

# ARUBA 100 SERIES ACCESS POINTS

For high-density Wi-Fi client environments



**Multifunctional and affordable 100 series wireless access points (APs) deliver enterprise-grade Wi-Fi to high-density client environments in offices, hospitals, schools, retail stores and warehouses.**

These high-performance 802.11n APs deliver wireless data rates up to 300 Mbps per radio and ensure peak performance by utilizing channel bonding, block acknowledgement and MIMO radios. Advanced antenna technology also increases RF signal range and reliability.

The 105 series of APs features two dual-band 2.4-GHz and 5-GHz radios with 2x2 MIMO and four integrated omni-directional downtilt antennas, making it ideal for warehouses and high-ceiling deployments. The 104 series features the same radios with external antenna connectors.

## 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.

The 100 series 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

The 100 series of APs offers a choice of operating modes to meet your unique management and deployment requirements.

- **Controller-managed mode.** When managed by Aruba Mobility Controllers, 100 series APs offer 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 AP is dynamically elected the Virtual Controller, which automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up one Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.

For large installations, the Aruba Product Activation Service dramatically reduces deployment time by automating Aruba Instant provisioning, firmware upgrades and inventory management. APs are factory-shipped to your deployment site and configure themselves when powered up.

If WLAN and network requirements change, a built-in migration path allows 100 series Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

## ADVANCED FEATURES

- RF Management:
  - Spectrum analyzer remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference. When managed by a Mobility Controller, APs offer visibility into non-802.11 sources of RF interference and their effect on 802.11n channel quality.
- Security:
  - With an [OpenDNS](#) service subscription, Aruba Instant 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

## OPERATING MODES

- 802.11a/b/g/n Aruba Instant AP
- 802.11a/b/g/n Mobility Controller-managed AP
- Air monitor (AM)
- Secure enterprise mesh
- Remote AP (RAP) when used with a Mobility Controller
- Spectrum analyzer when used with a Mobility Controller

## 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 802.11n with two spatial streams and up to 300 Mbps per radio

- 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: Managed by Virtual Controller or Mobility Controller, dependent upon configured regulatory domain
- Controller-managed, dependent upon 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)
  - 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 transmit power:
  - 2.4 GHz: 23 dBm (limited by local regulatory requirements)
  - 5 GHz: 23 dBm (limited by local regulatory requirements)
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity for improved downlink RF performance
- Space time blocking code (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 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

- 48 volts DC 802.3af power over Ethernet (PoE)
- 12 volts DC for external AC supplied power (adapter sold separately)
- Maximum power consumption: 12.5 watts

## ANTENNA

- RF interconnect attenuation (between radio and connectors or antennas): 0.5 dB
- AP-104 and IAP-104: Two RP-SMA connectors for external dual-band antennas
- AP-105 and IAP-105: Four integrated downtilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.0 dBi in 2.4 GHz and 4.5 dBi in 5 GHz

## INTERFACES

- Network: One 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
- Power: One DC power connector
- Other: One RJ-45 console interface

## MOUNTING

- Included with AP:
  - Molded mounting tabs for attaching to 15/16" T-bar drop-tile ceiling
  - Slotted tabs for screw mounting to a wall, ceiling or other flat surface

- Optional mounting kits:
  - AP-105-MNT: Aruba 100 series AP mount kit contains one flat-surface wall/ceiling secure mount cradle and one wall-box secure mount cradle.
  - AP-105-MNT-DC: Aruba 100 series AP mount kit contains one flat-surface wall/ceiling secure mount cradle and one wall-box secure mount cradle. Both cradles are modified to allow access to AP DC power interface.
  - AP-105-MNT-C: Aruba 100 series AP mount kit contains two ceiling-grid rail adapters for 9/16" and 15/16" flat rails.

## MECHANICAL

- Dimensions/weight (unit):
  - 132 mm x 135 mm x 45 mm (5.2" x 5.3" x 1.8")
  - 0.3 kg (.66 lb)
- Dimensions/weight (shipping):
  - 195 mm x 170 mm x 55 mm (7.7" x 6.7" x 2.2")
  - 0.44 kg (.97 lb)

## ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to 50° C (+32° F to +122° 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
- UL2043 plenum rating
- Wi-Fi certified 802.11a/b/g/n



## WARRANTY

- **Limited lifetime warranty**



## MINIMUM ARUBAOS VERSION

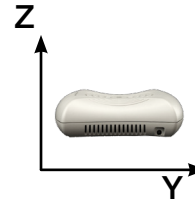
- AP-104: ArubaOS 6.1.3.0 on an Aruba Mobility Controller
- AP-105: ArubaOS 3.4.1.0 on an Aruba Mobility Controller

