

## DATA SHEET

# ARUBA 103 SERIES ACCESS POINTS

Cost effective dual-band coverage in medium-density enterprise Wi-Fi environments

Multifunctional and affordable Aruba 103 series wireless access points (APs) maximize mobile device performance in medium-density Wi-Fi environments while minimizing interference from cellular networks.

These compact and cost-effective APs deliver wireless data rates up to 300 Mbps per radio employing 802.11n technology with two spatial MIMO streams.

The AP-103 and Instant IAP-103 models feature a 2.4-GHz and a 5-GHz radio, each with 2x2:2 MIMO and two integrated dual-band omni-directional downtilt antennas.

### ADVANCED CELLULAR COEXISTENCE (ACC)

Aruba's Advanced Cellular Coexistence (ACC) feature enables WLANs to perform at peak efficiency by minimizing interference from 3G/4G LTE networks, distributed antenna systems and commercial small cell/femtocell equipment.

### WI-FI CLIENT OPTIMIZATION

To eliminate sticky client behavior while users roam, the Aruba 103 series APs feature Aruba's patented ClientMatch technology, which continuously gathers session performance metrics from mobile devices.

If a mobile device moves away from an AP or if RF interference impedes performance, ClientMatch automatically steers the device to a better AP.

### QUALITY OF SERVICE FOR LYNC

Aruba 103 series APs additionally support priority handling and policy enforcement for individual Microsoft Lync media on the same device, including encrypted videoconferencing, voice, chat and desktop sharing.



### BEST-IN-CLASS RF MANAGEMENT

All Aruba APs include Adaptive Radio Management technology, which is essential to creating the most reliable, high-performance WLANs. ARM manages the 2.4-GHz and 5-GHz radio bands to optimize Wi-Fi client performance and ensures that APs stay clear of RF interference.

Aruba 103 series APs can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.

### CHOOSE YOUR OPERATING MODE

Aruba 103 series APs offer a choice of operating modes to meet your unique management and deployment requirements.

- **Controller-managed mode.** When managed by Aruba Mobility Controllers, the AP-103 offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding. Please refer to the Aruba [Mobility Controller](#) data sheets for more details.
- **Aruba Instant mode.** In Aruba Instant mode, a single IAP-103 automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up on Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.

For large installations across multiple sites, the Aruba Activate service significantly reduces deployment time by automating device provisioning, firmware upgrades, and inventory management. With Aruba Activate, Instant APs are factory-shipped to any site and configure themselves when powered up.

If WLAN and network requirements change, a built-in migration path allows Aruba Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

### ADVANCED FEATURES

- Spectrum analysis
  - Capable of part-time or dedicated air monitoring, the 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 deliver 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

### OPERATING MODES

- 802.11a/b/g/n Aruba Instant AP
- 802.11a/b/g/n Mobility Controller-managed AP
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer
- Secure enterprise mesh
- Remote AP (RAP) when used with a Mobility Controller

### WIRELESS RADIO SPECIFICATIONS

- AP type: Indoor, dual radio, 5-GHz and 2.4-GHz 802.11n 2x2:2
- Software-configurable dual radio supports 5-GHz (Radio 0) and 2.4-GHz (Radio 1)
- 2x2 MIMO with two spatial streams and up to 300 Mbps wireless data rate
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 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 5.850 GHz
- Support for up to 255 associated client devices per radio, and up to 16 BSSIDs per radio

- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n: Orthogonal frequency-division multiplexing (OFDM)
- 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, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +21 dBm (18 dBm per chain)
  - 5-GHz band: +21 dBm (18 dBm per chain)
- Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) 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
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 300 (MCS0 to MCS15)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

### POWER

- Maximum power consumption: 9.5W (POE) or 8W (DC)
- Power sources sold separately
- Direct DC source: 12 Vdc nominal, +/- 5%
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af or 802.3at-compliant source

### ANTENNAS

- Two integrated dual-band downtilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 4.0 dBi in 2.4 GHz and 4.5 dBi in 5 GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is approximately 30 degrees.

