

Dell Networking 210 Series Access Points

Affordable, high-performance 802.11ac

Multifunctional and affordable Dell Networking 210 Series 802.11ac wireless 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 1.3Gbps to 5GHz devices with 802.11ac technology. They also support 3x3 MIMO with three spatial streams as well as 2.4GHz 802.11n clients at data rates up to 450Mbps.

The W-AP215 and W-IAP215 models have six integrated omni-directional downtilt antennas, while the W-AP214 and W-IAP214 support external, detachable dual-band antennas using three RP-SMA antenna connectors.



Unique benefits

Wi-Fi client optimization

- 210 Series APs feature 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 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

- 210 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

210 Series APs offer a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed AP or Remote AP (RAP) running AOS. When managed by Dell Networking W-Series 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 controller data sheets for more details.
- Instant AP running InstantOS™. In Instant mode, a single AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up an 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 210 Series Instant APs to become part of a WLAN that is managed by a controller.

210 Series specifications

- W-AP215 and W-IAP215
 - 2.4GHz (450Mbps max rate) and 5GHz (1.3Gbps max rate) radios, each with 3x3 MIMO and six integrated omni-directional downtilt antennas.
- W-AP214 and W-IAP214
 - 2.4GHz (450Mbps max rate) and 5GHz (1.3Gbps max rate) radios, each with 3x3 MIMO and three combined, diplexed external RP-SMA antenna connectors.

Advanced capabilities

- 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 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 2.4GHz and 5GHz radio bands to identify sources of RF interference.

- Security
 - With an OpenDNS service subscription, Dell 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

- Instant AP
- 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, 5GHz 802.11ac and 2.4GHz 802.11n 3x3:3
- Software-configurable dual radio supports 5GHz (Radio 0) and 2.4GHz (Radio 1)
- 3x3 MIMO with two spatial streams and up to 1.3Gbps wireless data rate
- Supported frequency bands (country-specific restrictions apply):
 - 2.4000 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: +23 dBm (18 dBm per chain)
 - 5GHz band: +23 dBm (18 dBm per chain)
- 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 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 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

- W-AP214/W-IAP214: 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 2.4GHz and 2.0 dB in 5GHz.
- W-AP215/W-IAP215: Six integrated down-tilt omni-directional antennas for 3x3 MIMO with maximum antenna gain of 5.0 dBi in 2.4GHz and 5.0 dBi in 5GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. Downtilt angle for maximum gain is roughly 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: 48V DC (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: 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: 12V DC nominal, +/- 5%



- Power over Ethernet (PoE): 48V DC (nominal) 802.3af-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: Dell AP mounting kit contains two ceiling-grid rail adapters for flat rails
- Optional mounting kits:
 - AP-220-MNT-C2: Dell AP mounting kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
 - AP-220-MNT-W1: Dell AP mounting kit contains one basic flat-surface wall/ceiling mounting bracket
 - AP-200-MNT-W2: Dell AP mounting kit contains one secure flat-surface wall/ceiling mounting cradle

Mechanical

- Dimensions/weight (unit, excluding mounting 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 contact your Dell sales representative.

Reliability

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

Regulatory model numbers

- W-AP214 and W-IAP214: APIN0214
- W-AP215 and W-IAP215: APIN0215

Certifications

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



Warranty

- Extended lifetime warranty

Minimum operating system software versions

- AOS 6.4.2.0
- InstantOS 4.1.1.0



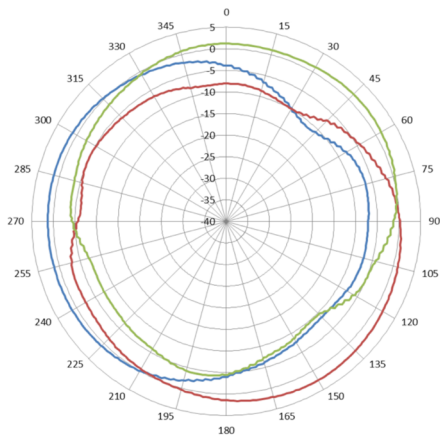
RF performance table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4GHz		
802.11b		
1Mbps	18.0	-97.0
11Mbps	18.0	-89.0
802.11g		
6Mbps	18.0	-93.0
54Mbps	18.0	-75.0
802.11n HT20		
MCS0/8/16	18.0	-92.0
MCS7/15/23	16.0	-72.0
802.11n HT40		
MCS0/8/16	18.0	-90.0
MCS7/15/23	16.0	-70.0
5GHz		
802.11a		
6Mbps	18.0	-93.0
54Mbps	16.5	-75.0
802.11n HT20		
MCS0/8/16	18.0	-92.0
MCS7/15/23	16.0	-72.0
802.11n HT40		
MCS0/8/16	18.0	-89.0
MCS7/15/23	16.0	-69.0
802.11ac VHT20		
MCS0	18.0	-92.0
MCS9	14.0	-65.0
802.11ac VHT40		
MCS0	18.0	-89.0
MCS9	14.0	-62.0
802.11ac VHT80		
MCS0	18.0	-86.0
MCS9	14.0	-59.0

