



- Advanced Cellular Coexistence (ACC)
 - Minimizes interference from 3G/4G cellular networks, distributed antenna systems and commercial small cell/femtocell equipment.
- Quality of service for Unified Communication apps
 - Supports priority handling and policy enforcement for unified communication apps, including Microsoft Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing.
- RF Management
 - Adaptive Radio Management (ARM) technology automatically assigns channel and power settings, provides airtime fairness, and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs.
 - The Aruba 300 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.
- Intelligent app visibility and control
 - AppRF technology leverages deep packet inspection to classify and block, prioritize, or limit bandwidth for thousands of applications in a range of categories.
- Security
 - Integrated wireless intrusion protection offers threat protection and mitigation, and eliminates the need for separate RF sensors and security appliances.
 - IP reputation and security services identify, classify, and block malicious files, URLs and IPs, providing comprehensive protection against advanced online threats.
 - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys.
- Intelligent Power Monitoring (IPM):
 - Enables the AP to continuously monitor and report its actual power consumption and optionally make autonomous decisions to disable certain capabilities.
 - For the 300 Series APs, the IPM power-save feature applies when the unit is powered by an 802.3af PoE source. By default, the USB interface will be the first feature to turn off if AP power consumption exceeds the available power budget. In rare cases it may be necessary to take additional power saving measures, but in most cases, the 300 Series APs will operate in unrestricted mode.

CHOOSE YOUR OPERATING MODE

Aruba 300 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, Aruba 300 Series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Aruba Instant mode – In Aruba Instant mode, a single AP 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. If WLAN requirements change, a built-in migration path allows 300 Series Instant APs to become part of a WLAN that is managed by a Mobility Controller.
- Remote AP (RAP) for branch deployments.
- Air monitor (AM) for wireless IDS, rogue detection, and containment.
- Spectrum analyzer, dedicated or hybrid, for identifying sources of RF interference.
- Secure enterprise mesh.

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.

AP-300 SERIES SPECIFICATIONS

- AP-304 (controller-managed) and IAP-304 (Instant):
 - 5GHz 802.11ac 3x3 MIMO (1,300 Mbps max rate) and 2.4GHz 802.11n 2x2 MIMO (300 Mbps max rate) radios, with a total of three dual-band RP-SMA connectors for external antennas.
- AP-305 (controller-managed) and IAP-305 (Instant):
 - 5GHz 802.11ac 3x3 MIMO (1,300 Mbps max rate) and 2.4GHz 802.11n 2x2 MIMO (300 Mbps max rate) radios, with a total of three integrated omni-directional downtilt dual-band antennas.

WI-FI RADIO SPECIFICATIONS

- AP type: Indoor, dual radio, 5GHz 802.11ac 3x3 MIMO and 2.4GHz 802.11n 2x2 MIMO
- Software-configurable dual radio supports 5GHz (Radio 0) and 2.4GHz (Radio 1)



- 5GHz: Three spatial stream Single User (SU) MIMO for up to 1,300 Mbps wireless data rate to individual 3x3 VHT80 client devices
- 5GHz: Two spatial stream Multi User (MU) MIMO for up to 867 Mbps wireless data rate to up to two (1x1 VHT80) MU-MIMO capable client devices simultaneously
- 2.4GHz: Two spatial stream Single User (SU) MIMO for up to 300 Mbps wireless data rate to individual 2x2 HT40 client devices
- Support for up to 256 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 to 2.4835GHz
 - 5.150 to 5.250GHz
 - 5.250 to 5.350GHz
 - 5.470 to 5.725GHz
 - 5.725 to 5.850GHz
- 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/ac: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
 - 802.11b: BPSK, QPSK, CCK
 - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
 - 2.4GHz band: +18 dBm per chain, +21 dBm aggregate (2x2)
 - 5GHz band: +18 dBm per chain, +23 dBm aggregate (3x3)
 - Note: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain
- 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 20MHz, 40MHz and 80MHz 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
- Transmit beam-forming (TxBF) for increased signal reliability and range
- Supported data rates (Mbps):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n (2.4GHz): 6.5 to 300 (MCS0 to MCS15)
 - 802.11n (5GHz): 6.5 to 450 (MCS0 to MCS23)
 - 802.11ac: 6.5 to 1,300 (MCS0 to MCS9, NSS = 1 to 3 for VHT20/40/80)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

