

ARUBA AP-93H ACCESS POINT



The multifunctional enterprise-class AP-93H 802.11n access point (AP) easily mounts to an Ethernet wall plate and uses the existing structured cabling system to provide secure wired and Wi-Fi network access in dormitories, classrooms, hotels, medical clinics and multitenant environments.

Capable of delivering high-performance Wi-Fi services to multiple rooms, the AP-93H greatly simplifies RF coverage planning and significantly reduces wireless LAN (WLAN) deployment costs. The AP-93H is built to provide years of trouble-free operation and is backed by a limited lifetime warranty.

Delivering wire-like performance at data rates up to 300 Mbps, the AP-93H features a single 2x2 MIMO 2.4-GHz or 5-GHz dual-band radio with internal antennas. For wired connectivity, it features four 10/100BASE-T switch ports, an additional pass-through RJ-45 port and a 10/100/1000BASE-T uplink port that can operate from an 802.3af power-over-Ethernet (PoE) source or a 12-volt DC power supply.



Working with centralized Aruba Mobility Controllers, the AP-93H delivers secure, high-speed network services that move users to a “wireless where possible, wired where necessary” network access model. The network can then be rightsized by eliminating unused Ethernet switch ports, which reduces operating costs.

The AP-93H leverages wireless as a primary connection with speed and reliability comparable to a wired LAN. High performance is maintained using channel bonding, block acknowledgement and MIMO radios, while advanced antenna technology increases range and reliability.

To eliminate sticky client behavior, every Aruba AP comes with ClientMatch™ technology, which continuously gathers session performance metrics and utilizes this data to steer mobile devices to the best AP and radio on the WLAN, even while users roam.

The AP-93H also supports Adaptive Radio Management™ and spectrum analysis to maximize client performance and mitigate RF interference across the 2.4-GHz and 5-GHz radio bands.

In addition to wired and wireless connectivity, the multifunctioning AP-93H supports a variety of operating modes, including wireless LAN (WLAN) access with part-time air monitoring, dedicated air monitoring for wireless intrusion protection and spectrum analysis, Remote AP (RAP) functionality and secure enterprise mesh.

OPERATING MODES

- 802.11a/b/g/n AP
- Remote AP (RAP)
- Air Monitor (AM)
- Spectrum monitor
- Secure enterprise mesh

RADIOS

- Software-configurable single radio capable of supporting 2.4 GHz or 5 GHz
- 802.11n capable, implementing 2x2 MIMO with 2 spatial streams, providing up to 300 Mbps data rate

WI-FI CLIENT OPTIMIZATION

- ClientMatch™ technology eliminates sticky clients by continuously gathering session performance metrics and utilizing this data to steer mobile devices to the best AP and radio, even while users roam.

RF MANAGEMENT

- Automatic transmit power and channel management control with automatic coverage-hole correction via Adaptive Radio Management (ARM)
- Spectrum analysis remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference. This provides visibility into non-802.11 RF interference sources and their effect on 802.11 channel quality.

ADVANCED FEATURES

- Integrated RAP, secure enterprise mesh point or portal, wireless intrusion detection and prevention
- Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys

WIRELESS RADIO SPECIFICATIONS

- AP type: Single radio, dual-band 802.11n indoor
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 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: Controller-managed, dependent upon configured regulatory domain
- Platform supports Dynamic Frequency Selection (DFS) to allow optimal usage of available RF spectrum
- Supported radio technologies:
 - 802.11b: Direct-sequence spread-spectrum (DSSS)
 - 802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)
 - 802.11n: 2x2 MIMO with 2 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:
 - 2.4 GHz: 21 dBm (limited by local regulatory requirements)
 - 5 GHz: 21 dBm (limited by local regulatory requirements)
- Maximum ratio combining (MRC) for improved uplink RF performance
- Cyclic Delay Diversity (CDD) for improved downlink RF performance
- Space-Time Block Coding (STBC) for increased range and improved reception
- Association rates (Mbps):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n: MCS0 - MCS15 (6.5 Mbps - 300 Mbps)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

POWER

- 48 volts DC 802.3af Power over Ethernet
- 12 volts DC for external AC supplied power (power adapter sold separately)
- Maximum power consumption (worst case):
 - When powered from PoE: 9 watts
 - When powered from DC: 8 watts

ANTENNAS

- Integrated, omni-directional antenna elements (supporting up to 2x2 MIMO with spatial diversity)
 - 2.4 GHz/2.5 dBi
 - 5 GHz/4.0 dBi

INTERFACES

- Network:
 - 1 x 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
 - 4 x 10/100BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
 - 1 x passive RJ-45 pass-through interface

- Power:
 - 1 x DC power connector
- Other:
 - 1 x RJ-45 serial console interface

MOUNTING

- Mount plate, supporting various worldwide electrical wall box standards

MECHANICAL

- Dimensions/weight (unit, with mount bracket):
 - 130 mm x 143 mm x 35 mm
 - 425 g
- Dimensions/weight (shipping):
 - 200 mm x 170 mm x 58 mm
 - 580 g

ENVIRONMENTAL

- Operating:
 - Temp: 0° C to 40° C (+32° F to +104° F)
 - Humidity: 5% to 95% non-condensing
- Storage and transportation temperature range:
 - 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.

