ARUBA AP-103H HOSPITALITY ACCESS POINT

Cost-effective dual-band coverage in moderately dense hospitality Wi-Fi environments

Multifunctional and affordable, the dual-radio AP-103H hospitality access point (AP) maximizes mobile device performance in moderately dense Wi-Fi environments while minimizing interference from cellular networks.

The AP-103H installs in minutes and easily mounts to an electrical or data wall box. It uses the existing structured cabling system to provide secure wired and Wi-Fi network access in dormitories, classrooms, hotels, medical clinics and multitenant environments.

The compact and cost-effective AP-103H delivers wireless data rates up to 300 Mbps per radio employing 802.11n technology with two spatial MIMO streams. This 2x2:2 AP features dedicated 2.4-GHz and 5-GHz radios and integrated omni-directional antennas.

For wired connectivity, the AP-103H provides two secure downlink switch ports, a passive pass-through RJ-45 port, and a 10/100/1000BASE-T uplink port. It can be powered using an 802.3af power-over-Ethernet (PoE) source on the uplink network port or a 12-volt DC power supply.

UNIQUE BENEFITS

- **Wi-Fi client optimization**
  To eliminate sticky client behavior while users roam, the AP-103H features 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.
- **Advanced Cellular Coexistence (ACC)**
  ACC enables WLANs to perform at peak efficiency by minimizing interference from 3G/4G LTE networks, distributed antenna systems and commercial small cell/femtocell equipment.

- **Quality of service for unified communications apps**
  The Aruba AP-103H additionally supports priority handling and policy enforcement for unified communication apps, including Microsoft Lync with encrypted videoconferencing, voice, chat and desktop sharing.

The AP-103H 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.

Managed by Aruba Mobility Controllers, the AP-103H 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.

ADVANCED FEATURES

- 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.
- 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
  - SecureJack-capable for secure tunneling of wired Ethernet traffic.

OPERATING MODES

- Mobility Controller-managed AP
- Remote AP (RAP) for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer, dedicated or hybrid
- Secure enterprise mesh

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
- Support for up to 32 associated client devices, and up to eight BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 GHz to 5.250 GHz
  - 5.250 GHz to 5.350 GHz
  - 5.470 GHz to 5.725 GHz
  - 5.725 GHz to 5.850 GHz
- 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
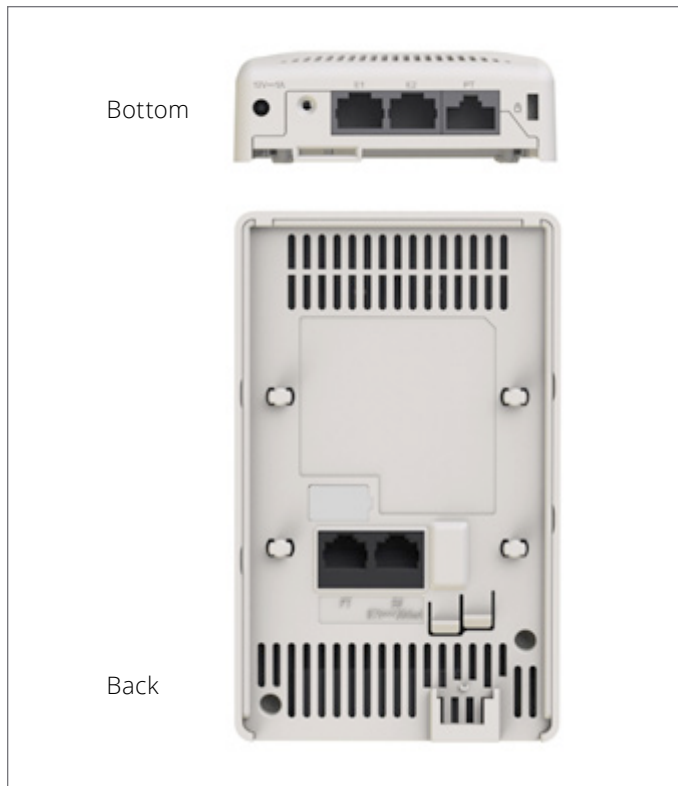
ENCRYPTED THROUGHPUT

- Max IPsec encrypted wired throughput = 10 Mbps

ANTENNAS

- Two integrated dual-band omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.6 dBi in 2.4 GHz and 3.3 dBi in 5 GHz. Antennas are optimized for vertical wall mounted orientation of the AP.

