ARUBA 200 SERIES ACCESS POINTS

Bringing 802.11ac to the masses

Multifunctional and affordable Aruba 200 series 802.11ac wireless APs maximize mobile device performance in medium-density enterprise Wi-Fi environments.

These compact and cost-effective dual-radio APs deliver wireless data rates of up to 867 Mbps to 5-GHz devices with 802.11ac technology leveraging two spatial MIMO streams while simultaneously supporting 2.4-GHz 802.11n clients with data rates of up to 300 Mbps.

The AP-205 and IAP-205 models feature four integrated omni-directional downtilt antennas, while the AP-204 and IAP-204 support external detachable dual-band antennas using two RP-SMA antenna connectors.

UNIQUE BENEFITS

- Wi-Fi client optimization
  - To eliminate sticky client behavior while users roam, 200 series APs feature 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 lets WLANs 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 communication apps
  - The 200 series APs support priority handling and policy enforcement for unified communication apps, including Microsoft Lync with encrypted videoconferencing, voice, chat and desktop sharing.

CHOOSE YOUR OPERATING MODE

The 200 series APs offer a choice of operating modes to meet your unique management and deployment requirements.

- **Controller-managed AP or Remote AP (RAP) running ArubaOS.** When managed by Aruba Mobility Controllers, 200 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 AP running InstantOS**. In Aruba Instant mode, a single AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up on Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.

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.

If WLAN requirements change, a built-in migration path allows 200 series Instant APs to become part of a WLAN that is managed by a Mobility Controller.

AP-200 SERIES SPECIFICATIONS

- AP-205 and IAP-205
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and four integrated omni-directional downtilt antennas.
- AP-204 and IAP-204
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and two combined, diplexed external RP-SMA antenna connectors.

ADVANCED FEATURES

- 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 200 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.
- 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
  - Integrated wireless intrusion protection offers thread 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, URL and IPs, providing comprehensive protection against advanced online threats.
  - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys.
  - SecureJack-capable for secure tunneling of wired Ethernet traffic.

OPERATING MODES

- Aruba Instant AP
- 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 802.11ac 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 867 Mbps wireless data rate
- Support for up to 255 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz 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 (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, 40-MHz and 80-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 beamforming (TxBF) for increased reliability in signal delivery

- 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)
  - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2)
- 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

ANTENNAS

- AP-204/IAP-204: Two RP-SMA connectors for external dual band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 1.5 dB in 2.4 GHz and 3.0 dB in 5 GHz.
- AP-205/IAP-205: Four integrated downtilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 4.0 dBi in 2.4 GHz and 6.0 dBi in 5 GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is approximately 30 degrees.

OTHER INTERFACES

- 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
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (ENET)
  - Radio status (two; RAD0, RAD1)
- Reset button: factory reset (during device power up)
- Serial console interface (RJ-45)
- Kensington security slot

POWER

- Maximum (worst-case) power consumption: 12.5 watts (PoE) or 11.7 watts (DC)
- Maximum (worst-case) power consumption in idle mode: 8.4 watts (PoE) or 7.7 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:
  - Mounting brackets (2) for attaching to 9/16-inch or 15/16-inch T-bar drop-tile ceiling
- Spare mounting kit:
  - AP-220-MNT-C1: Aruba AP mount kit contains two ceiling-grid rail adapters for flat rails
- Optional mounting kits:
  - AP-220-MNT-C2: Aruba AP mount kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
  - AP-220-MNT-W1: Aruba AP mount kit contains one basic flat-surface wall/ceiling mount bracket
  - AP-200-MNT-W2: Aruba AP mount kit contains one secure flat-surface wall/ceiling mount cradle

MECHANICAL

- Dimensions/weight (unit, excluding mount accessories):
  - 150 mm x 150 mm x 41.5 mm (W x D x H)
  - 380 g
- Dimensions/weight (shipping):
  - 190 mm x 187 mm x 57 mm (W x D x H)
  - 550 g

ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 93% 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: 711,187 hours (81.2 years) at +25° C operating temperature

REGULATORY MODEL NUMBER

- AP-204 and IAP-204: APIN0204
- AP-205 and IAP-205: APIN0205

CERTIFICATIONS

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac

WARRANTY

- Aruba limited lifetime warranty

MINIMUM SOFTWARE VERSIONS

- ArubaOS 6.4.1.0
- Aruba InstantOS 4.1.1.0

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	-95.0
11 Mbps	18.0	-88.0
802.11g		
6 Mbps	18.0	-92.0
54 Mbps	16.0	-74.0
802.11n HT20		
MCS0/8	18.0	-91.0
MCS7/15	16.0	-71.0
802.11n HT40		
MCS0/8	18.0	-88.0
MCS7/15	16.0	-68.0
5 GHz		
802.11a		
6 Mbps	18.0	-93.0
54 Mbps	16.0	-75.0
802.11n HT20		
MCS0/8	18.0	-91.0
MCS7/15	15.0	-71.0
802.11n HT40		
MCS0/8	18.0	-88.0
MCS7/15	15.0	-68.0
802.11ac VHT20		
MCS0	18.0	-91.0
MCS9	12.0	-64.0
802.11ac VHT40		
MCS0	18.0	-88.0
MCS9	12.0	-61.0
802.11ac VHT80		
MCS0	18.0	-85.0
MCS9	12.0	-58.0

