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DATA SHEET

ARUBA 310 SERIES WIRELESS ACCESS POINTS

High-performance 802.11ac Wave 2 (Wi-Fi 5)

The Aruba 310 Series access points deliver high performance and superb user experience for mobile devices, Internet of Things (IoT) devices, and applications in dense office environments. Featuring the 4x4:4SS MU-MIMO capability, advanced Aruba ClientMatch radio management, and Aruba Beacon technologies, the 310 Series enables an all-wireless digital work environment in a cost-effective manner.

With a maximum concurrent data rate of 1,733 Mbps in the 5 GHz band and 300 Mbps in the 2.4 GHz band (for an aggregate peak data rate of 2.0 Gbps), the 310 Series Access Points can quickly add required capacities to your existing or new wireless networks. The mid-range 310 Series, with its single gigabit Ethernet uplink, is ideal for high device density environments, such as schools, retail branches, hotels and enterprise offices, where the organization is cost sensitive.

The high performance and high density 802.11ac 310 Series supports 160 MHz channel bandwidth (VHT160), multi-user MIMO (MU-MIMO) and 4 spatial streams (4SS). It provides simultaneous data transmission to multiple devices, maximizing data throughput and improving network efficiency.

The 310 Series includes the enhanced ClientMatch technology that extends the client steering technology with MU-MIMO client awareness. It automatically identifies MU-MIMO capable mobile devices and steers those devices to the closest MU-MIMO capable Aruba access point. By grouping MU-MIMO capable mobile devices together, the network starts taking advantage of the simultaneous transmission to these devices, increasing its overall capacity. These dynamic roaming policies that are based on device types, help users achieve the best WLAN performance in a mixed device environment during the technology transition period.

KEY FEATURES

- High performance and high density 802.11ac Wave 2 supports multi-user MIMO (MU-MIMO) and 4 spatial access point streams (4SS)
- Boost performance with Aruba ClientMatch, grouping 802.11ac Wave 2 clients to the Wave 2 APs
- Maximum concurrent data rate of 1,733 Mbps in the 5 GHz band and 300 Mbps in the 2.4 GHz band (for an aggregate peak data rate of 2.0 Gbps)
- Includes integrated Bluetooth Low Energy (BLE) radio, for advanced location and indoor wayfinding
- Participates in Aruba's Dynamic Segmentation solution

IOT PLATFORM CAPABILITIES

The 310 Series provides integrated Bluetooth capabilities to enable Meridian and IoT-based location services, asset tracking, and mobile engagement services. For expanded use cases, an IoT expansion radio can be added to support the Zigbee protocol. These features allow organizations to leverage the AP as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

Corporate Armor

UNIQUE BENEFITS

- Dual Radio 802.11ac access point with Multi-User MIMO
  - Supports up to 1,733Mbps in the 5GHz band (with 4SS/VHT80 or 2SS/VHT160 clients) and up to 300 Mbps in the 2.4 GHz band (with 2SS/HT40 clients).
- Built-in Bluetooth Low-Energy (BLE) radio
  - Enables location based services with BLE-enabled mobile devices receiving signals from multiple Aruba Beacons at the same time.
- 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 310 Series Access Points 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.
- Aruba Secure Infrastructure
  - 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 310 Series Access Points, 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 will exceed the available power budget. In rare cases it may be necessary to take additional power saving measures, but in most cases, the 310 Series Access Points will operate in unrestricted mode.