## OTHER INTERFACES

- 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48 Vdc (nominal) 802.3af PoE or 802.3at PoE+
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Serial console interface (proprietary; optional adapter cable available)
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (ENET)
  - Radio status (two; RAD0, RAD1)
- Kensington security slot
- Reset button

## MOUNTING

- Included with AP:
  - Mounting brackets (2) for attaching to 9/16-inch or 15/16-inch T-bar drop-tile ceiling
- Spare mounting kit:
  - AP-220-MNT-C1: Aruba AP mount kit contains two ceiling-grid rail adapters for flat rails
- Optional mounting kits:
  - AP-220-MNT-C2: Aruba AP mount kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
  - AP-220-MNT-W1: Aruba AP mount kit contains one basic flat-surface wall/ceiling mount bracket
  - AP-200-MNT-W2: Aruba AP mount kit contains one secure flat-surface wall/ceiling mount cradle

## MECHANICAL

- Dimensions/weight (unit, excluding mount accessories):
  - 150 mm (W) x 150 mm (D) x 41.5 mm (H)
  - 5.9" (W) x 5.9" (D) x 1.63" (H)
  - 300 g (0.66 lbs)
- Dimensions/weight (shipping):
  - 192 mm (W) x 178 mm (D) x 68 mm (H)
  - 7.6" (W) x 7.0" (D) x 2.68" (H)
  - 500 g (1.10 lbs)

## ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 95% 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 and EN 60601-1-2

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

## REGULATORY MODEL NUMBER

- AP-103 and IAP-103: APIN0103

## CERTIFICATIONS

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

## WARRANTY

- [Limited lifetime warranty](#)

## MINIMUM SOFTWARE VERSIONS

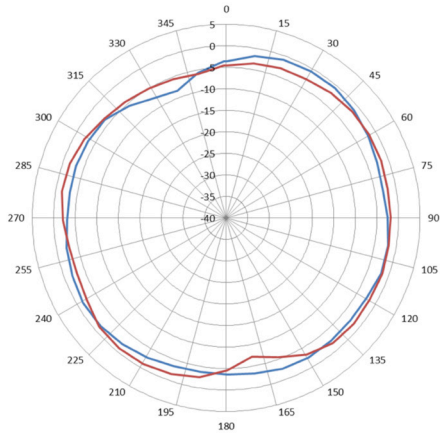
- ArubaOS 6.4.0.0
- Aruba InstantOS 4.1.0.0 (planned availability mid 2014)

| <b>RF PERFORMANCE TABLE</b> |  |   |
|-----------------------------|--|---|
|                             | <b>Maximum transmit power (dBm)<br/>per transmit chain</b> | <b>Receiver sensitivity (dBm)<br/>per receive chain</b> |
| <b>2.4 GHz</b>              |  |   |
| <b>802.11b</b>              |  |   |
| 1 Mbps                      | 18.0   | -93.0   |
| 11 Mbps                     | 18.0   | -91.0   |
| <b>802.11g</b>              |  |   |
| 6 Mbps                      | 18.0   | -88.0   |
| 54 Mbps                     | 16.0   | -76.0   |
| <b>802.11n HT20</b>         |  |   |
| MCS0/8                      | 18.0   | -88.0   |
| MCS7/15                     | 14.0   | -73.0   |
| <b>802.11n HT40</b>         |  |   |
| MCS0/8                      | 18.0   | -86.0   |
| MCS7/15                     | 14.0   | -70.0   |
| <b>5 GHz</b>                |  |   |
| <b>802.11a</b>              |  |   |
| 6 Mbps                      | 18.0   | -92.0   |
| 54 Mbps                     | 16.0   | -76.0   |
| <b>802.11n HT20</b>         |  |   |
| MCS0/8                      | 18.0   | -92.0   |
| MCS7/15                     | 14.0   | -73.0   |
| <b>802.11n HT40</b>         |  |   |
| MCS0/8                      | 18.0   | -89.0   |
| MCS7/15                     | 14.0   | -69.0   |

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

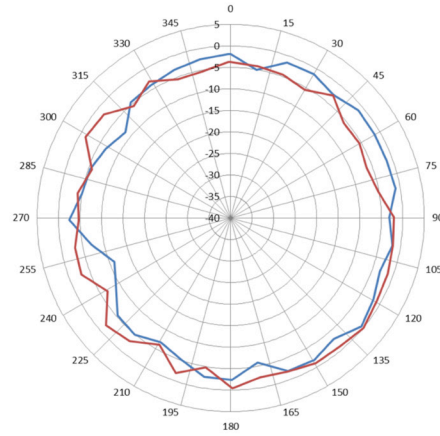
### ARUBA AP-103 AND IAP-103 ANTENNA PATTERN PLOTS

Horizontal or Azimuth plane (top view)