## 100 SERIES AP RF PERFORMANCE TABLE

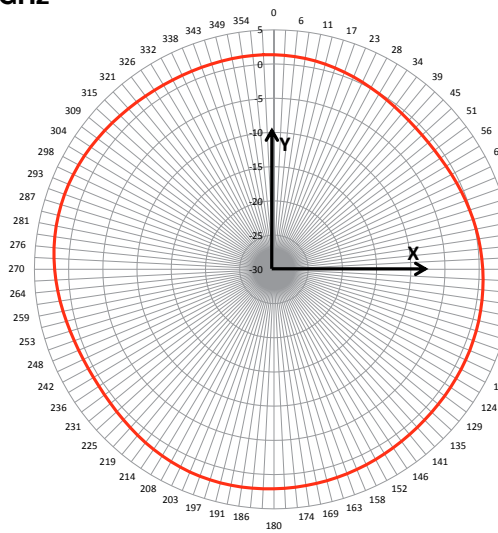
	Max transmit power per active transmit chain (dBm)	Receive sensitivity (dBm)	Max transmit power per active transmit chain (dBm)	Receive sensitivity (dBm)
	2.4 GHz		5 GHz	
<b>802.11b</b>				
1 Mbps	20	-96	-	-
2 Mbps	20	-96	-	-
5.5 Mbps	20	-94	-	-
11 Mbps	20	-93	-	-
<b>802.11a/g</b>				
6 Mbps	20	-96	20	-96
9 Mbps	20	-96	20	-96
12 Mbps	20	-96	20	-96
18 Mbps	20	-95	20	-95
24 Mbps	20	-92	20	-91
36 Mbps	19	-89	19	-88
48 Mbps	18	-85	18	-84
54 Mbps	17	-83	17	-83
<b>802.11n HT20</b>				
MCS0	20	-96	20	-96
MCS1	20	-95	20	-94
MCS2	20	-93	20	-92
MCS3	20	-90	20	-89
MCS4	19	-87	19	-86
MCS5	18	-82	18	-82
MCS6	17	-81	17	-80
MCS7	15	-80	15	-79
MCS8	20	-95	20	-95
MCS9	20	-93	20	-92
MCS10	20	-91	20	-90
MCS11	20	-87	20	-87
MCS12	19	-84	19	-84
MCS13	18	-81	18	-80
MCS14	17	-80	17	-78
MCS15	15	-77	15	-77
<b>802.11n HT40</b>				
MCS0	20	-93	20	-92
MCS1	20	-93	20	-92
MCS2	20	-90	20	-89
MCS3	20	-86	20	-86
MCS4	19	-83	19	-83
MCS5	18	-79	18	-80
MCS6	17	-77	17	-77
MCS7	15	-76	15	-76
MCS8	20	-92	20	-92
MCS9	20	-89	20	-90
MCS10	20	-87	20	-87
MCS11	20	-84	20	-84
MCS12	19	-82	19	-81
MCS13	18	-76	18	-77
MCS14	17	-76	17	-75
MCS15	15	-73	15	-73

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

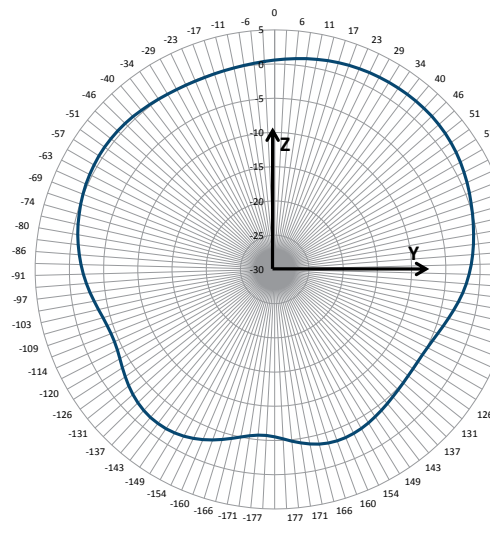
### IAP-105 AND AP-105 ANTENNA PATTERN PLOTS