WI-FI ANTENNAS

- AP-304/IAP-304: Three RP-SMA connectors for external dual band antennas. Worst-case internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 0.8dB in 2.4GHz and 1.6dB in 5GHz.
- AP-305/IAP-305: Three integrated dual-band downtilt omni-directional antennas for 3x3 MIMO with peak antenna gain of 3.9dBi in 2.4GHz and 5.4dBi in 5GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30 degrees.
 - Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the effective per-antenna pattern is 2.4dBi in 2.4GHz and 2.8dBi in 5GHz.

OTHER INTERFACES

- One 10/100/1000BASE-T Ethernet network interface (RJ-45)
 - Auto-sensing link speed and MDI/MDX
 - 802.3az Energy Efficient Ethernet (EEE)
- USB 2.0 host interface (Type A connector)
- Bluetooth Low Energy (BLE) radio
 - Up to 3dBm transmit power (class 2) and -92dBm receive sensitivity
 - Integrated antenna with roughly 30 degrees downtilt and peak gain of 2.3dBi (AP-304/IAP-304) or 3.4dBi (AP-305/IAP-305)
- Visual indicators (multi-color LEDs): for System and Radio status
- Reset button: factory reset (during device power up)
- Serial console interface (proprietary; optional adapter cable available)
- Kensington security slot



POWER SOURCES AND CONSUMPTION

- The AP supports direct DC power and Power over Ethernet (PoE)
- When both power sources are available, DC power takes priority over PoE
- Power sources are sold separately
- Direct DC source: 12Vdc nominal, +/- 5%
 - Interface accepts 2.1/5.5-mm center-positive circular plug with 9.5-mm length
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af/802.3at compliant source
 - Unrestricted functionality with 802.3at PoE
 - When using IPM, the AP may enter power-save mode with reduced functionality when powered by an 802.3af PoE source (see details on Intelligent Power Monitoring elsewhere in this datasheet)
 - Without IPM, the USB port is disabled when the AP is powered by an 802.3af PoE source
- Maximum (worst-case) power consumption: 13W (PoE) or 12W (DC)
 - Excludes power consumed by external USB device (and internal overhead); this could add up to 6.5W (PoE) or 5.5W (DC) for a 5W/1A USB device
- Maximum (worst-case) power consumption in idle mode: 3.7W (PoE) or 2.6W (DC)

MOUNTING

- The AP ships with two (black) mounting clips to attach to a 9/16-inch or 15/16-inch flat T-bar drop-tile ceiling
- Several optional mount kits are available to attach the AP to a variety of surfaces; see the Ordering Information section below for details.

MECHANICAL

- Dimensions/weight (unit, excluding mount accessories):
 - 165mm x 165mm x 38mm
 - 460g
- Dimensions/weight (shipping):
 - 205mm x 205mm x 52mm
 - 620g

ENVIRONMENTAL

- Operating:
 - Temperature: 0° C to +50° C (+32° F to +122° F)
 - Humidity: 5% to 93% non-condensing
- Storage and transportation:
 - Temperature: -40° C to +70° C (-40° F to +158° F)

REGULATORY

- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2
- EN 50155 (AP-305/IAP-305)

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

RELIABILITY

MTBF: 1,116,000hrs (127yrs) at +25C operating temperature

REGULATORY MODEL NUMBERS

- AP-304 and IAP-304: APIN0304
- AP-305 and IAP-305: APIN0305

CERTIFICATIONS

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac
- WPA, WPA2 and WPA3 – Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE)
- Passpoint® (Release 2) with ArubaOS and Instant 8.3+

