

## DATA SHEET

# ARUBA RAP-100 SERIES REMOTE ACCESS POINTS

High-performance wireless and wired networking for SMBs, branch offices and teleworkers

The multifunctional Aruba RAP-100 series delivers secure 802.11n wireless and wired networking to SMBs and access to corporate resources from branch and home offices.

With unmatched deployment flexibility, the RAP-100 series can operate in Aruba Instant mode controlled by the AirWave management platform or in controller-managed mode where all network services are centralized by Aruba Mobility Controllers.

In Aruba Instant mode, traffic is locally bridged but it still provides the flexibility of secure tunneling to Mobility Controllers.

To eliminate client stickiness, the RAP-100 series includes integrated ClientMatch technology, which continuously gathers session performance metrics and uses this data to every device to the best AP and radio on the WLAN, even while users roam and RF conditions change.

The RAP-100 series also offers a wide range of enterprise-class features, including role-based network access, policy-based forwarding, and Adaptive Radio Management (ARM), which optimizes Wi-Fi client performance and ensures that Aruba APs stay clear of interference.

At locations that require greater coverage, the RAP-100 can join an Aruba Instant WLAN cluster. Simply install additional RAP-100s or any Aruba Instant AP and the entire cluster is managed as one. If one Aruba Instant AP fails, another AP automatically takes over with no disruption.

With a wireless data rate up to 300 Mbps in the 2.4-GHz and 5-GHz radio bands, the RAP-100 series has one 10/100/1000BASE-T Ethernet uplink, one 10/100BASE-T local Ethernet port and one USB port to connect to 3G and 4G networks.



When operating in Aruba Instant mode, the cloud-based Aruba Activate service dramatically reduces RAP-100 series deployment time by performing zero-touch provisioning, firmware upgrades and inventory management. With Aruba Activate, RAP-100s are factory-shipped to remote deployment sites and obtain their configurations automatically when powered up.

## ADVANCED FEATURES

- ClientMatch technology eliminates sticky clients by continuously gathering session performance metrics and using this information to steer them to the best AP and radio.
- ARM technology delivers best-in-class RF management, including automatic transmit power and channel control with auto coverage-hole correction.
- Zero-touch provisioning as well as automated firmware upgrades and inventory management with the cloud-based Aruba Activate service.
- Spectrum analyzer remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference.
- Security:
  - With an [OpenDNS](#) service subscription, Aruba Instant RAPs delivers integrated web filtering, malware and botnet protection to every device connected to the WLAN
  - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys
  - SecureJack-capable for secure tunneling of wired Ethernet traffic

- VPN configuration functionality enables the Instant AP to create a single VPN tunnel to an Aruba Mobility Controller in the data center. The Mobility Controller acts solely as a VPN end-point and does not supply the Instant AP with any configuration.

## WIRELESS RADIO SPECIFICATIONS

- AP type: Dual-radio, dual-band 802.11n indoor
- Software-configurable dual radio supports 2.4 GHz and 5 GHz
- 2x2 MIMO with two spatial streams and up to 300 Mbps wireless data rate per radio
- Supported frequency band (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.875 GHz
- Available channels: Managed by Aruba Instant or Mobility Controller, depending upon the configured regulatory domain
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n: Orthogonal frequency-division multiplexing (OFDM)
  - 802.11n: 2x2 MIMO with two spatial streams
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +21 dBm
  - 5-GHz bands: +21 dBm
- Advanced Cellular Coexistence (ACC) feature to effectively deal with interference from cellular systems
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity (CDD) for improved downlink RF performance
- Short guard interval for 20-MHz and 40-MHz channels
- Space-Time Block Coding (STBC) for increased range and improved reception

- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: MCS0 to MCS15 (6.5 Mbps to 300 Mbps)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

## POWER

- Supported power sources:
  - 802.3af (PoE) or 802.3at (PoE+) on uplink Ethernet port  
Note: When using PoE, the USB port will be enabled only when an 802.3at-compliant source is used
  - 12 volts from external power adapter (sold separately)
- Maximum power consumption:
  - Without USB device connected: 12.5 watts
  - With USB device: 15 watts

## ENCRYPTED THROUGHPUT

- Max IPsec encrypted wired throughput = 20 Mbps

## ANTENNAS

- RAP-108: Two RP-SMA connectors for external dual-band antennas
- RAP-109: Four integrated omni-directional antennas for 2x2 MIMO with maximum antenna gain of 5.0 dBi in both 2.4 GHz and 5 GHz. Built-in antennas are optimized for vertical orientation

## INTERFACES

- Network:
  - ENET0 (uplink): One 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
  - ENET1 (local): One 10/100BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
- One port for DC power connector
- One USB 2.0 port (Type A connector)
- One serial console interface (RJ-45)
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (2x)
  - Radio status (2x)
- Kensington security slot
- Reset button

