN60601-1-2

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

Regulatory Model Number

- AP-387: APEX0387

Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance certified 802.11a/b/g/n/ac

Warranty

- Limited Lifetime Warranty

Minimum Operating System Software

- 8.4. AOS and 8.4 for Instant

RF PERFORMANCE TABLE

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11a 5GHz		
6 Mbps	22	-90
54 Mbps	22	-73
802.11n HT20 5GHz		
MCS0/8	22	-93
MCS7/15	21	-71
802.11n HT40 5GHz		
MCS0/8	22	-90
MCS7/15	21	-68
802.11ac VHT20 5GHz		
MCS0	22	-93
MCS9	21	-68
802.11ac VHT40 5GHz		
MCS0	22	-90
MCS9	21	-63
802.11ac VHT80 5GHz		
MCS0	22	-87
MCS9	21	-61
802.11ad 60GHz		
MCS0	19	–
MCS9	19	–

Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

ORDERING INFORMATION

Part Number	Description
AP-387 Series Unified Outdoor Access Points	
R0K12A	Aruba AP-387 (JP) 802.11ac/ad 802.3at PoE Dual 5/60 GHz Integrated Antenna Outdoor Radio
R0K13A	Aruba AP-387 (RW) 802.11ac/ad 802.3at PoE Dual 5/60GHz Integrated Antenna Outdoor Radio
R0K14A	Aruba AP-387 (US) 802.11ac/ad 802.3at PoE Dual 5/60GHz Integrated Antenna Outdoor Radio

aruba
a Hewlett Packard Enterprise company

DS_AP387_011419 a00059006enw