Dell Networking W-Series 110 Series access points

Optimize client performance in high-density WiFi environments

Multifunctional and affordable 110 Series wireless access points (APs) maximize mobile device performance in high-density WiFi environments while minimizing interference from LTE cellular networks.

These high-performance 802.11n APs deliver wireless data rates up to 450Mbps per radio and employ three spatial streams to support 50% more throughput and mobile devices than previous-generation APs.

The W-AP115 and W-IAP115 APs feature a 2.4GHz and a 5GHz radio, each with 3x3:3 MIMO and three integrated omni-directional downtilt antennas. The W-AP114 and W-IAP114 models feature the same radios with three combined and diplexed external antenna connectors.

Advanced Cellular Coexistance (ACC)

The 110 Series ACC feature enables Dell Networking WLANs to perform at peak efficiency by minimizing interference from 3G/4G LTE networks, distributed antenna systems and commercial small cell/femtocell equipment.

WiFi client optimization

To eliminate sticky client behavior while users roam, the 110 Series features patented ClientMatch™ technology, which continuously gathers session performance metrics from mobile devices.

If a mobile device moves out of range of an AP or if RF interference impedes performance, ClientMatch automatically steers the device to a better AP.

Quality of service for Lync

110 Series APs additionally support priority handling and policy enforcement for individual Microsoft Lync media on the same device, including encrypted videoconferencing, voice, chat and desktop sharing.and 5GHz radio bands to optimize WiFi client performance and ensures that APs stay clear of RF interference.

Best-in-class RF management

All Dell Networking W-Series APs include Adaptive Radio Management™ (ARM) technology, which is essential to creating the most reliable, high-performance WLANs. ARM manages the 2.4GHz and 5GHz radio bands to optimize WiFi client performance and ensures that APs stay clear of RF interference.

110 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.

Choose your operating mode

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

Controller-managed mode: When managed by Dell Networking W-Series Mobility Controllers, 110 Series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding. Refer to the Mobility Controller data sheets for more details.

Instant™ mode: 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 and network requirements change, a built-in migration path allows 110 Series Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

110 Series access points maximize mobile device performance in high-density WiFi environments while minimizing interference from LTE cellular networks.

Advanced features

ACC

- Minimizes interference from 3G/4G LTE networks, distributed antenna systems and commercial small cell/ femtocell equipment

WiFi client optimization

- ClientMatch™ technology eliminates sticky clients by continuously gathering session performance metrics to steer devices to the best AP and radio while users roam

Best-in-class RF management

- Integrated Adaptive Radio Management™ technology manages the 2.4GHz and 5GHz radio bands and ensures that APs stay clear of RF interference

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 Remote Access Points (RAPs) deliver integrated web filtering, malware and botnet protection to every device connected to the WLAN
- Integrated Trusted Platform Module for secure storage of credentials and keys
- SecureJack-capable for secure tunneling of wired Ethernet traffic

Operating modes

802.11a/b/g/n Instant AP

802.11a/b/g/n Mobility Controller-managed AP

Air monitor for wireless intrusion protection

Spectrum analyzer identifies RF interference sources

Hybrid AP for wireless intrusion protection and spectrum analysis

Secure enterprise mesh

RAP when used with a mobility controller

Wireless radio specifications

AP type: Indoor, dual radio, 5GHz and 2.4GHz 802.11n 3x3:3

Software-configurable dual radio supports 5GHz (Radio 0) and 2.4GHz (Radio 1)

3x3 MIMO with three spatial streams and up to 450Mbps 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: Orthogonal frequency-division multiplexing (OFDM)

Supported modulation types:

- 802.11b: BPSK, QPSK, CCK
- 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM

Transmit power: Configurable in increments of 0.5dBm

Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):

- 2.4GHz band: +28dBm (23dBm per chain)
- 5GHz band: +25dBm (20dBm per chain)

ACC minimizes interference from LTE cellular networks

Maximum ratio combining for improved receiver performance

Cyclic delay/shift diversity for improved downlink RF performance

Short guard interval for 20MHz and 40MHz channels

Space-time block coding for increased range and improved reception

Low-density parity check for high-efficiency error correction and increased throughput

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)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

Power

Maximum power consumption: 13 watts, plus up to 2.5 watts for attached USB device

Power sources sold separately

Direct DC source: 12V DC nominal, +/- 5%

Power over Ethernet (PoE): 48V DC (nominal) 802.3af or 802.3at-compliant source

- USB host port is disabled when using an 802.3af PoE power source; for unrestricted operation with PoE power, use an 802.3at compliant source

Antennas

W-AP114: Three RP-SMA connectors for external dual-band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 1.5dB in 2.4GHz and 2.5dB in 5GHz.