## MOUNTING

- Desktop (vertical): Using stand supplied with product
- Wall (vertical): Using optional wall mount accessory
- Ceiling (horizontal, not recommended for RAP-109): Using optional ceiling mount accessories

## MECHANICAL

- Dimensions (unit):
  - Excluding desk mount:
    - > 160 mm (W) x 43 mm (D) x 160 mm (H)
    - > 6.30" (W) x 1.69" (D) x 6.30" (H)
  - With desk mount:
    - > 181 mm (W) x 72 mm (D) x 160 mm (H)
    - > 7.13" (W) x 2.83" (D) x 6.30" (H)
- Weight (unit):
  - Excluding desk mount: 385 g (13.6 oz)
  - With desk mount: 460 g (16.2 oz)
- Dimensions (shipping)
  - 230 mm (W) x 220 mm (D) x 90 mm (H)
  - 9.06" (W) x 8.66" (D) x 3.5" (H)
- Weight (shipping): 750 g (1.65 lbs)

## ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 93% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

## REGULATORY

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- 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 NUMBERS

- RAP-108: APINR108
- RAP-109: APINR109

## CERTIFICATIONS

- CB Scheme Safety, cTUVus
- Wi-Fi certified 802.11a/b/g/n

## WARRANTY

- [Limited lifetime warranty](#)

## MINIMUM SOFTWARE VERSIONS

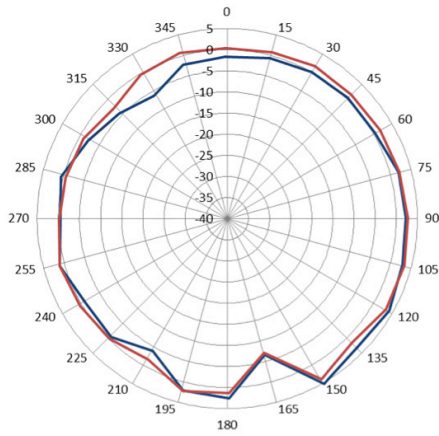
- ArubaOS 6.2.0.0
- Aruba Instant 3.2.0.0

RF PERFORMANCE TABLE		
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
<b>802.11b 2.4 GHz</b>		
1 Mbps	18.0	-92.0
2 Mbps	18.0	-92.0
5.5 Mbps	18.0	-90.0
11 Mbps	18.0	-88.0
<b>802.11g 2.4 GHz and 802.11a 5 GHz</b>		
6 Mbps	18.0	-88.0
54 Mbps	16.0	-75.0
<b>802.11n HT20 2.4 GHz and 5 GHz</b>		
MCS0/8	18.0	-88.0
MCS7/15	14.0	-71.0
<b>802.11n HT40 2.4 GHz and 5 GHz</b>		
MCS0/8	18.0	-85.0
MCS7/15	14.0	-68.0

Maximum capability of the hardware provided. Maximum transmit power will be limited by local regulatory settings.

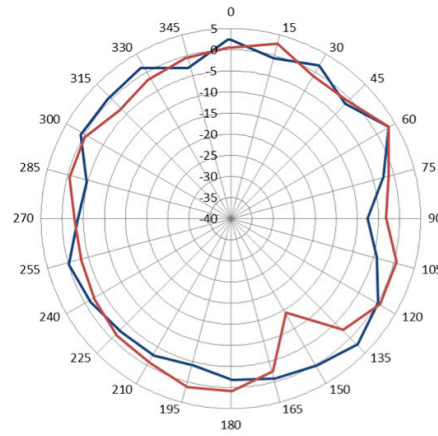
### RAP-109 ANTENNA PATTERN PLOTS

Horizontal or azimuth plane (top view)



2.452 GHz

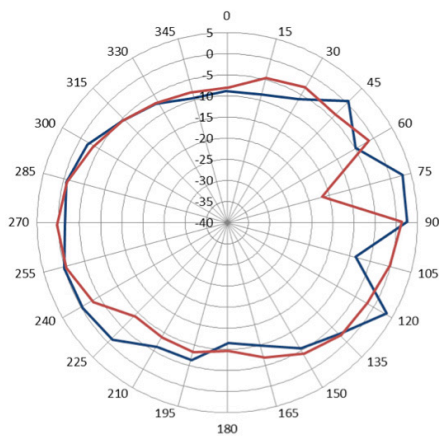
— 2.452 A  
— 2.452 B



5.500 GHz

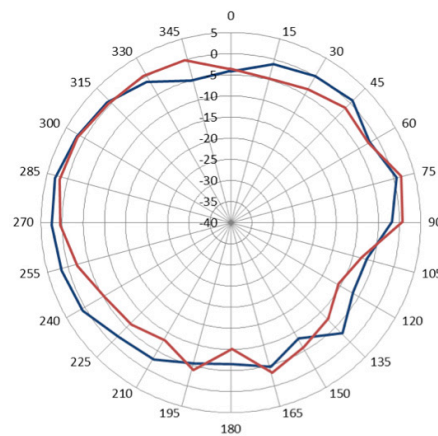
— 5.500 C  
— 5.500 D

Elevation plane (front view)



