ARUBA 210 SERIES ACCESS POINTS

Affordable, high-performance 802.11ac

Multifunctional and affordable Aruba 210 series wireless access points (APs) maximize mobile device performance in medium-density, high-performance Wi-Fi environments.

These compact and cost-effective dual-radio APs deliver wireless data rates of up to 1.3 Gbps to 5-GHz devices with 802.11ac technology. They also support 3x3 MIMO with three spatial streams as well as 2.4-GHz 802.11n clients at data rates up to 450 Mbps.

The AP-215 and IAP-215 models have six integrated omni-directional downtilt antennas, while the AP-214 and IAP-214 support external, detachable dual-band antennas using three RP-SMA connectors.

UNIQUE BENEFITS

- Wi-Fi client optimization
  - The 210 series features patented ClientMatch™ technology to eliminate sticky client behavior while users roam. ClientMatch 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 to 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 210 series supports 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 210 series supports your choice of operating modes to meet unique management and deployment requirements.

- Controller-managed AP or Remote AP (RAP) running ArubaOS™. When managed by Aruba Mobility Controllers, 210 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.

AP-210 SERIES SPECIFICATIONS

- AP-215 and IAP-215
  - 2.4-GHz (450 Mbps max rate) and 5-GHz (1.3 Gbps max rate) radios, each with 3x3 MIMO and six integrated omni-directional downtilt antennas.
- AP-214 and IAP-214
  - 2.4-GHz (450 Mbps max rate) and 5-GHz (1.3 Gbps max rate) radios, each with 3x3 MIMO and three combined, diplexed (dual-band) 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.
  - 210 series APs can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, VPN tunnels to extend corporate resources to remote locations, 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
  - With an OpenDNS service subscription, Aruba Instant RAPs deliver 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

- 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 (targeted for introduction in ArubaOS 6.4.3)

WIRELESS RADIO SPECIFICATIONS

- AP type: Indoor, dual radio, 5 GHz 802.11ac and 2.4 GHz 802.11n 3x3:3
- Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 3x3 MIMO with three spatial streams and up to 1.3 Gbps wireless data rate
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 GHz to 5.250 GHz
  - 5.250 GHz to 5.350GHz
  - 5.470 GHz to 5.725GHz
  - 5.725 GHz 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):
  - 2.4-GHz band: +23 dBm (18 dBm per chain)
  - 5-GHz band: +23 dBm (18 dBm per chain)
  - 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 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 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: 6.5 to 450 (MCS0 to MCS23)
  - 802.11ac: 6.5 to 1,300 (MCS0 to MCS9, NSS = 1 to 3)
- 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-214/IAP-214: Three RP-SMA connectors for external dual-band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 1.0 dB in 2.4 GHz and 2.0 dB in 5 GHz.
- AP-215/IAP-215: Six integrated downtilt omni-directional antennas for 3x3 MIMO with maximum antenna gain of 5.0 dBi in 2.4 GHz and 5.0 dBi in 5 GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. Downtilt angle for maximum gain is roughly 30 degrees.

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)
  - PoE-PD: 48 Vdc (nominal) 802.3af or 802.3at PoE
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- USB 2.0 host interface (Type A connector)
- 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: 14.9 watts (PoE) or 13.6 watts (DC)
  - Excludes power consumed by external USB device (and internal overhead); this could add up to 6 watts (PoE) or 5.5 watts (DC) for 5W/1A USB device
- Maximum (worst-case) power consumption in idle mode: 8.2 watts (PoE) or 7.4 watts (DC)
- Direct DC source: 12 Vdc nominal, +/- 5%
- Power over Ethernet: 48 Vdc (nominal) 802.3af/802.3at compliant source
  - USB port is disabled when using an 802.3af PoE power source; for unrestricted operation with PoE power, use an 802.3at 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-220-MNT-W2: Aruba AP mount kit contains one secure flat-surface wall/ceiling mount cradle

MECHANICAL

- Dimensions/weight (unit, excluding mount accessories):
  - 180 mm x 180 mm x 45 mm (W x D x H)
  - 610 g
- Dimensions/weight (shipping):
  - 220 mm x 225 mm x 55 mm (W x D x H)
  - 860 g

ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to +50° C (+32° F to +122° F)
  - Humidity: 5% to 95% 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 1999/5/EC
- Low Voltage Directive 2006/95/EC
- 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.