CERTIFICATIONS

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

WARRANTY

- [Limited lifetime warranty](#)

MINIMUM ARUBAOS VERSION

- 6.1.3.0

PRODUCT SHIPS WITH

- AP-93H access point
- Short CAT5e Ethernet cable (2x)
- Universal mount plate
- Installation guide

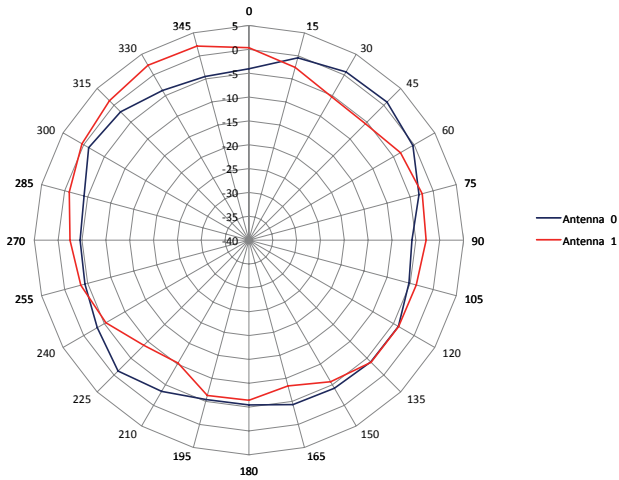


RF PERFORMANCE TABLE

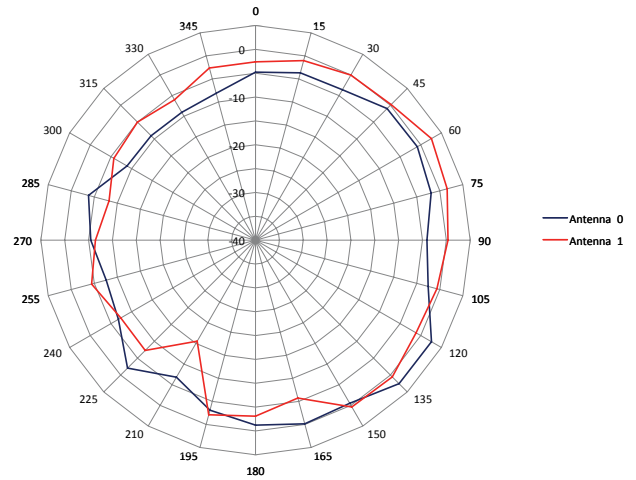
	Max transmit power per active transmit chain (dBm)	Receive sensitivity (dBm)	Max transmit power per active transmit chain (dBm)	Receive sensitivity (dBm)
	2.4 GHz		5 GHz	
802.11b				
1 Mbps	18	-94	-	-
2 Mbps	18	-94	-	-
5.5 Mbps	18	-93	-	-
11 Mbps	18	-91	-	-
802.11a/g				
6 Mbps	18	-92	18	-92
9 Mbps	18	-91	18	-91
12 Mbps	18	-87	18	-87
18 Mbps	18	-86	18	-86
24 Mbps	18	-84	18	-84
36 Mbps	15	-82	15	-82
48 Mbps	14	-79	14	-79
54 Mbps	14	-76	14	-76
802.11n HT20				
MCS0	18	-92	18	-92
MCS1	17	-90	17	-90
MCS2	17	-88	17	-88
MCS3	16	-85	16	-85
MCS4	16	-81	16	-81
MCS5	15	-79	15	-79
MCS6	15	-77	14	-77
MCS7	14	-73	13	-73
MCS8	18	-92	18	-92
MCS9	17	-90	17	-90
MCS10	17	-88	17	-88
MCS11	16	-85	16	-85
MCS12	16	-81	16	-81
MCS13	15	-79	15	-79
MCS14	15	-77	14	-77
MCS15	14	-73	13	-73
802.11n HT40				
MCS0	18	-92	18	-92
MCS1	17	-90	17	-90
MCS2	17	-88	17	-88
MCS3	16	-85	16	-85
MCS4	16	-81	16	-81
MCS5	15	-79	15	-79
MCS6	15	-77	14	-77
MCS7	14	-73	13	-73
MCS8	18	-92	18	-92
MCS9	17	-90	17	-90
MCS10	17	-88	17	-88
MCS11	16	-85	16	-85
MCS12	16	-81	16	-81
MCS13	15	-79	15	-79
MCS14	15	-77	14	-77
MCS15	14	-73	13	-73

