



# Dell Networking W-Series

## W-IAP108 and W-IAP109 Wired + Wireless Instant Access Points

High-performance wireless and wired networking for branch and remote offices.

The multifunctional Dell Networking W-Series IAP 108 / 109 Remote Access Points deliver secure 802.11n wireless and wired networking, and access to corporate resources from branch and home offices.

With unmatched deployment flexibility, the W-IAP 108 / 109 series can operate in Instant mode or in controller-managed mode where all network services are centralized by Dell mobility controllers. Internal and External antenna models provide even more deployment flexibility.

In Instant mode, traffic is locally bridged but it still provides the flexibility of secure tunneling to mobility controllers.

The W-IAP 108 / 109 offers a wide range of enterprise-class features, including role-based network access, policy-based forwarding, and Adaptive Radio Management™ (ARM), which optimizes Wi-Fi client performance and ensures that Dell W-Series APs stay clear of interference.

At locations that require greater coverage, the W-IAP 108 / 109 can join an Instant WLAN cluster. Simply install additional W-Series IAP's and the entire cluster is managed as one. If one W-Series Instant AP fails, another AP automatically takes over with no disruption.

With dual-radios and wireless data rate up to 300 Mbps in the 2.4-GHz and 5-GHz radio bands, the W-IAP108 / 109 deliver high performance 11n wireless capacity and coverage. In addition, the W-IAP108 / 109 provide one 10/100/1000BASE-T Ethernet uplink, one 10/100BASE-T local Ethernet port and one USB port to connect to 3G and 4G networks.

When operating in W-Series Instant mode, the W-IAP108 / 109 deploy quickly, and get firmware updates from the cloud. They can also be managed using AirWave, whether distributed across many locations or at one site.

### Advanced features

- Adaptive Radio Management (ARM) delivers best-in-class RF management, including automatic transmit power and channel control with auto coverage-hole correction
- Simplified firmware upgrades
- 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, Dell W-Series IAPs 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
  - VPN configuration functionality enables the Instant AP to create a single VPN tunnel to a W-Series mobility controller in the data center. The mobility controller acts solely as a VPN end-point and does not supply the Instant AP with any configuration.

### Operating modes

- Wireless:
  - W-Series Instant Access Point (AP)
  - Mobility controller-managed WLAN Access Point (AP) or Remote AP (RAP)
  - Air monitor (AM)
  - Hybrid WLAN AP and AM
  - Secure enterprise mesh
- Wired:
  - 10/100/1000BASE-T Ethernet uplink port, 10/100BASE-T Ethernet local port
  - User authentication: 802.1X, captive portal, MAC authentication or open access
  - Policy-based forwarding for local resource access

High-performance wireless and  
wired networking for branch and  
remote offices

## Specifications: W-IAP108 and W-IAP109 Wired + Wireless Instant Access Points

### Dell Part Number & Description

#### W-IAP108

Dell W-Instant IAP108 Wireless Access Point,  
802.11a/b/g/n, 2x2:2, dual radio, antenna connectors  
This product should be considered as 'Rest of World'  
products and MUST NOT be used for deployments in  
the United States, Japan or Israel

#### W-IAP108-JP

Dell W-Instant IAP108 Wireless Access Point,  
802.11a/b/g/n, 2x2:2, dual radio, antenna connectors  
Restricted regulatory domain: Japan

#### W-IAP108-US

Dell W-Instant IAP108 Wireless Access Point,  
802.11a/b/g/n, 2x2:2, dual radio, antenna connectors  
Restricted regulatory domain: United States

#### W-IAP109

Dell W-Instant IAP109 Wireless Access Point,  
802.11a/b/g/n, 2x2:2, dual radio, integrated antennas  
This product should be considered as 'Rest of World'  
products and MUST NOT be used for deployments in  
the United States, Japan or Israel

#### W-IAP109-JP

Dell W-Instant IAP109 Wireless Access Point,  
802.11a/b/g/n, 2x2:2, dual radio, integrated antennas  
Restricted regulatory domain: Japan