OTHER INTERFACES

- E0: 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
- E1-E2: 2x 10/100BASE-T Ethernet network interfaces (RJ-45)
  - Auto-sensing link speed and MDI/MDX
- PT: Passive RJ-45 pass-through port
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Visual indicator (single tricolor LED): power/system status
- Dual-function push-button: Factory reset during device power up and LED on/off control during normal operation
- Serial console interface (proprietary; optional adapter cable available)
- Kensington security slot

Bottom

Back

For wired connectivity: two secure downlink switch ports, one passive pass-through RJ-45 port, and one 10/100/1000BASE-T uplink port.

POWER

- Maximum (worst-case) power consumption: 9.4 watts PoE or 8.3 watts DC
- Maximum (worst-case) power consumption in idle mode: 3.5 watts PoE or 2.9 watts DC
- Direct DC source: 12 Vdc nominal, +/- 5%
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af compliant source
- Power sources sold separately
- When both power sources are available, DC power takes priority

MOUNTING

- Included with AP:
  - Mount plate for single-gang electrical/data wall-box (various worldwide standards)
- Spare mounting kit:
  - AP-103H-MNT1: Mount plate for single-gang electrical/data wall-box (various worldwide standards)
- Optional mounting kit:
  - AP-103H-MNT2: Mount plate for dual-gang electrical/data wall-box (various worldwide standards)

MECHANICAL

- Dimensions/weight (unit, excluding mount accessories):
  - 86 mm (W) x 30 mm (D) x 140 mm (H)
  - 3.39" (W) x 1.18" (D) x 5.51" (H)
  - 260 g (9.17 oz)
- Dimensions/weight (unit, as mounted):
  - 86 mm (W) x 31 mm (D) x 140 mm (H)
  - 3.39" (W) x 1.22" (D) x 5.51" (H)
  - 305 g (10.76 oz)
- Dimensions/weight (shipping):
  - 143 mm (W) x 49 mm (D) x 168 mm (H)
  - 5.63" (W) x 1.93" (D) x 6.61" (H)
  - 420 g (14.82 oz)
- AP attaches securely to mount bracket using built-in security features. Removing the unit from the bracket requires a custom tool that ships with the product.

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.

RELIABILITY

MTBF: 500,858 hours (57.2 years) at +25° C operating temperature

REGULATORY MODEL NUMBER

- AP-103H: APINH103

CERTIFICATIONS

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

WARRANTY

- Aruba limited lifetime warranty

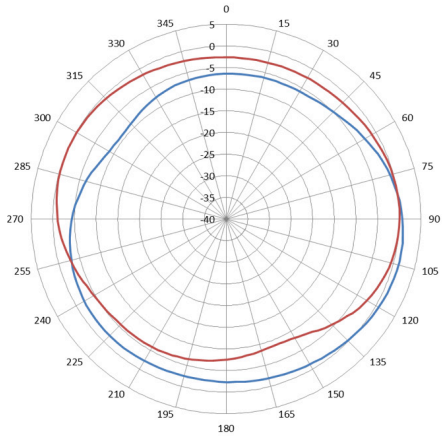## MINIMUM SOFTWARE VERSIONS

- ArubaOS 6.4.1.0

PRODUCT SHIPS WITH

- AP-103H Hospitality AP
- Single-gang universal mount plate
- Two mount screws (#6-32 x 1" machine screw)
- Tool for secure mount mechanism
- Installation guide

RF PERFORMANCE TABLE

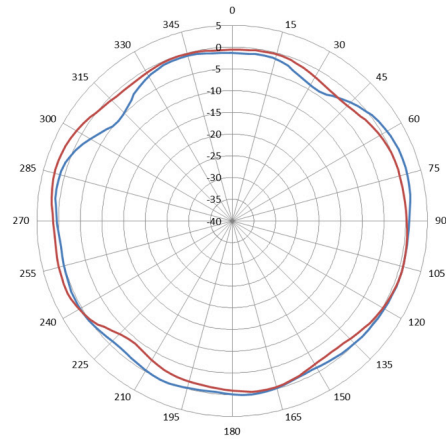|	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz		
802.11b		
1 Mbps	18.0	-92.0
11 Mbps	18.0	-89.0
802.11g		
6 Mbps	18.0	-88.0
54 Mbps	16.0	-75.0
802.11n HT20		
MCS0/8	18.0	-88.0
MCS7/15	14.0	-71.0
802.11n HT40		
MCS0/8	18.0	-85.0
MCS7/15	14.0	-68.0
5 GHz		
802.11a		
6 Mbps	18.0	-93.0
54 Mbps	16.0	-76.0
802.11n HT20		
MCS0/8	18.0	-94.0
MCS7/15	14.0	-73.0
802.11n HT40		
MCS0/8	18.0	-91.0
MCS7/15	14.0	-70.0

