DELL EMC NETWORKING W-300 SERIES ACCESS POINTS

Entry-level 802.11ac Wave 2 access points

Entry-level 300 series access points (W-AP304, W-AP305, W-IAP304, and W-IAP305) deliver high performance and superb user experience for medium density environments. Featuring the 3x3:3SS MU-MIMO capability, advanced ClientMatch radio management, and Beacon technologies, the 300 Series enables a cost-effective all-wireless digital work environment.

With a maximum concurrent data rate of 1,300Mbps in the 5GHz band and 400Mbps in the 2.4GHz band (for an aggregate peak data rate of 1.7Gbps), the entry-level 300 Series brings an always-on wireless network experience with the performance required for enterprises. It is ideal for cost-sensitive medium density environments across verticals.

The high performance and high density 802.11ac 300 Series APs support multi-user MIMO (MU-MIMO) and three spatial streams (3SS). They provide simultaneous data transmission to multiple devices (up to two), maximizing data throughput and improving network efficiency.

The 300 Series APs include the enhanced ClientMatch technology that extends the client steering technology with MU-MIMO client awareness. They automatically identify MU-MIMO capable mobile devices and steers those devices to the closest MU-MIMO capable Dell access point. By grouping MU-MIMO capable mobile devices together, the network starts taking advantage of the simultaneous transmission to these devices, increasing its overall capacity. These dynamic roaming policies that are based on device types, help customers achieve the best WLAN performance in a mixed device environment during the technology transition period.

The 300 Series APs have an integrated Bluetooth Beacon that simplifies the remote management of a network of largescale battery-powered beacons while also providing advanced location and indoor way finding, and proximity-based push notification capabilities. It enables businesses to leverage mobility context to develop applications that will deliver an enhanced user experience and increase the value of the wireless network for organizations.

Unique benefits

- Dual Radio 802.11ac Access Point with Multi-User MIMO
  - Supports up to 1,300Mbps in the 5GHz band (with 3SS/VHT80 clients) and up to 400Mbps in the 2.4 GHz band (with 2SS/ VHT40 clients).
- Built-in Bluetooth Low-Energy (BLE) radio
  - Enables location based services with BLE-enabled mobile devices receiving signals from multiple Dell Beacons at the same time.
- Advanced Cellular Coexistence (ACC)
  - Minimizes interference from 3G/4G cellular networks, distributed antenna systems and commercial small cell/femtocell equipment.
- Quality of service for Unified Communication apps
  - Supports priority handling and policy enforcement for unified communication apps, including Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing.
- 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
  - 300 Series APs and IAPs 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.communication apps, including Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing.
- Intelligent app visibility and control
  - AppRF technology leverages deep packet inspection to classify and block, prioritize or limit bandwidth for over 2,500 enterprise apps or groups of apps.
- Security
  - Integrated wireless intrusion protection offers threat 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, URLs and IPs, providing comprehensive protection against advanced online threats.
- Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys.
- Intelligent Power Monitoring (IPM):
  - Enables the AP to continuously monitor and report its actual power consumption and optionally make autonomous decisions to disable certain capabilities.
  - For the 300 Series APs, the IPM power-save feature applies when the unit is powered by an 802.3af PoE source. By default, the USB interface will be the first feature to turn off if AP power consumption exceed the available power budget. In rare cases it may be necessary to take additional power saving measures, but in most cases, the 300 Series APs will operate in unrestricted mode.