#### W-IAP109-US

Dell W-Instant IAP109 Wireless Access Point,  
802.11a/b/g/n, 2x2:2, dual radio, integrated antennas  
Restricted regulatory domain: United States

### Wireless Radio Specifications

AP type: Dual-radio, dual-band 802.11n indoor  
Software-configurable dual radio supports 2.4 GHz and 5 GHz  
2x2 MIMO with two spatial streams and up to 300 Mbps wireless  
data rate

Supported frequency band (country-specific restrictions apply):

24000 GHz to 24835 GHz  
5150 to 5250 GHz  
5250 to 5350 GHz  
5470 to 5725 GHz  
5725 to 5875 GHz

Available channels: Managed by Aruba Instant or Mobility  
Controller, depending upon the configured regulatory domain

Supported radio technologies:

802.11b: Direct-sequence spread-spectrum (DSSS)  
802.11a/g/n: Orthogonal frequency-division multiplexing  
(OFDM)

802.11n: 2x2 MIMO with two spatial streams

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) transmit power (limited by local regulatory  
requirements):

2.4-GHz band: +21 dBm  
5-GHz band: +21 dBm

Advanced Cellular Coexistence (ACC) feature to effectively deal  
with interference from cellular systems

Maximum ratio combining (MRC) for improved receiver  
performance

Cyclic delay diversity (CDD) for improved downlink RF  
performance Short guard interval for 20-MHz and 40-MHz  
channels

Space time-blocking code (STBC) for increased range and  
improved reception

Supported data rates (Mbps):

802.11b: 1, 2, 5.5, 11  
802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54  
802.11n: MCS0 to MCS15 (6.5 Mbps to 300 Mbps)

802.11n high-throughput (HT) support: HT 20/40

802.11n packet aggregation: A-MPDU, A-MSDU

### Encrypted VPN Throughput

Up to 20 Mbps

### Power

Supported power sources:

802.3af (PoE) or 802.3at (PoE+) on uplink Ethernet port  
Note: When using PoE, the USB port will be enabled only  
when an 802.3at-compliant source is used  
12 volts from external power adapter (sold separately)

Maximum power consumption:

Without USB device connected: 12.5 watts  
With USB device: 15 watts

### Antennas

W-IAP108: Two RP-SMA connectors for external dual-band  
antennas

W-IAP109: Four integrated omni-directional antennas for 2x2  
MIMO with maximum antenna gain of 5.0 dBi in both 2.4  
GHz and 5 GHz. Built-in antennas are optimized for vertical  
orientation

### Interfaces

Network:

ENET0 (uplink): One 10/100/1000BASE-T Ethernet (RJ-45),  
auto-sensing link speed and MDI/MDX  
ENET1 (local): One 10/100BASE-T Ethernet (RJ-45),  
autosensing link speed and MDI/MDX

One port for DC power connector

One USB 2.0 port (Type A connector)

One serial console interface (RJ-45)

Visual indicators (LEDs):

Power/system status  
Ethernet link status (2x)  
Radio status (2x)

Kensington security slot

Reset button

### Mounting

Desktop (vertical): Using stand supplied with product

Wall (vertical): Using optional wall mount accessory

Ceiling (horizontal, not recommended for W-IAP109):  
Using optional ceiling mount accessories

### Mechanical

Dimensions (unit):

Excluding desk mount:  
- 160 mm (W) x 43 mm (D) x 160 mm (H)  
- 6.30" (W) x 1.69" (D) x 6.30" (H)

With desk mount:  
- 181 mm (W) x 72 mm (D) x 160 mm (H)  
- 7.13" (W) x 2.83" (D) x 6.30" (H)

Weight (unit): 300 g (66 lbs)

Excluding desk mount: 385 g (13.6 oz)  
With desk mount: 460 g (16.2 oz)

Dimensions (shipping):

230 mm (W) x 220 mm (D) x 90 mm (H)  
9.06" (W) x 8.66" (D) x 3.5" (H)

Weight (shipping): 750 g (1.65 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, EN60601-1-2