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

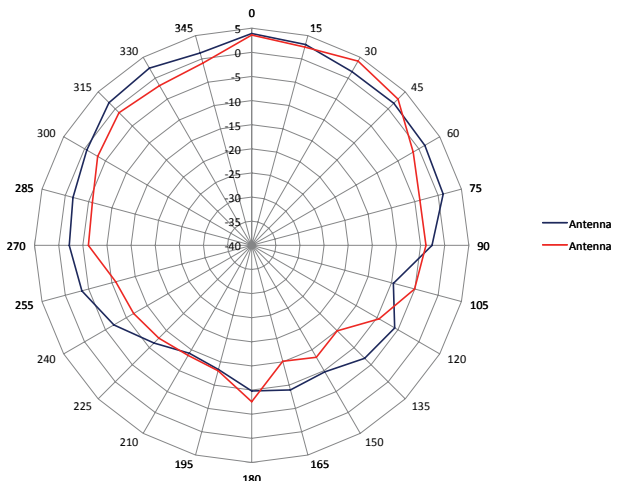
ANTENNA PATTERN PLOTS



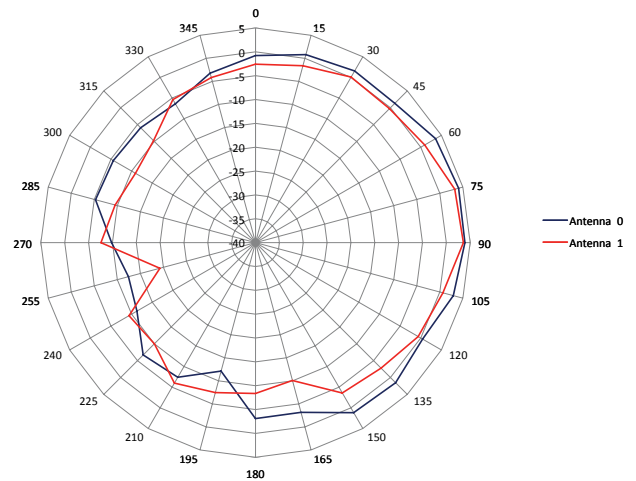
H-plane (top view) – 2.45 GHz



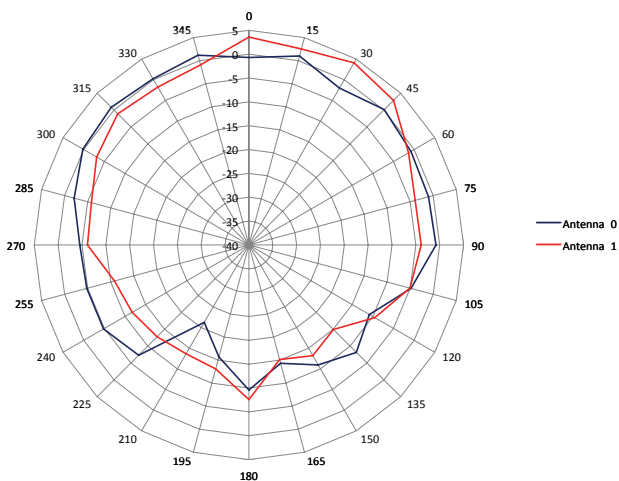
E-plane (side view) – 2.45 GHz



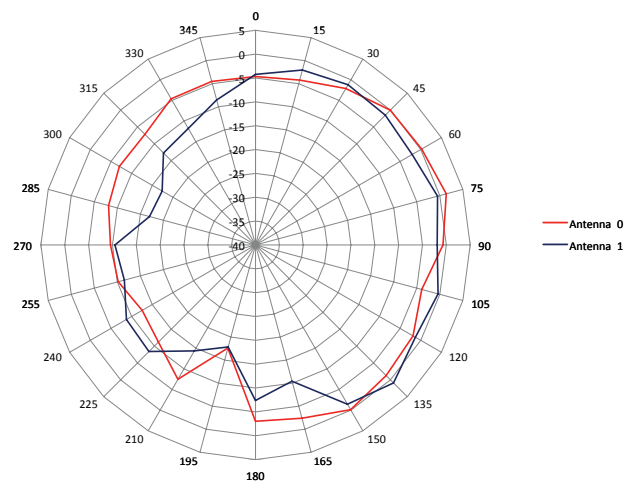
H-plane (top view) – 5.2 GHz



E-plane (side view) – 5.2 GHz



H-plane (top view) – 5.8 GHz



E-plane (side view) – 5.8 GHz

ORDERING INFORMATION

Part Number	Description
AP-93H	Aruba 93H AP (802.11a/n or 802.11b/g/n, integrated antennas, built-in switch)
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)
PD-3501G-AC	15.4W 802.3af POE midspan injector, 10/100/1000Base-T Ethernet



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