2.452 GHz

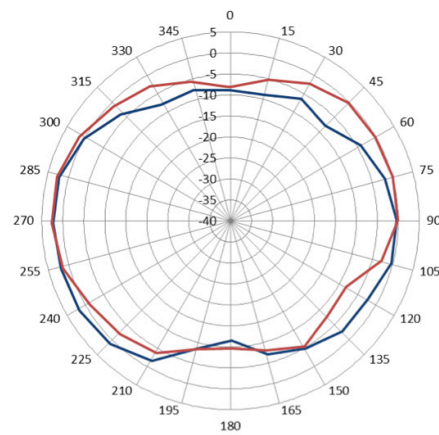
— 2.452 A  
— 2.452 B



5.500GHz

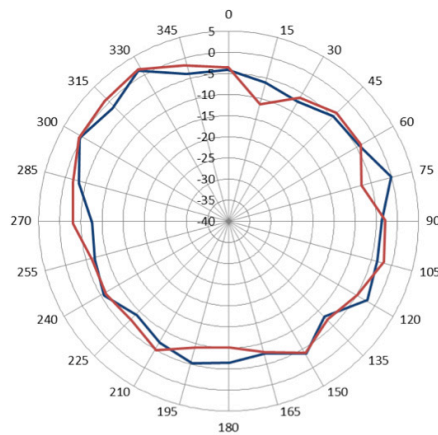
— 5.500 C  
— 5.500 D

Elevation plane (side view)



2.452 GHz

— 2.452 A  
— 2.452 B



5.500 GHz

— 5.500 C  
— 5.500 D

<b>ORDERING INFORMATION</b>	
Part Number	Description
<b>RAP-100 Series Remote Access Points</b>	
JW264A	Aruba RAP-108 (RW) 802.11a/b/g/n Dual 2x2:2 Radio Antenna Connectors Remote AP
JW267A	Aruba RAP-108 (US) 802.11a/b/g/n Dual 2x2:2 Radio Antenna Connectors Remote AP
JW265A	Aruba RAP-108 (IL) 802.11a/b/g/n Dual 2x2:2 Radio Antenna Connectors Remote AP
JW266A	Aruba RAP-108 (JP) 802.11a/b/g/n Dual 2x2:2 Radio Antenna Connectors Remote AP
JW270A	Aruba RAP-109 (RW) 802.11a/b/g/n Dual 2x2:2 Radio Integrated Antenna Remote AP
JW273A	Aruba RAP-109 (US) 802.11a/b/g/n Dual 2x2:2 Radio Integrated Ant Remote AP
JW271A	Aruba RAP-109 (IL) 802.11a/b/g/n Dual 2x2:2 Radio Integrated Antenna Remote AP
JW272A	Aruba RAP-109 (JP) 802.11a/b/g/n Dual 2x2:2 Radio Integrated Antenna Remote AP
<b>RAP-100 Series Remote Access Points (FIPS/TAA)</b>	
JW268A	Aruba RAP-108 (RW) FIPS/TAA-compliant 802.11a/b/g/n Dual 2x2:2 Radio Antenna Connectors Remote AP
JW269A	Aruba RAP-108 (US) FIPS/TAA-compliant 802.11a/b/g/n Dual 2x2:2 Radio Antenna Connectors Remote AP
JW274A	Aruba RAP-109 (RW) FIPS/TAA-compliant 802.11a/b/g/n Dual 2x2:2 Radio Integrated Antenna Remote AP
JW275A	Aruba RAP-109 (US) FIPS/TAA-compliant 802.11a/b/g/n Dual 2x2:2 Radio Integrated Antenna Remote AP
JY749A	Aruba RAP-108 (JP) FIPS/TAA-compliant 802.11a/b/g/n Dual 2x2:2 Radio Antenna Connectors
JY750A	Aruba RAP-109 (JP) FIPS/TAA-compliant 802.11a/b/g/n Dual 2x2:2 Radio Integrated Antenna
<b>Accessories</b>	
JW057A	RAP-100-MNT RAP-100 Series AP Wall and Ceiling Mount Kit
JW621A	AP-AC-UN 12V/18W Indoor AP AC Universal Power Adapter
JW622A	AP-AC-12V18 12V/18W Indoor AP AC Power Adapter without Power Cord
JW627A	PD-3510G-AC 15.4W 802.3af PoE 10/100/1000Base-T Ethernet Midspan Injector



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