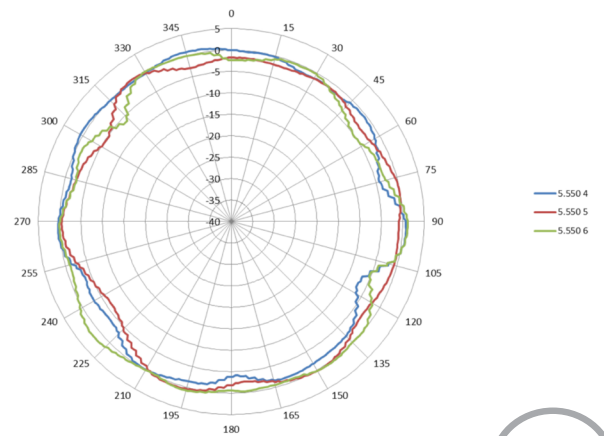
Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local

Antenna pattern plots

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



2.450GHz

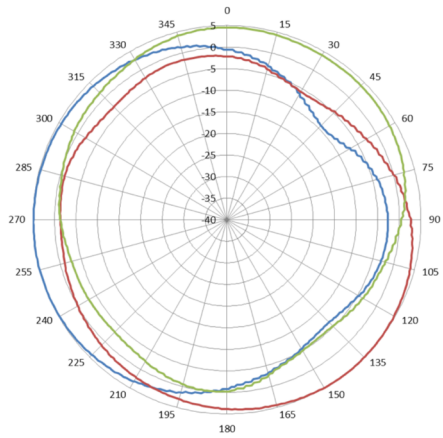


5.550GHz

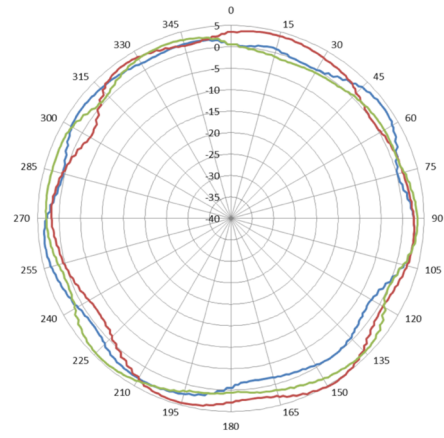


Antenna pattern plots

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

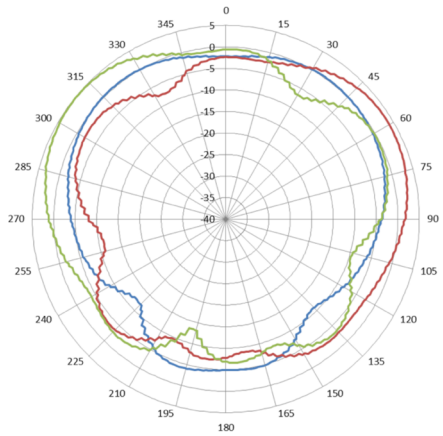


2.450GHz

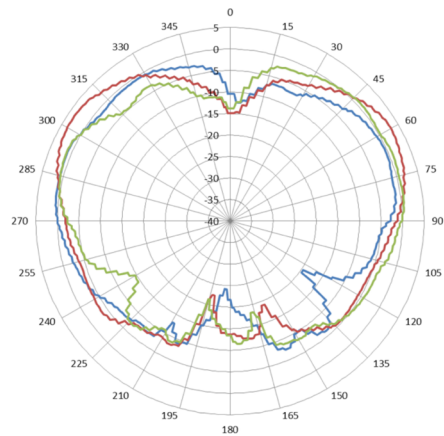


5.550GHz

Elevation plane (side view, 0 degrees angle)