Choose your operating mode

300 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, 300 Series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Instant mode - In Instant mode, a single IAP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up one IAP, configure it over the air, and plug in the other IAPs - the entire process takes minutes. If WLAN requirements change, a built-in migration path allows the 300 Series instant APs to become part of a WLAN that is managed by a mobility controller.
- Remote AP (RAP) for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer, dedicated or hybrid, for identifying sources of RF interference
- Secure enterprise mesh

300 Series specifications

- W-AP304 and W-IAP304
  - 802.11ac – 5GHz 3x3 MIMO (1,300Mbps max rate) and 2.4GHz 2x2 MIMO (400Mbps max rate) radios, with a total of four dual-band RP-SMA connectors for external antennas
- W-AP305 and W-IAP305
  - 802.11ac - 5GHz 3x3 MIMO (1,300Mbps max rate) and 2.4GHz 2x2 MIMO (400Mbps max rate) radios, with a total of twelve integrated omni-directional downtilt dual-band antennas

Wi-Fi radio specifications

- AP type: Indoor, dual radio, 5GHz 802.11ac 3x3 MIMO and 2.4GHz 802.11n 2x2 MIMO
- Software-configurable dual radio supports 5GHz (Radio 0) and 2.4GHz (Radio 1)
- 5GHz:
  - Three spatial stream Single User (SU) MIMO for up to 1,300Mbps wireless data rate to individual 3x3 VHT80 client devices
  - Two spatial stream Multi User (MU) MIMO for up to 867Mbps wireless data rate to up to two (1x1 VHT80) MU-MIMO capable client devices simultaneously
- 2.4GHz: Two spatial stream Single User (SU) MIMO for up to 400Mbps wireless data rate to individual 2x2 VHT40 client devices (300Mbps for HT40 802.11n client devices)
- Support for up to 255 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 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 (conducted) transmit power (limited by local regulatory requirements):
  - 2.4GHz band: +18 dBm per chain , +21 dBm aggregate (2x2)
  - 5GHz band: +18 dBm per chain, +23 dBm aggregate (3x3)
  - 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 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 beam-forming (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 (2.4GHz): 6.5 to 300 (MCS0 to MCS15)
  - 802.11n (5GHz): 6.5 to 450 (MCS0 to MCS23)
  - 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4 for VHT20/40/80)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80/160
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

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Wi-Fi antennas

- W-AP304/W-IAP304: Three RP-SMA connectors for external dual band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 0.8dB in 2.4GHz and 1.6dB in 5GHz.
- AP-305/IAP-305:
  - Three integrated dual-band downtilt omni-directional antennas for 3x3 MIMO with maximum antenna gain of 3.9dBi in 2.4GHz and 5.4dBi in 5GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30 degrees.
  - The maximum gain of the combined (summed) antenna patterns for all elements operating in the same band is 3.9dBi in 2.4GHz and 5.7dBi in 5GHz.

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)
- USB 2.0 host interface (Type A connector)
- Bluetooth Low Energy (BLE) radio
  - Up to 3dBm transmit power (class 2) and -92dBm receive sensitivity
  - Integrated antenna with roughly 30 degrees downtilt and peak gain of 2.3dBi (W-AP304/W-IAP304) or 1.5dBi (W-AP305/W-IAP305)
- Visual indicators (multi-color LEDs): for System and Radio status
- Reset button: factory reset (during device power up)
- Serial console interface (RJ45, RS232)
- Kensington security slot

Power

- The AP supports direct DC power and Power over Ethernet (POE)
- When both power sources are available, DC power takes priority over POE
- Power sources are sold separately
- Direct DC source: 48Vdc nominal, +/- 5%
  - Interface accepts 2.1/5.5mm center-positive circular plug with 9.5mm length
- Power over Ethernet (POE): 48 Vdc (nominal) 802.3af/802.3at compliant source
  - Unrestricted functionality with 802.3at PoE
  - When using IPM, the AP may enter power-save mode with reduced functionality when powered by a POE source (see details on Intelligent Power Monitoring elsewhere in this datasheet)
  - Without IPM, the USB port is disabled when the AP is powered by an 802.3af PoE source
- Maximum (worst-case) power consumption: 13W (PoE) or 11W (DC)
  - Excludes power consumed by external USB device (and internal overhead); this could add up to 6.5W (PoE) or 5.5W (DC) for a 5W/1A USB device
- Maximum (worst-case) power consumption in idle mode: 3.7W (PoE) or 2.6W (DC)

Mounting

- The AP ships with two (white) mounting clips to attach to a 9/16-inch or 15/16-inch flat T-bar drop-tile ceiling.
- Several optional mount kits are available to attach the AP to a variety of surfaces; see the Ordering Information section for details.