W-AP115: Six integrated down-tilt omni-directional antennas for 3x3 MIMO with maximum antenna gain of 4.5dBi in 2.4GHz and 5.5dBi in 5GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of W-AP115.

Other interfaces

10/100/1000Base-T Ethernet network interface (RJ-45)

- Auto-sensing link speed and MDI/MDX
- 802.3az Energy-Efficient Ethernet
- PoE-PD: 48V DC 802.3af PoE or 802.3at PoE+

DC power interface, accepts 1.7/4.0mm center-positive circular plug with 9.5mm length

USB 2.0 host interface (Type A connector)

Serial console interface (RJ-45, TTL levels)

Visual indicators (LEDs):

- Power/system status
- Ethernet link status (ENET)
- Radio status (2x; RAD0, RAD1)

Kensington security slot

Reset button

Mounting

Included with AP:

- 2 mounting brackets for attaching to 9/16-inch or 15/16-inch T-bar drop-tile ceiling

Optional mounting kits:

- W-AP220-MNT-C2: AP mount kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
- W-AP220-MNT-W1: AP mount kit contains one flat-surface wall/ceiling mount bracket
- W-AP220-MNT-W2: AP mount kit contains one flat-surface wall/ceiling secure mount cradle

Mechanical

Dimensions/weight (unit, excluding mount accessories):

- 180 mm (w) x 180 mm (d) x 45 mm (h)
- 7.09" (w) x 7.09" (d) x 1.77" (h)
- 650 g (1.43 lbs)

Dimensions/weight (shipping):

- 220 mm (w) x 225 mm (d) x 55 mm (h)
- 8.66" (w) x 8.86" (d) x 2.17" (h)
- 880 g (1.94 lbs)

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 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, EN60601-1-2

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

Regulatory model numbers

W-AP114 and W-IAP114: APIN0114

W-AP115 and W-IAP115: APIN0115

Certifications

CB Scheme Safety, cTUVus

UL2043 plenum rating

Wi-Fi Alliance (WFA) certified 802.11a/b/g/n

Warranty

Dell limited lifetime warranty

Minimum software versions

Dell ArubaOS™ 6.3.1.0

Dell Instant 4.0.0.0

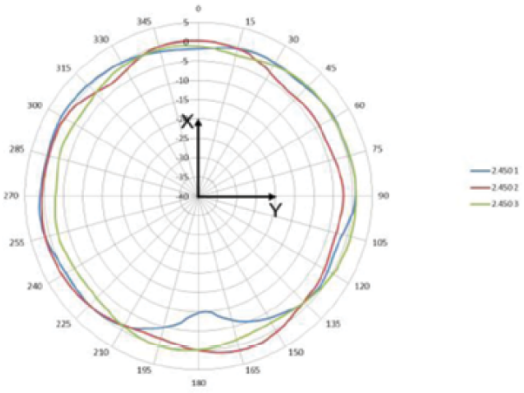
RF performance table

	Maximum transmit power (dBm) per transmit chain		Receiver sensitivity (dBm) per receive chain (TBD)	
802.11b	**2.4GHz**		**2.4GHz**	
1Mbps	23.0		-97.0	
11Mbps	23.0		-88.0	
802.11/a	**2.4GHz**	**5GHz**	**2.4GHz**	**5GHz**
6Mbps	21.0	20.0	-93.0	-92.0
54Mbps	18.0	16.0	-76.0	-74.0
802.11n HT20	**2.4GHz**	**5GHz**	**2.4GHz**	**5GHz**
MCS0/8/16	20.0	19.0	-93.0	-92.0
MCS7/15/23	16.0	14.0	-73.0	-71.0
802.11n HT40	**2.4GHz**	**5GHz**	**2.4GHz**	**5GHz**
MCS0/8/16	20.0	19.0	-90.0	-88.0
MCS7/15/23	16.0	14.0	-69.0	-67.0