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

ANTENNA PATTERN PLOTS

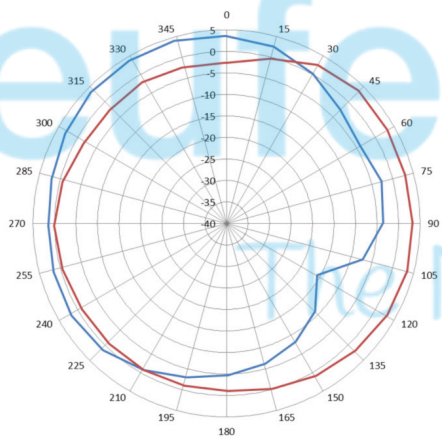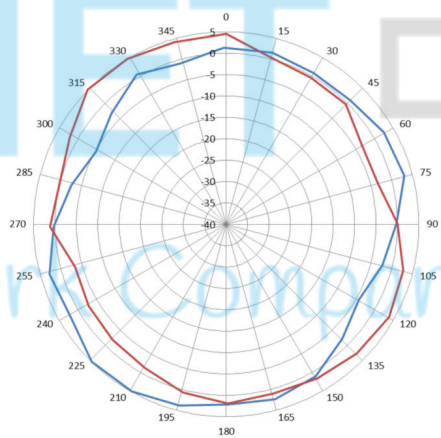Horizontal or azimuth plane (top view), 0 degrees downtilt
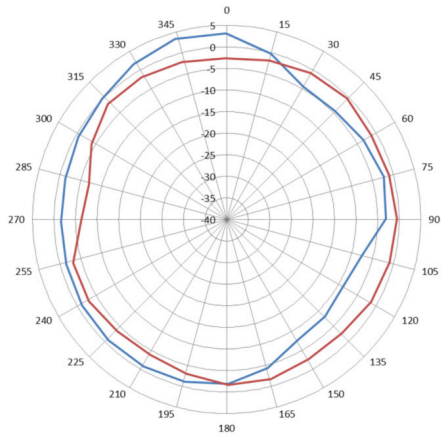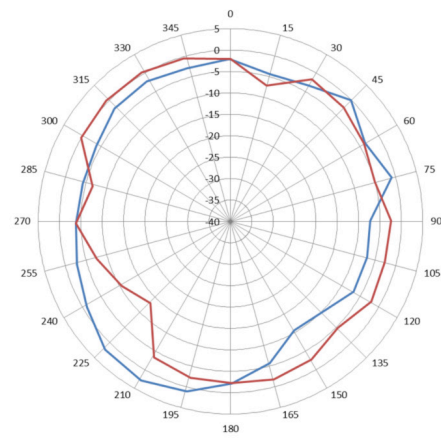
2.450 GHz

5.470 GHz

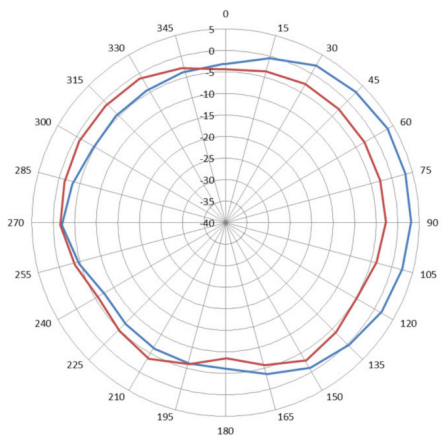Horizontal or azimuth plane (top view), 30 degrees downtilt
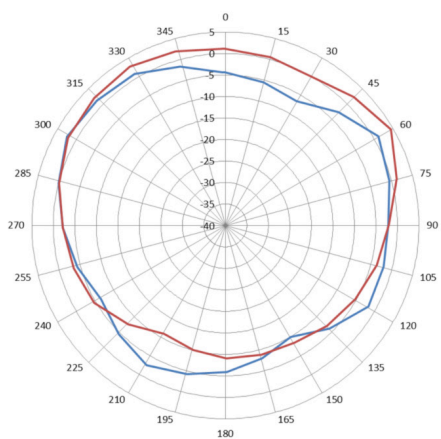
2.450 GHz

5.470 GHz

Elevation plane (side view, 0 degrees angle)