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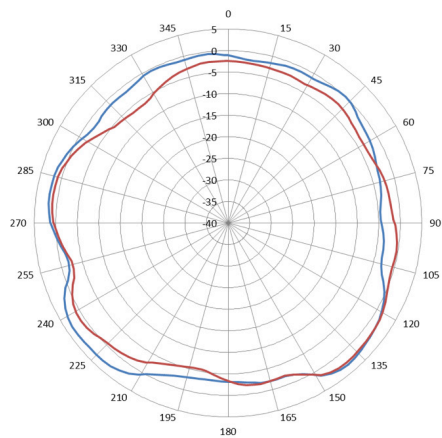
ANTENNA PATTERN PLOTS

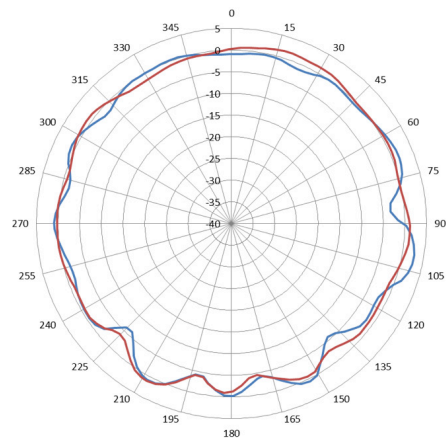Horizontal or azimuth plane (top view)

2.450 GHz

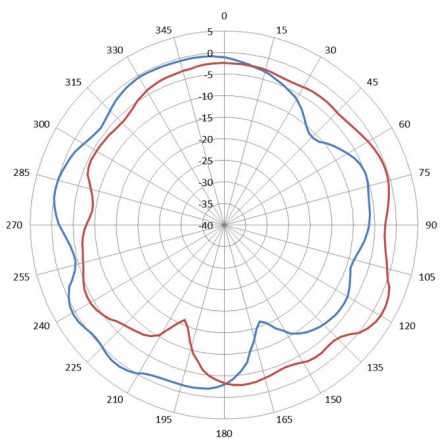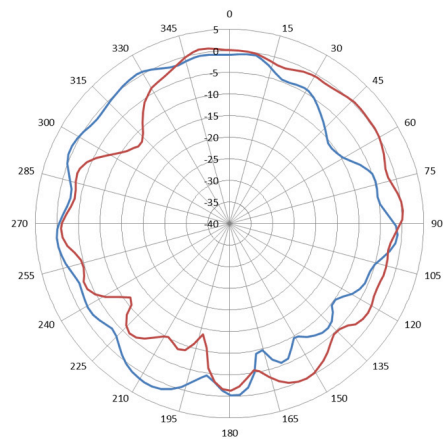5.550 GHz

Elevation plane (side view)

2.450 GHz

5.550 GHz

Elevation plane (front view)

2.450 GHz

5.550 GHz

ORDERING INFORMATION

Part Number	Description
103H Access Points	
AP-103H	Aruba AP-103H Wireless Access Point – Hospitality, 802.11n, 2x2:2, dual radio, integrated antennas
Mounting Spares	
AP-103H-MNT1	Aruba AP-103H Access Point Mount Kit (single) – Kit with spare for single gang wall-box mount adapter shipping with AP-103H
Mounting Accessories	
AP-103H-MNT2	Aruba AP-103H Access Point Mount Kit (dual) – Kit with optional dual gang wall-box mount adapter for AP-103H
Generic Indoor AP Accessories	
AP-AC-12V30A	12V/30W AC-to-DC Desktop Style Power Adapter with Type A DC plug (1.7/4.0/9.5mm circular, 90-degree angled).
AP-AC-UN	12V/18W Indoor Access Point AC power adapter. Universal, ships with eight 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)
PD-3501G-AC	15.4W 802.3af PoE midspan injector, 10/100/1000BASE-T Ethernet
AP-CBL-SER	AP console port adapter cable (proprietary to DB9 female RS232)

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