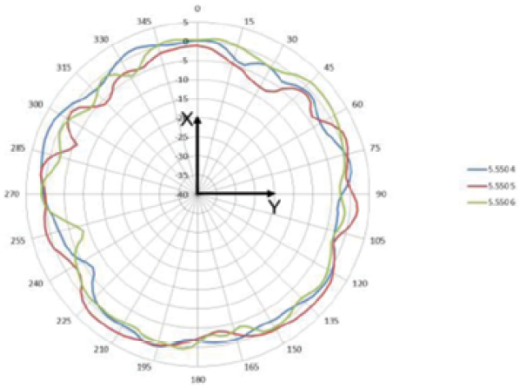
Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings. RF performance numbers for the W-AP114 are slightly lower due to additional internal RF circuitry.

W-AP115 antenna pattern plots

Horizontal or Azimuth plane (top view)

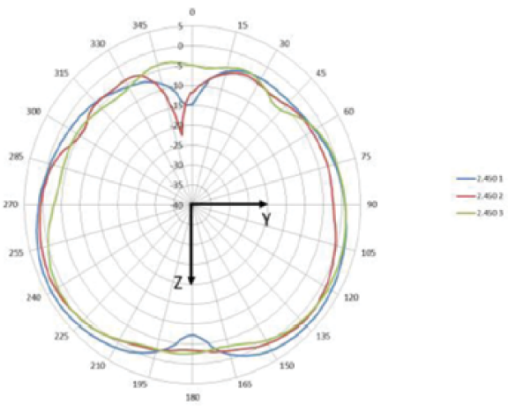


2.450GHz

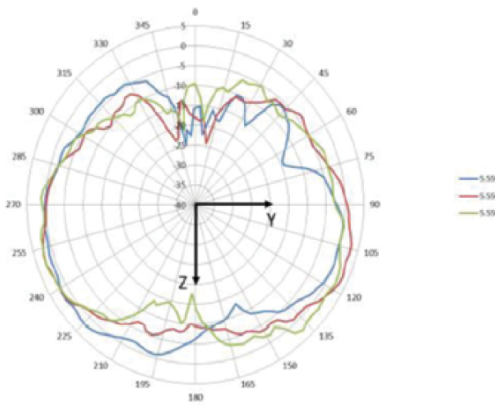


5.550GHz

Elevation plane (side view)



2.450GHz



5.550GHz

Ordering information

Part Number	Description
	W-AP110 Series access points
W-AP114	Dell Networking W-AP114 Wireless Access Point, 802.11n, 3x3:3, dual radio, antenna connectors
W-IAP114-RW	Dell Networking W-IAP114 Wireless Instant Access Point, 802.11n, 3x3:3, dual radio, antenna connectors - Restricted regulatory domain: Rest Of World (includes Japan)
W-IAP114-US	Dell Networking W-IAP114 Wireless Instant Access Point, 802.11n, 3x3:3, dual radio, antenna connectors - Restricted regulatory domain: United States
W-AP115	Dell Networking W-AP115 Wireless Access Point, 802.11n, 3x3:3, dual radio, integrated antennas
W-IAP115	Dell Networking W-IAP115 Wireless Instant Access Point, 802.11n, 3x3:3, dual radio, integrated antennas - Restricted regulatory domain: Rest Of World (includes Japan)
W-IAP115-US	Dell Networking W-IAP115 Wireless Instant Access Point, 802.11n, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: United States
	Mounting accessories
AP-220-MNT-C2	Dell Networking Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for interlude and silhouette style rails).
AP-220-MNT-W1	Dell Networking Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket.
AP-220-MNT-W2	Dell Networking Access Point Mount Kit (box style, secure, flat surface). Contains 1x flat surface wall/ceiling secure mount cradle.
	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)
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-9001G-AC	30W 802.3at PoE midspan injector, 10/100/1000Base-T Ethernet
Antennas	See info on Dell.com/Wireless for antenna part numbers

*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.

Learn More at Dell.com/Networking

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