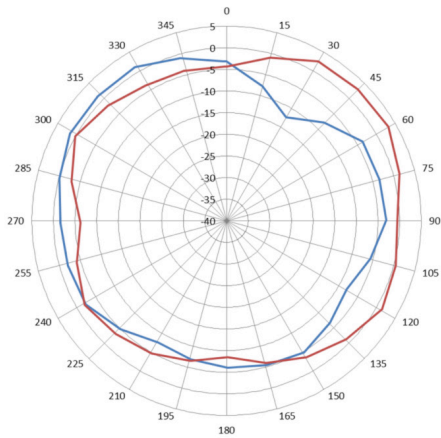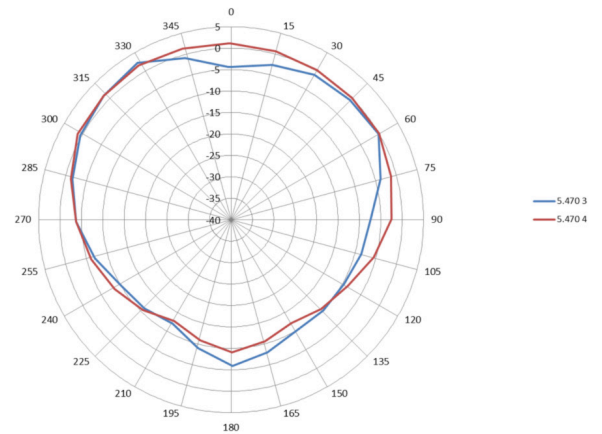2.450 GHz

5.470 GHz

ANTENNA PATTERN PLOTS

Elevation plane (side view, 90 degrees angle)

2.450 GHz

5.470 GHz

ORDERING INFORMATION

Part Number	Description
200 series access points	
JW162A	Aruba AP-204 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP
JW206A	Aruba Instant IAP-204 (RW) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP
JW207A	Aruba Instant IAP-204 (US) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP
JW205A	Aruba Instant IAP-204 (JP) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP
JW204A	Aruba Instant IAP-204 (IL) 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP
JW164A	Aruba AP-205 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP
JX962A	Aruba AP-205-MP10 802.11n/ac 2x2:2 Dual Radio Integrated Antenna Qty 10 AP Multi-pack
JW212A	Aruba Instant IAP-205 (RW) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP
JW213A	Aruba Instant IAP-205 (US) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP
JW211A	Aruba Instant IAP-205 (JP) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP
JW210A	Aruba Instant IAP-205 (IL) 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP
JY856A	Aruba Instant IAP-205 (EG) 802.11n/ac 2x2:2 Dual Radio Integrated Antenna AP
AP-200 Series Access Points (FIPS/TAA)	
JW163A	Aruba AP-204 FIPS/TAA-compliant 802.11n/ac Dual 2x2:2 Radio Antenna Connectors AP
JW165A	Aruba AP-205 FIPS/TAA-compliant 802.11n/ac Dual 2x2:2 Radio Integrated Antenna AP
JY733A	Aruba Instant IAP-204 (JP) FIPS/TAA 802.11n/ac Dual 2x2:2 Radio Ant Connectors AP
JY734A	Aruba Instant IAP-205 (JP) FIPS/TAA 802.11n/ac Dual 2x2:2 Radio Integrated Ant AP
JY736A	Aruba Instant IAP-205 (IL) FIPS/TAA 802.11n/ac Dual 2x2:2 Radio Integrated Ant AP
JY857A	Aruba Instant IAP-205 (EG) FIPS/TAA 802.11n/ac Dual 2x2:2 Radio Integrated Ant AP

ORDERING INFORMATION

Part Number	Description
Mounting Spares	
JW044A	AP-220-MNT-C1 2x Ceiling Grid Rail Adapter for Basic Flat Rails Mount Kit
Mounting Accessories	
JW045A	AP-220-MNT-C2 2x Ceiling Grid Rail Adapter for Interlude and Silhouette Mt Kit
JX961A	AP-MNT-CM1 Industrial Grade Indoor Access Point Metal Suspended Ceiling Rail Mount Kit
JW046A	AP-220-MNT-W1 Flat Surface Wall/Ceiling Black AP Basic Flat Surface Mount Kit
JW038A	AP-200-MNT-W2 AP AP-200 Series Flat Surface Mount Kit
JY705A	AP-200-MNT-W3 White Low Profile Box Style Secure Small AP Flat Surface Mount Kit
Generic Indoor AP Accessories	
JX989A	AP-AC-12V30A 12V/30W AC/DC Desktop Style 1.7/4.0/9.5mm Circular 90 Deg Plug DoE Level VI Adapter
JW621A	AP-AC-UN 12V/18W Indoor AP AC Universal Power Adapter
JW622A	AP-AC-12V18 12V/18W Indoor AP AC Power Adapter without Power Cord
JW627A	PD-3510G-AC 15.4W 802.3af PoE 10/100/1000Base-T Ethernet Midspan Injector