WARRANTY

- **Aruba limited lifetime warranty**

MINIMUM OPERATING SYSTEM SOFTWARE VERSIONS

- ArubaOS 6.5.1.0, 8.1.0.0
- Aruba InstantOS 4.3.1.0



| RF PERFORMANCE TABLE | | |
|--------------------------------------|--|---|
| | Maximum transmit power (dBm) per transmit chain | Receiver sensitivity (dBm) per receive chain |
| 802.11b 2.4GHz | | |
| 1 Mbps | 18.0 | -95.0 |
| 11 Mbps | 18.0 | -88.0 |
| 802.11g 2.4GHz | | |
| 6 Mbps | 18.0 | -92.0 |
| 54 Mbps | 18.0 | -74.0 |
| 802.11n HT20 2.4GHz | | |
| MCS0/8 | 18.0 | -91.0 |
| MCS7/15 | 18.0 | -71.0 |
| 802.11n HT40 2.4GHz | | |
| MCS0/8 | 18.0 | -88.0 |
| MCS7/15 | 18.0 | -68.0 |
| 802.11a 5GHz | | |
| 6 Mbps | 18.0 | -92.0 |
| 54 Mbps | 18.0 | -74.0 |
| 802.11n HT20 5GHz | | |
| MCS0/8/16 | 18.0 | -91.0 |
| MCS7/15/23 | 18.0 | -71.0 |
| 802.11n HT40 5GHz | | |
| MCS0/8/16 | 18.0 | -88.0 |
| MCS7/15/23 | 17.0 | -68.0 |
| 802.11ac VHT20 5GHz (SU-MIMO) | | |
| MCS0 | 18.0 | -91.0 |
| MCS8 | 18.0 | -67.0 |
| 802.11ac VHT40 5GHz (SU-MIMO) | | |
| MCS0 | 18.0 | -88.0 |
| MCS9 | 17.0 | -63.0 |
| 802.11ac VHT80 5GHz (SU-MIMO) | | |
| MCS0 | 18.0 | -85.0 |
| MCS9 | 17.0 | -58.0 |

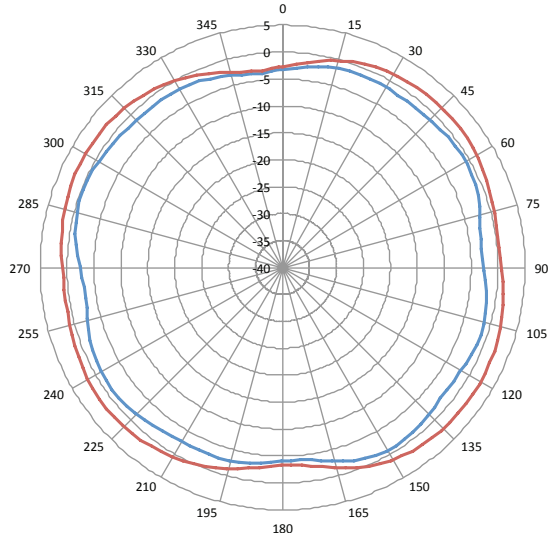
Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.



AP-300 ANTENNA PATTERN PLOTS

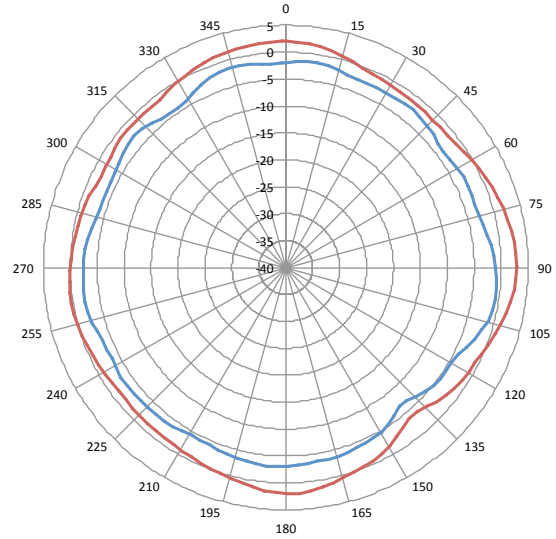
Horizontal planes (top view, AP facing forward)

Showing azimuth (0 degrees) and 30 degrees downtilt pattern



— 2.45GHz WiFi Average Azimuth — 2.45GHz WiFi Average Downtilt 30

2.45GHz Wi-Fi (antennas A1, A2)