Mechanical

- Dimensions/weight (unit, excluding mount accessories):
  - 165mm x 165mm x 38mm
  - 460g
- Dimensions/weight (shipping):
  - 205mm x 205mm x 52mm
  - 620g

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 EMC representative.

Reliability
MTBF: 1,116,000hrs (127yrs) at +25C operating temperature

Regulatory model numbers

- W-AP304 and W-IAP304: APIN0304
- W-AP305 and W-IAP305: APIN0305

Certifications

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

Warranty

- Extended lifetime warranty

Minimum operating system software versions

- Controller AOS 6.5.1.0
- InstantOS 4.3.1.0

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RF performance table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4GHz		
1Mbps	18.0	-95.0
11Mbps	18.0	-88.0
802.11g 2.4GHz		
6Mbps	18.0	-91.0
54Mbps	18.0	-74.0
802.11n HT20 2.4GHz		
MCS0/8/16	18.0	-91.0
MCS7/15/23	18.0	-71.0
802.11n HT40 2.4GHz		
MCS0/8/16	18.0	-88.0
MCS7/15/23	18.0	-68.0
802.11a 5GHz		
6Mbps	18.0	-92.0
54Mbps	18.0	-74.0
802.11n HT20 5GHz		
MCS0/8/16	18.0	-91.0
MCS7/15/23	18.0	-71.0
802.11n HT40 5GHz		
MCS0/8/16	18.0	-88.0
MCS7/15/23	17.0	-68.0
802.11ac VHT20 5GHz (SU-MIMO)		
MCS0	18.0	-91.0
MCS9	18.0	-67.0
802.11ac VHT40 5GHz (SU-MIMO)		
MCS0	18.0	-88.0
MCS9	17.0	-63.0
802.11ac VHT80 5GHz (SU-MIMO)		
MCS0	18.0	-85.0
MCS9	17.0	-58.0

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

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Ordering information

Part number	Description
300 Series access points	
W-AP304	Dell Networking W-AP304 802.11n/ac 2x2:2/3x3:3 MU-MIMO Dual Radio Antenna Connectors AP
W-AP305	Dell Networking W-AP305 FIPS/TAA-compliant 802.11n/ac Dual 2x2:2/3x3:3 MU-MIMO Dual Radio Antenna Connectors AP
Mounting Accessories	
W-AP220-MNT-C1	Spare Dell Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Color: black. Spare.
W-AP-MNT-CM1	Dell Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for Interlude and silhouette style rails). Color: black
W-AP220-MNT-W1	Dell Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket. Color: black
W-AP220-MNT-W1W	Dell Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket. Color: white
W-AP220-MNT-W3	Indoor Access Point flat surface mount kit (box style, secure, low-profile, large). Color: white
Accessories	
W-AP305-CVR-20	Kit of 20 snap-on covers for AP305. Plain white, non-glossy, with holes for LED indicators. Color: white
AP-AC-12V30B	12V/30W AC-to-DC Desktop Style Power Adapter with Type B DC plug (2.1/5.5/9.5mm circular, 90-degree angled). Note: does not include country specific AC power cord (PC-AC-xx).
PD-3501G-AC	15.4W 802.3af PoE midspan injector, 10/100/1000BASE-T Ethernet. Note: does not include country specific AC power cord (PC-AC-xx)
PD-9001GR-AC	30W 802.3at PoE midspan injector, 10/100/1000BASE-T Ethernet. Note: does not include country specific AC power cord (PC-AC-xx)

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