Dell Networking 103 Series Access Points

Cost-effective dual-band coverage in low-density enterprise Wi-Fi environments

Multifunctional and affordable Dell Networking 103 Series wireless access points (APs) maximize mobile device performance in low-density Wi-Fi environments while minimizing interference from cellular networks.

These compact and cost-effective APs deliver wireless data rates up to 300 Mbps per radio employing 802.11n technology with two spatial MIMO streams.

The W-AP103 and Instant W-IAP103 models feature a 2.4GHz and a 5GHz radio, each with 2x2:2 MIMO and two integrated omni-directional downtilt antennas per radio.

Advanced Cellular Coexistence (ACC)

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

Wi-Fi client optimization

To eliminate sticky client behavior while users roam, the Dell Networking 103 Series APs feature Dell's 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.

Quality of service for Lync

Dell Networking 103 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.

Best-in-class RF management

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

Dell Networking 103 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

Dell Networking 103 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, the W-AP103 offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding. Please refer to the Dell Networking Mobility Controller data sheets for more details.

Instant™ mode: A single W-IAP103 automatically distributes the network configuration to other Instant APs (IAPs) in the WLAN. Simply power-up one IAP, configure it over the air, and plug in the other IAPs – the entire process takes about five minutes.

If WLAN and network requirements change, a built-in migration path allows Dell Networking Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

Advanced features

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 Networking Instant APs 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

- 802.11a/b/g/n Instant AP
- 802.11a/b/g/n Controller-managed AP
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer
- Secure enterprise mesh
- Remote AP (RAP) when used with a Controller

Wireless radio specifications

- AP type: Indoor, dual radio, 5GHz and 2.4GHz 802.11n 2x2:2
- Software-configurable dual radio supports 5GHz (Radio 0) and 2.4GHz (Radio 1)
- 2x2 MIMO with two spatial streams and up to 300 Mbps 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 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
- 2.4GHz band: +21 dBm (18 dBm per chain)
- 5GHz 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 and 40-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
- 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)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

Power

- Maximum power consumption: 9.5W (POE) or 8W (DC)
- Power sources sold separately
- Direct DC source: 12 Vdc nominal, +/- 5%
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af or 802.3at-compliant source

Antennas

- Four integrated down-tilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.9 dBi at 2.44GHz, 4.1 dBi at 5.2GHz and 4.3 dBi at 5.8GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP.

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 or 802.3at PoE+
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Serial console interface (proprietary; optional adapter cable available)
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (ENET)
  - Radio status (two; RAD0, RAD1)
- Kensington security slot
- Reset button

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: AP mounting kit contains two ceiling-grid rail adapters for flat rails
- Optional mounting kits:
  - AP-220-MNT-C2: AP mounting kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
  - AP-220-MNT-W1: AP mounting kit contains one basic flat-surface wall/ceiling mounting bracket

Mechanical

- Dimensions/weight (unit, excluding mounting accessories):
  - 150 mm (W) x 150 mm (D) x 41.5 mm (H)
  - 5.9" (W) x 5.9" (D) x 1.63" (H)
  - 300 g (0.66 lbs)
- Dimensions/weight (shipping):
  - 192 mm (W) x 178 mm (D) x 68 mm (H)
  - 7.6" (W) x 7.0" (D) x 2.68" (H)
  - 500 g (1.10 lbs)

Environmental

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° 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 and EN 60601-1-2

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

Regulatory model number

- W-AP103 and W-IAP103: APIN0103

Certifications

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

Warranty

- Extended lifetime warranty

Minimum operating system software versions

- AOS 6.4.0.1
- InstantOS 4.1.0.0

RF performance table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4GHz		
1 Mbps	18	-93
11 Mbps	18	-91
802.11g 2.4GHz		
6 Mbps	18	-88
54 Mbps	16	-76
802.11n HT20 2.4GHz		
MCS0/8/16	18	-88
MCS7/15/23	14	-73
802.11n HT40 2.4GHz		
MCS0/8/16	18	-86
MCS7/15/23	14	-70
802.11a 5GHz		
6 Mbps	18	-92
54 Mbps	16	-76
802.11n HT20 5GHz		
MCS0/8/16	18	-92
MCS7/15/23	14	-73
802.11n HT40 5GHz		
MCS0/8/16	18	-89
MCS7/15/23	14	-69

Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings.
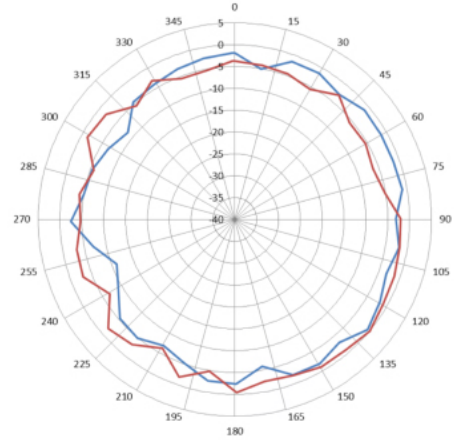
W-AP103 antenna pattern plots
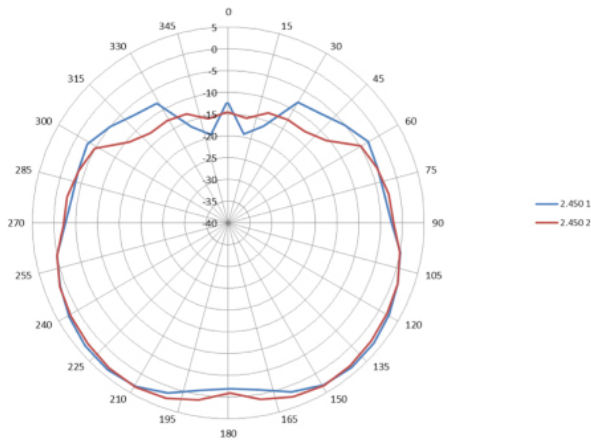
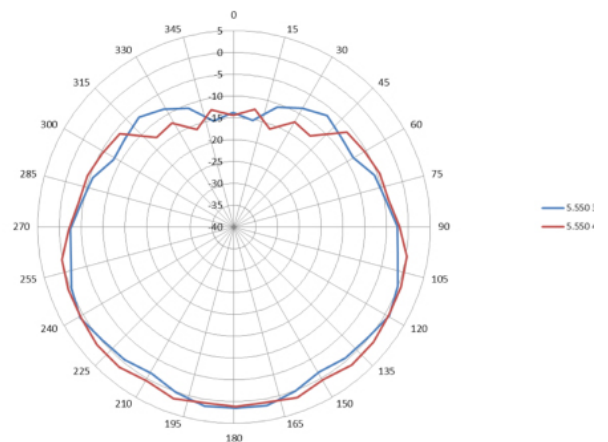Horizontal or Azimuth plane (top view)
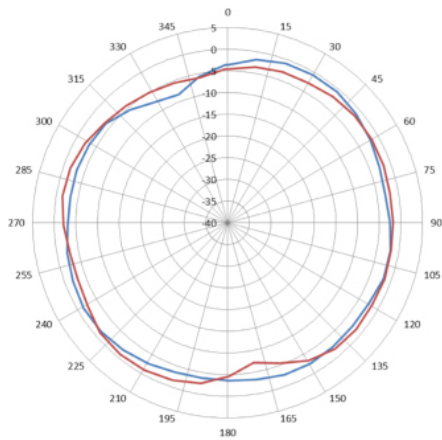
2.450GHz
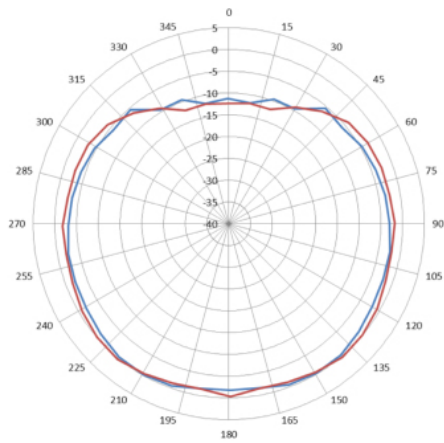

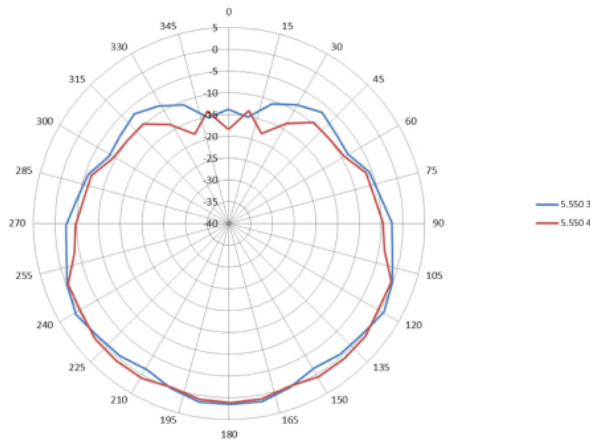5.550GHz

Elevation plane (side view, 0 degree angle)

2.450GHz

5.550GHz

Elevation plane (side view, 90 degree angle)

2.450GHz

5.550GHz

Ordering information

Part number	Description
W-AP103 Series access points	
W-AP103	Dell Networking W-AP103 Wireless Access Point, 802.11n, 2x2:2, dual radio, integrated antennas
W-IAP103-RW	Dell Networking W-IAP103 Wireless Instant Access Point, 802.11n, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Rest of world
W-IAP103-US	Dell Networking W-IAP103 Wireless Instant Access Point, 802.11n, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: United States
Mounting accessories	
AP-220-MNT-C1	Dell Networking Access Point Mounting Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Color: black. Spare.
AP-220-MNT-C2	Dell Networking 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 Networking Access Point Mounting Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mounting bracket. Color: black
Generic indoor AP accessories	
AP-AC-UN	12V/18W Indoor Access Point AC power adapter. Universal, ships with country-specific plug inserts (US, EU, UK, Australia, China, Korea, Brazil), covering all Dell Networking 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	15.4W 802.3af PoE midspan injector, 10/100/1000BASE-T Ethernet

Learn More at Dell.com/Networking