CHOOSE YOUR OPERATING MODE

Aruba 310 Series Access Points offer a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed mode – When managed by Aruba Mobility Controllers, Aruba 310 Series Access Points 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 310 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-310 SERIES SPECIFICATIONS

- AP-314 (controller-managed) and IAP-314 (Instant):
  - 5GHz 802.11ac 4x4 MIMO (1,733 Mbps max rate) and 2.4 GHz 802.11n 2x2 MIMO (300 Mbps max rate) radios, with a total of four dual-band RP-SMA connectors for external antennas
- AP-315 (controller-managed) and IAP-315 (Instant):
  - 5GHz 802.11ac 4x4 MIMO (1,733 Mbps max rate) and 2.4 GHz 802.11n 2x2 MIMO (300 Mbps max rate) radios, with a total of four integrated omni-directional downtilt dual-band antennas

WI-FI RADIO SPECIFICATIONS

- AP type: Indoor, dual radio, 5 GHz 802.11ac 4x4 MIMO and 2.4 GHz 802.11n 2x2 MIMO
- Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 5 GHz: Four spatial stream Single User (SU) MIMO for up to 1,733 Mbps wireless data rate to individual 4x4 VHT80 or 2x2 VHT160 client devices
- 2.4 GHz: Two spatial stream Single User (SU) MIMO for up to 300 Mbps wireless data rate to individual 2x2 HT40 client devices
- 5 GHz: Four spatial stream Multi User (MU) MIMO for up to 1,733 Mbps wireless data rate to up to three MU-MIMO capable client devices simultaneously
- 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 2.4835 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
- 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 (conducted) transmit power (limited by local regulatory requirements):
  - 2.4 GHz band: +18 dBm per chain , +21dBm aggregate (2x2)
  - 5 GHz band: +18 dBm per chain , +24dBm aggregate (4x4)
  - 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 20-MHz, 40-MHz, 80-MHz and 160-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.
- 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 600 (MCS0 to MCS31)
  - 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4 for VHT20/40/80, NSS = 1 to 2 for VHT160)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80/160
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

WI-FI ANTENNAS

- AP-314/IAP-314: Four RP-SMA connectors for external dual band antennas. Worst-case internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 0.6dB in 2.4 GHz and 1.2dB in 5 GHz.
- AP-315/IAP-315: Four integrated dual-band downtilt omni-directional antennas for 4x4 MIMO with peak antenna gain of 3.6dBi in 2.4 GHz and 6.0dBi in 5 GHz. 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 3.1dBi in 2.4 GHz and 3.8dBi in 5 GHz.

OTHER INTERFACES

- One 10/100/1000BASE-T Ethernet network interfaces (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 4dBm transmit power (class 2) and -91dBm receive sensitivity
  - Integrated antenna with roughly 30 degrees downtilt and peak gain of 3.4dBi (AP-314/IAP-314) or 1.5dBi (AP-315/IAP-315)
- 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 and transmit power of the 2.4 GHz radio chains are reduced by 3dB to 15dBm max when the AP is powered by an 802.3af PoE source
- Maximum (worst-case) power consumption: 14.4W (802.3at PoE), 13.6W (802.3af PoE) or 12.7W (DC)
  - Excludes power consumed by external USB device (and internal overhead); this could add up to 6.4W (PoE) or 5.9W (DC) for a 5W/1A USB device
- Maximum (worst-case) power consumption in idle mode: 6.4W (PoE) or 5.9W (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 for details.

MECHANICAL

- Dimensions/weight (unit, excluding mount accessories):
  - 182mm (W) x 180mm (D) x 48mm (H)
  - 650g/23oz
- Dimensions/weight (shipping):
  - 223mm (W) x 218mm (D) x 55mm (H)
  - 850g/30oz

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-315/IAP-315)

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

RELIABILITY

MTBF: 916,373 hrs (105yrs) at +25C operating temperature

REGULATORY MODEL NUMBERS

- AP-314 and IAP-314: APIN0314
- AP-315 and IAP-315: APIN0315

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 6.5.0.0, 8.0.1.0
- Aruba InstantOS 4.3.0.0