RELIABILITY

MTBF: 538,975 hours (61.5 years) at +25° C operating temperature

REGULATORY MODEL NUMBERS

· AP-214 and IAP-214: APIN0214
· AP-215 and IAP-215: APIN0215

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™ 6.4.2.0
· Aruba InstantOS™ 4.1.1.0

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	-97.0
11 Mbps	18.0	-89.0
802.11g 2.4 GHz		
6 Mbps	18.0	-93.0
54 Mbps	18.0	-75.0
802.11n HT20 2.4 GHz		
MCS0/8/16	18.0	-92.0
MCS7/15/23	16.0	-72.0
802.11n HT40 2.4 GHz		
MCS0/8/16	18.0	-90.0
MCS7/15/23	16.0	-70.0
802.11a 5 GHz		
6 Mbps	18.0	-93.0
54 Mbps	16.5	-75.0
802.11n HT20 5 GHz		
MCS0/8/16	18.0	-92.0
MCS7/15/23	16.0	-72.0
802.11n HT40 5 GHz		
MCS0/8/16	18.0	-89.0
MCS7/15/23	16.0	-69.0
802.11ac VHT20 5 GHz		
MCS0	18.0	-92.0
MCS9	14.0	-65.0
802.11ac VHT40 5 GHz		
MCS0	18.0	-89.0
MCS9	14.0	-62.0
802.11ac VHT80 5 GHz		
MCS0	18.0	-86.0
MCS9	14.0	-59.0

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

ANTENNA PATTERN PLOTS

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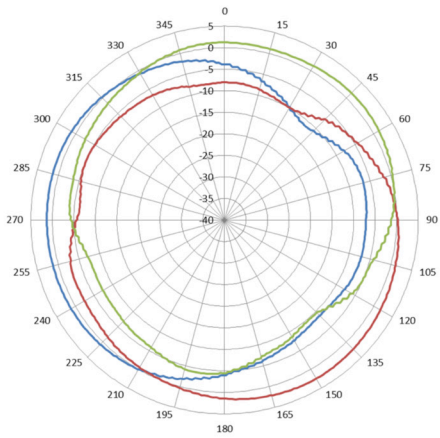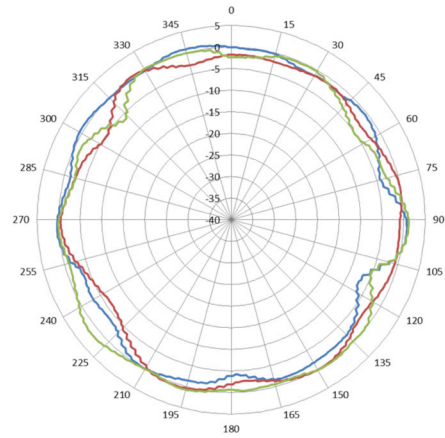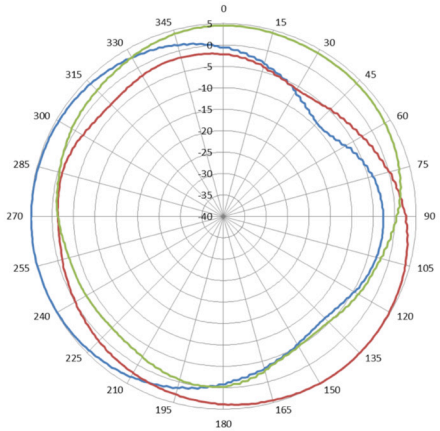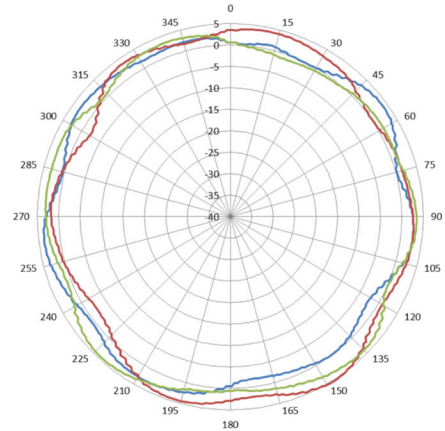
2.450 GHz