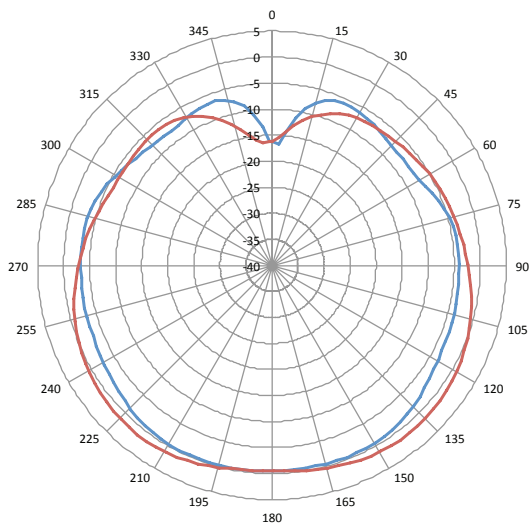


— 5.5GHz Average Azimuth — 5.5GHz Average Downtilt 30

5.5GHz Wi-Fi (antennas A1, A2, A3)

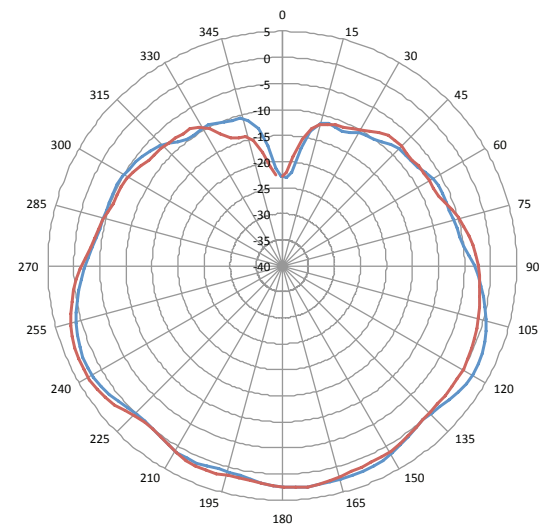
Elevation planes (side view, AP facing down)

Showing side view with AP rotated 0 and 90 degrees



— 2.45GHz WiFi Average Elevation 0 — 2.45GHz WiFi Average Elevation 90

2.45GHz Wi-Fi (antennas A1, A2)



— 5.5GHz Average Elevation 0 — 5.5GHz Average Elevation 90

5.5GHz Wi-Fi (antennas A1, A2, A3)



| ORDERING INFORMATION | |
|--|---|
| Part Number | Description |
| AP-300 Series Access Points | |
| JX935A | Aruba AP-304 802.11n/ac 2x2:2/3x3:3 MU-MIMO Dual Radio Antenna Connectors AP |
| JX937A | Aruba AP-304 TAA-compliant 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Dual Radio Antenna Connectors AP |
| JX936A | Aruba AP-305 802.11n/ac 2x2:2/3x3:3 MU-MIMO Dual Radio Integrated Antenna AP |
| JX938A | Aruba AP-305 TAA-compliant 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Dual Radio Integrated Antenna AP |
| AP-300 Series Instant Access Points | |
| JX942A | Aruba Instant IAP-304 (JP) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Antenna Connectors AP |
| JX939A | Aruba Instant IAP-304 (RW) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Antenna Connectors AP |
| JX943A | Aruba Instant IAP-304 (RW) TAA 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Ant Connectors AP |
| JX940A | Aruba Instant IAP-304 (US) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Antenna Connectors AP |
| JX944A | Aruba Instant IAP-304 (US) TAA 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Ant Connectors AP |
| JY864A | Aruba Instant IAP-305 (EG) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Antenna AP |
| JX947A | Aruba Instant IAP-305 (IL) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Antenna AP |
| JX948A | Aruba Instant IAP-305 (JP) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Antenna AP |
| JX945A | Aruba Instant IAP-305 (RW) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Antenna AP |
| JX949A | Aruba Instant IAP-305 (RW) TAA 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Ant AP |
| JX946A | Aruba Instant IAP-305 (US) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Antenna AP |
| JX950A | Aruba Instant IAP-305 (US) TAA 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Ant AP |
| JX945ACM | Aruba CM Instant IAP-305 (RW) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Antenna AP |
| JX946ACM | Aruba CM Instant IAP-305 (US) 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Radio Integrated Antenna AP |

Note: All Instant hardware SKUs can be managed by Aruba Central. Central Managed (CM) SKUs are used for simplified ordering within US and Canada only. For more ordering information and compatible accessories, please refer to the [ordering guide](#).