#### 2.45 GHz

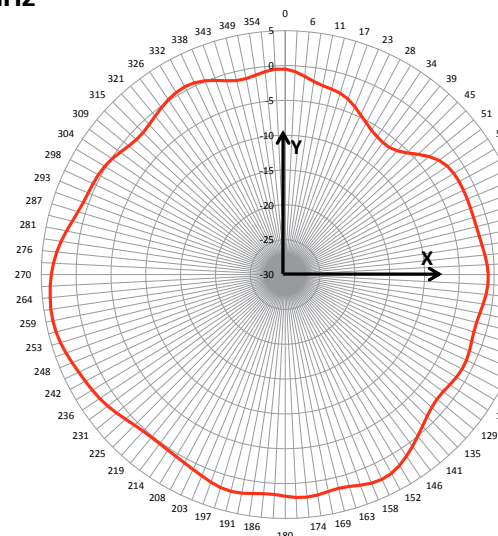


Horizontal (azimuth) plane

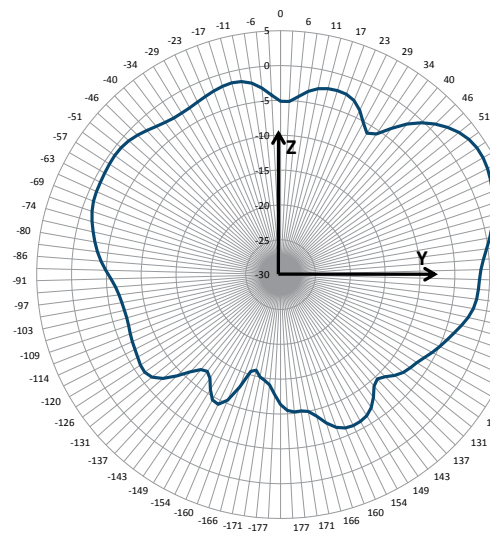


Vertical (elevation) plane

#### 5.5 GHz



Horizontal (azimuth) plane



Vertical (elevation) plane

ORDERING INFORMATION	
Part Number	Description
IAP-105	Aruba Instant 105 wireless AP, 802.11a/b/g/n, dual band, dual radio, integrated antennas. Unrestricted regulatory domain. These products should be considered <i>rest-of-world products</i> and must not be deployed in the United States, Japan or Israel.
IAP-105-US	Aruba Instant 105 wireless AP, 802.11a/b/g/n, dual band, dual radio, integrated antennas. Restricted regulatory domain – US
IAP-105-IL	Aruba Instant 105 wireless AP, 802.11a/b/g/n, dual band, dual radio, integrated antennas. Restricted regulatory domain – IL
IAP-105-JP	Aruba Instant 105 wireless AP, 802.11a/b/g/n, dual band, dual radio, integrated antennas. Restricted regulatory domain – JP
AP-105	Aruba 105 wireless AP, 802.11a/b/g/n 2x2:2, dual radio, integrated antennas
AP-105-1	Aruba 105 wireless AP, TAA compliant
AP-105-F1	Aruba 105 wireless AP, FIPS/TAA
AP-105-MNT	Aruba 100 series AP mount kit contains one flat-surface wall/ceiling secure mount cradle and one wall-box secure mount cradle.
AP-105-MNT-C	Aruba 100 series AP mount kit contains two ceiling-grid rail adapters for 9/16" and 15/16" flat rails.
AP-105-MNT-DC	Aruba 100 series AP mount kit contains one flat-surface wall/ceiling secure mount cradle and one wall-box secure mount cradle. Both cradles are modified to allow access to AP DC power interface.
IAP-104	Aruba Instant 104 wireless AP, 802.11a/b/g/n, dual band, dual radio, external antenna connectors. Unrestricted regulatory domain. These products should be considered <i>rest-of-world products</i> and must not be deployed in the United States, Japan or Israel.
IAP-104-US	Aruba Instant 104 wireless AP, 802.11a/b/g/n, dual band, dual radio, external antenna connectors. Restricted regulatory domain: United States
IAP-104-IL	Aruba Instant 104 wireless AP, 802.11a/b/g/n, dual band, dual radio, external antenna connectors. Restricted regulatory domain: Israel
IAP-104-JP	Aruba Instant 104 wireless AP, 802.11a/b/g/n, dual band, dual radio, external antenna connectors. Restricted regulatory domain: Japan
AP-104	Aruba 104 wireless AP, 802.11a/b/g/n 2x2:2, dual radio, antenna connectors.
AP-104-F1	Aruba 104 wireless AP, FIPS/TAA
AP-AC-UN	12-volt DC universal AC power adapter kit – North America, Japan, United Kingdom, Italy, EC (Europlug), Australia, China, India, Korea
AP-AC-12V18	12-volt DC/18-watt AC power adapter. Does not include country specific power cord



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