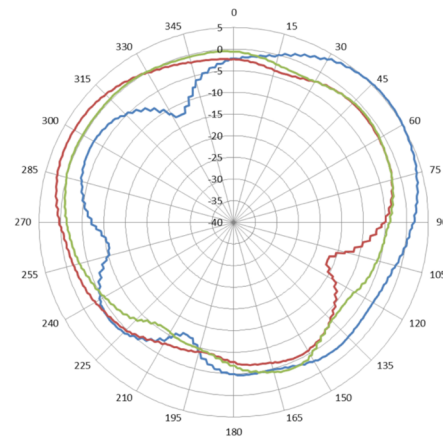


2.450GHz

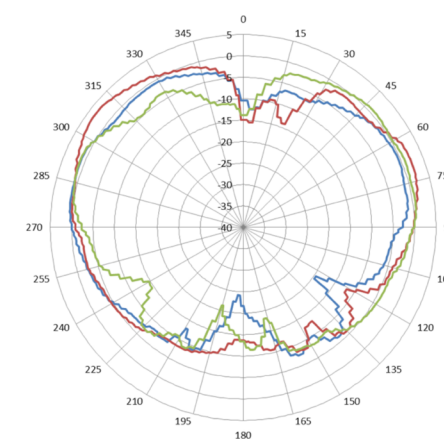


5.550GHz

Elevation plane (side view, 90 degrees angle)



2.450GHz



5.550GHz



Ordering information

Part number	Description
Access points	
W-AP214	Dell W-AP214 Wireless Access Point, 802.11n/ac, 3x3:3, dual radio, antenna connectors
W-IAP214-RW	Dell W-IAP214 Wireless Instant Access Point, 802.11n/ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: Rest of World
W-IAP214-US	Dell W-IAP214 Wireless Instant Access Point, 802.11n/ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: United States
W-IAP214-JP	Dell W-IAP214 Wireless Instant Access Point, 802.11n/ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: Japan
W-AP215	Dell W-AP215 Wireless Access Point, 802.11n/ac, 3x3:3, dual radio, integrated antennas
W-IAP215-RW	Dell W-IAP215 Wireless Instant Access Point, 802.11n/ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: Rest of World
W-IAP215-US	Dell W-IAP215 Wireless Instant Access Point, 802.11n/ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: United States
W-IAP215-JP	Dell W-IAP215 Wireless Instant Access Point, 802.11n/ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: Japan
Mounting spares	
AP-220-MNT-C1	Dell Access Point Mounting kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Spare. Color: Black
Mounting accessories	
AP-220-MNT-C2	Dell Access Point Mounting kit (ceiling grid). Contains 2x ceiling grid rail adapters (for Interlude and silhouette style rails). Color: Black
AP-220-MNT-W1	Dell Access Point Mounting kit (basic, flat surface). Contains 1x flat surface wall/ceiling mounting bracket. Color: Black
AP-130-MNT	Dell Access Point Mounting kit (basic, flat surface). Contains 1x flat-surface wall/ceiling mount bracket. Color: Off-white
AP-200-MNT-W2	Dell Access Point Mounting kit (secure, flat surface). Contains 1x flat surface wall/ceiling mounting cradle. Color: Black
AP-220-MNT-W2W	Dell Access Point Mounting kit (secure, flat surface). Contains 1x 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 8x country-specific plug inserts (US, EU, UK, Australia, China, Korea, Argentina, Brazil).
AP-AC-12V18	12V/18W Indoor Access Point AC power adapter. Does not include country-specific power cord (order separately).
PD-3501G-AC	15.4W 802.3af PoE midspan injector, 10/100/1000BASE-T Ethernet
PD-9001GR-AC	30W 802.3at PoE midspan injector, 10/100/1000BASE-T Ethernet

*Select Dell Networking products carry an Extended Life Warranty with Basic Hardware Service. Warranty covers repair or replacement of the product for as long as it remains in use by the customer. In the event of discontinuance of product manufacture, Dell Extended Life Warranty extends until five (5) years after end of product model sales. Warranty limits any power supply, antennae or accessories to one (1) year from date of purchase. Warranty does not include troubleshooting, configuration, or other advanced service provided by Dell ProSupport. The Extended Life Limited Hardware Warranty is not transferrable. For more information see dell.com/warranty.

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