2.450 GHz

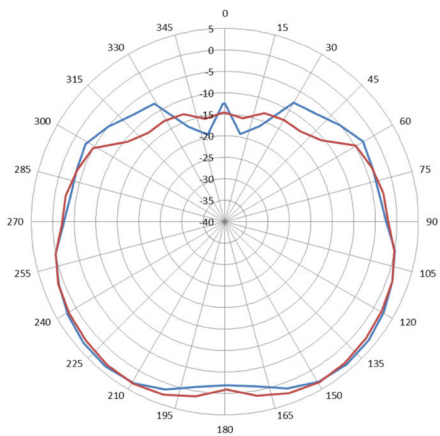
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5.550 GHz

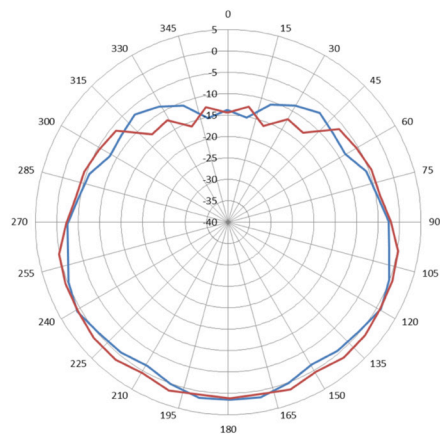
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Elevation plane (side view, 0 degrees angle)



2.450 GHz

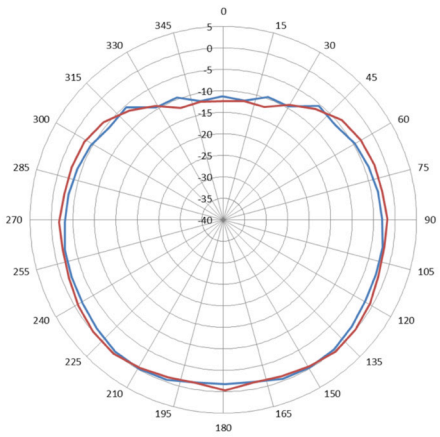
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5.550 GHz

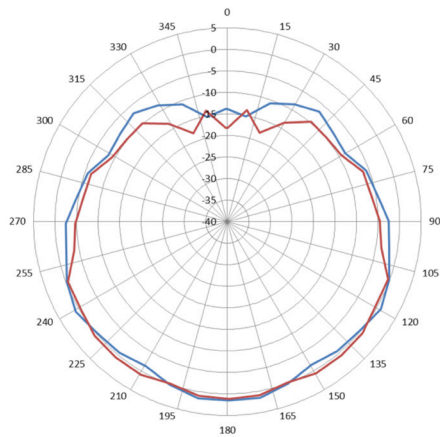
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Elevation plane (side view, 90 degrees angle)



2.450 GHz

— 2.450.1  
— 2.450.2



5.550 GHz

— 5.550.3  
— 5.550.4

## ORDERING INFORMATION

| Part Number                          | Description   |
|--------------------------------------|---|
| <b>AP-103 Series Access Points</b>   |   |
| AP-103                               | Aruba AP-103 Wireless Access Point, 802.11n, 2x2:2, dual radio, integrated antennas   |
| IAP-103-RW                           | Aruba Instant IAP-103 Wireless Access Point, 802.11n, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Rest of world  |
| IAP-103-US                           | Aruba Instant IAP-103 Wireless Access Point, 802.11n, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: United States  |
| IAP-103-JP                           | Aruba Instant IAP-103 Wireless Access Point, 802.11n, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Japan  |
| IAP-103-IL                           | Aruba Instant IAP-103 Wireless Access Point, 802.11n, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Israel   |
| <b>Mounting Accessories</b>          |   |
| AP-220-MNT-C1                        | Aruba Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Color: black. Spare.  |
| AP-220-MNT-C2                        | Aruba Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for Interlude and silhouette style rails). Color: black  |
| AP-220-MNT-W1                        | Aruba Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket. Color: black   |
| AP-200-MNT-W2                        | Aruba Access Point Mount Kit (secure, flat surface or wall-box, small). Contains 1x mount cradle. Color: white  |
| <b>Generic Indoor AP Accessories</b> |   |
| AP-AC-UN                             | 12V/18W Indoor Access Point AC power adapter. Universal, ships with 8 country-specific plug inserts (US, EU, UK, Australia, China, Korea, Argentina, Brazil), covering all Aruba core countries |
| AP-AC-12V18                          | 12V/18W Indoor Access Point AC power adapter. Does not include country-specific power cord (order separately)   |
| AP-CBL-SER                           | AP console port adapter cable (proprietary to DB9 female RS232)   |
| PD-3501G-AC                          | 15.4W 802.3af PoE midspan injector, 10/100/1000BASE-T Ethernet  |



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