5.550 GHz

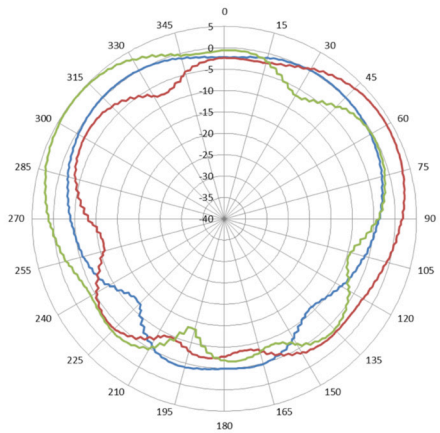Horizontal or azimuth plane (top view, 30 degrees downtilt)
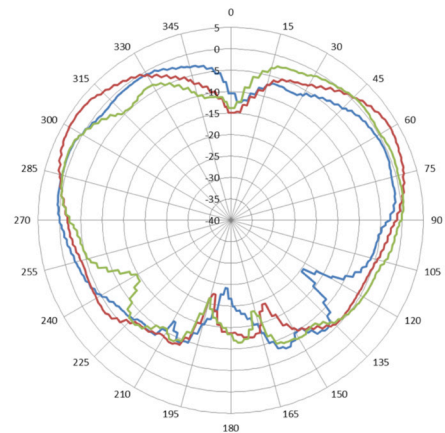
2.450 GHz
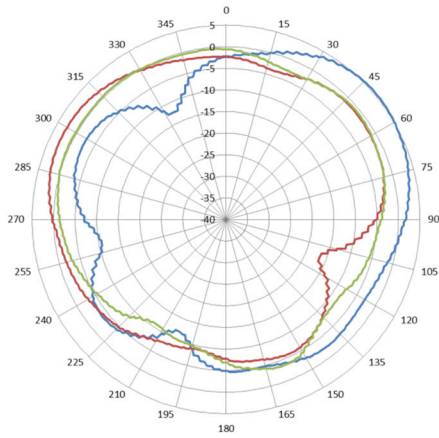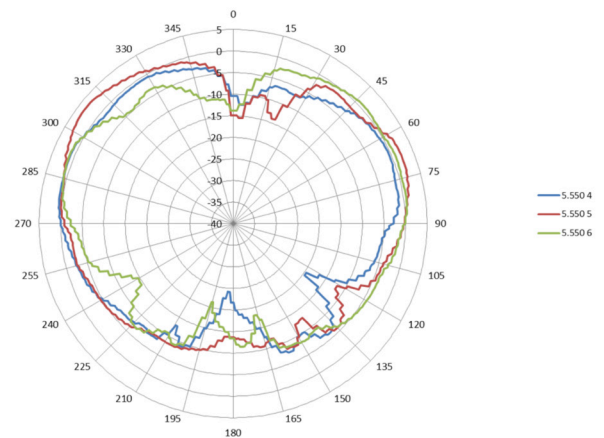
5.550 GHz

Elevation plane (side view, 0 degrees angle)

2.450 GHz

5.550 GHz

ANTENNA PATTERN PLOTS

Elevation plane (side view, 90 degrees angle)

2.450 GHz

5.550 GHz

ORDERING INFORMATION	
Part Number	**Description**
AP-210 Series Access Points	
AP-214	Aruba AP-214 wireless access point, 802.11n/ac, 3x3:3, dual radio, antenna connectors
IAP-214-RW	Aruba Instant IAP-214 wireless access point, 802.11n/ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: Rest of world
IAP-214-US	Aruba Instant IAP-214 wireless access point, 802.11n/ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: United States
IAP-214-JP	Aruba Instant IAP-214 wireless access point, 802.11n/ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: Japan
AP-215	Aruba AP-215 wireless access point, 802.11n/ac, 3x3:3, dual radio, integrated antennas
IAP-215-RW	Aruba Instant IAP-215 wireless access point, 802.11n/ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: Rest of world
IAP-215-US	Aruba Instant IAP-215 wireless access point, 802.11n/ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: United States
IAP-215-JP	Aruba Instant IAP-215 wireless access point, 802.11n/ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: Japan
Mounting Spares	
AP-220-MNT-C1	Aruba access point mount kit (ceiling grid) Contains two ceiling grid rail adapters (for flat rails). Color: Black. Spare.

ORDERING INFORMATION

Part Number	Description
Mounting Accessories	
AP-220-MNT-C2	Aruba access point mount kit (ceiling grid) Contains two ceiling grid rail adapters (for Interlude and silhouette style rails). Color: Black
AP-220-MNT-W1	Aruba access point mount kit (basic, flat surface) Contains one flat-surface wall/ceiling mount bracket. Color: Black
AP-130-MNT	Aruba access point mount kit (basic, flat surface) Contains one flat-surface wall/ceiling mount bracket. Color: Off-white
AP-220-MNT-W2	Aruba access point mount kit (secure, flat surface). Contains one flat surface wall/ceiling mount cradle. Color: Black
AP-220-MNT-W2W	Aruba access point mount kit (secure, flat surface). Contains one flat-surface wall/ceiling mount cradle. Color: White
Generic Indoor AP Accessories	
AP-AC-UN	12V/18W indoor access point AC power adapter. Universal, ships with eight 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	15.4-watt 802.3af PoE midspan injector, 10/100/1000BASE-T Ethernet
PD-9001GR-AC	30-watt 802.3at PoE midspan injector, 10/100/1000BASE-T Ethernet
Antennas	Please go to the Aruba web site for antenna part numbers.