RF PERFORMANCE TABLE

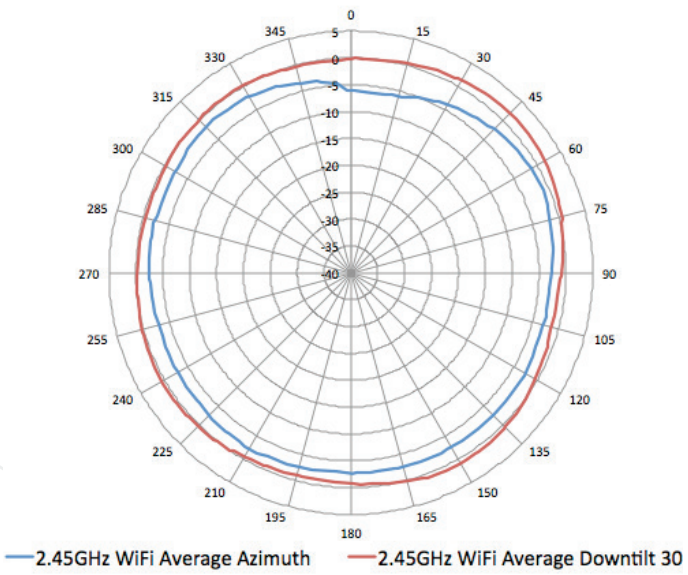
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
1 Mbps	18.0	-95.0
11 Mbps	18.0	-88.0
802.11g 2.4 GHz		
6 Mbps	18.0	-91.0
54 Mbps	16.0	-74.0
802.11n HT20 2.4 GHz		
MCS0/8	18.0	-90.0
MCS7/15	14.0	-71.0
802.11n HT40 2.4 GHz		
MCS0/8	18.0	-87.0
MCS7/15	14.0	-68.0
802.11a 5 GHz		
6 Mbps	18.0	-90.0
54 Mbps	16.0	-73.0
802.11n HT20 5 GHz		
MCS0/8/16/24	18.0	-90.0
MCS7/15/23/31	14.0	-71.0
802.11n HT40 5 GHz		
MCS0/8/16/24	18.0	-87.0
MCS7/15/23/31	14.0	-68.0
802.11ac VHT20 5 GHz		
MCS0	18.0	-90.0
MCS9	12.0	-65.0
802.11ac VHT40 5 GHz		
MCS0	18.0	-87.0
MCS9	12.0	-62.0
802.11ac VHT80 5 GHz		
MCS0	18.0	-83.0
MCS9	12.0	-59.0
802.11ac VHT160 5 GHz		
MCS0	18.0	-82.0
MCS9	12.0	-57.0

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

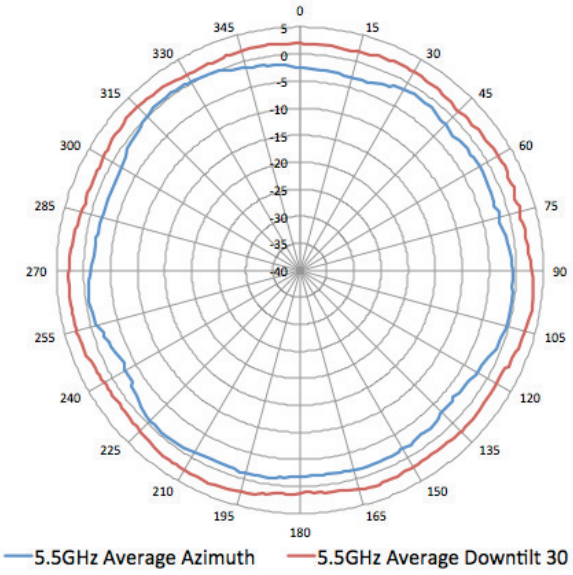
AP-315/IAP-315 ANTENNA PATTERN PLOTS

Horizontal planes (top view, AP facing forward)

Showing azimuth (0 degrees) and 30 degrees downtilt pattern



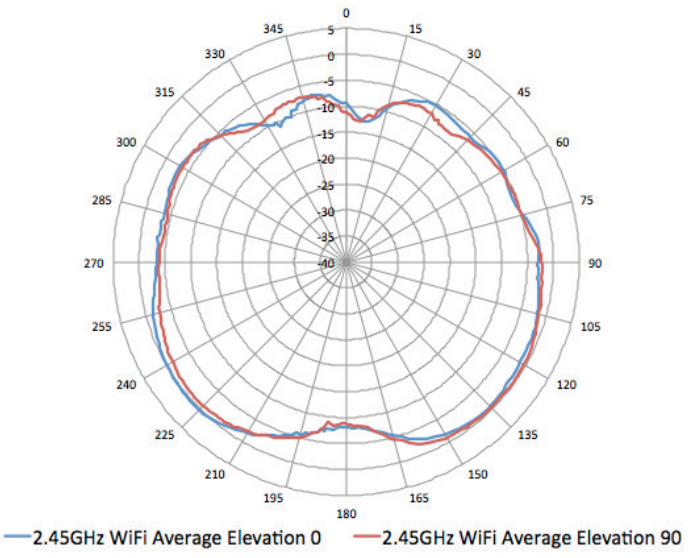
2.45GHz Wi-Fi (antennas 4,5)



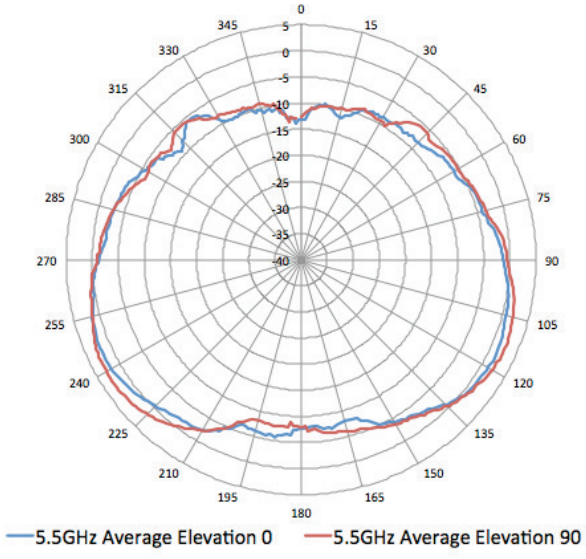
5.5GHz Wi-Fi (antennas 4,5,6,7)

Elevation planes (side view, AP facing down)

Showing side view with AP rotated 0 and 90 degrees



2.45GHz Wi-Fi (antennas 4,5)



5.5GHz Wi-Fi (antennas 4,5,6,7)

ORDERING INFORMATION

Part Number	Description
AP-310 Series Access Points	
JW795A	Aruba AP-314 802.11n/ac 2x2:2/4x4:4 MU-MIMO Dual Radio Antenna Connectors AP
JW797A	Aruba AP-315 802.11n/ac 2x2:2/4x4:4 MU-MIMO Dual Radio Integrated Antenna AP
JW796A	Aruba AP-314 TAA-compliant 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Dual Radio Antenna Connectors AP
JW798A	Aruba AP-315 TAA-compliant 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Dual Radio Integrated Antenna AP
JW805A	Aruba Instant IAP-314 (RW) 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Antenna Connectors AP
JW807A	Aruba Instant IAP-314 (US) 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Antenna Connectors AP
JW804A	Aruba Instant IAP-314 (JP) 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Antenna Connectors AP
JW811A	Aruba Instant IAP-315 (RW) 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Integrated Antenna AP
JW813A	Aruba Instant IAP-315 (US) 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Integrated Antenna AP
JW810A	Aruba Instant IAP-315 (JP) 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Integrated Antenna AP
JW806A	Aruba Instant IAP-314 (RW) TAA 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Ant Connectors AP
JW808A	Aruba Instant IAP-314 (US) TAA 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Ant Connectors AP
JW812A	Aruba Instant IAP-315 (RW) TAA 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Integrated Ant AP
JW814A	Aruba Instant IAP-315 (US) TAA 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Integrated Ant AP
JW811ACM	Aruba CM Instant IAP-315 (RW) 802.11n/ac Dual 2x2:2/4x4:4 MU-MIMO Radio Integrated Antenna AP
JW813ACM	Aruba CM Instant IAP-315 (US) 802.11n/ac Dual 2x2:2/4x4:4 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.

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