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

### Certifications

CB Scheme Safety, cTUVus

Wi-Fi certified 802.11a/b/g/n

### Warranty

Extended lifetime warranty

### Software

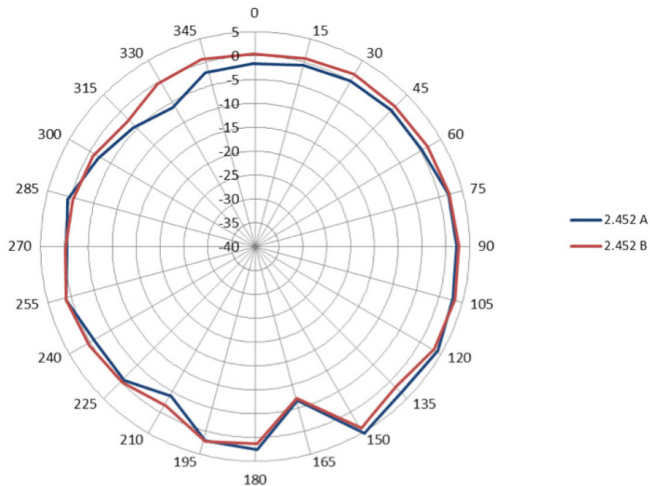
Dell W-Series ArubaOS™ 6.2 and later

Dell W-Series Aruba Instant 3.2.0.0

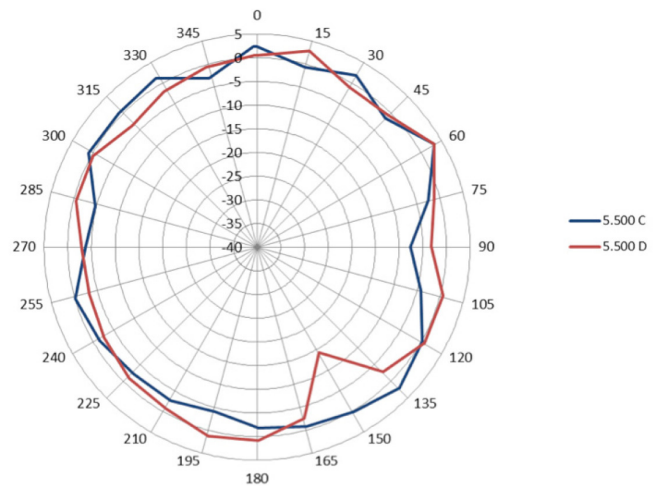
RF Performance Table	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
1 Mbps	18.0	-92.0
2 Mbps	18.0	-92.0
5.5 Mbps	18.0	-90.0
11 Mbps	18.0	-88.0
802.11g 2.4 GHz and 802.11a 5 GHz		
6 Mbps	18.0	-88.0
54 Mbps	16.0	-75.0
802.11n HT20 2.4 GHz and 5 GHz		
MCS0/8	18.0	-88.0
MCS7/15	14.0	-71.0
802.11n HT40 2.4 GHz and 5 GHz		
MCS0/8	18.0	-85.0
MCS7/15	14.0	-68.0



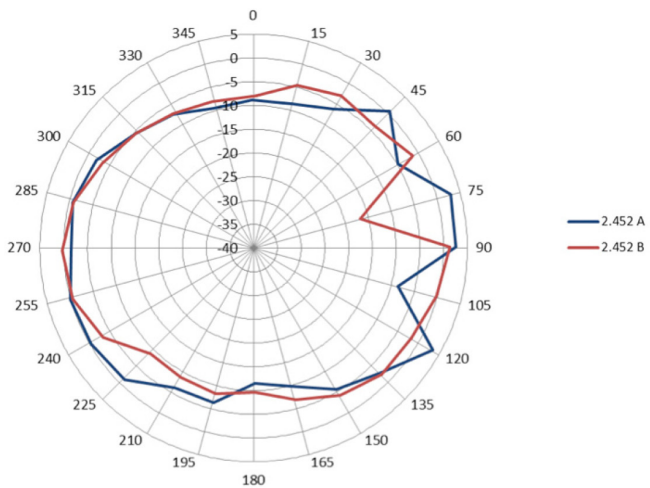
## W-IAP 109 Antenna Pattern Plots



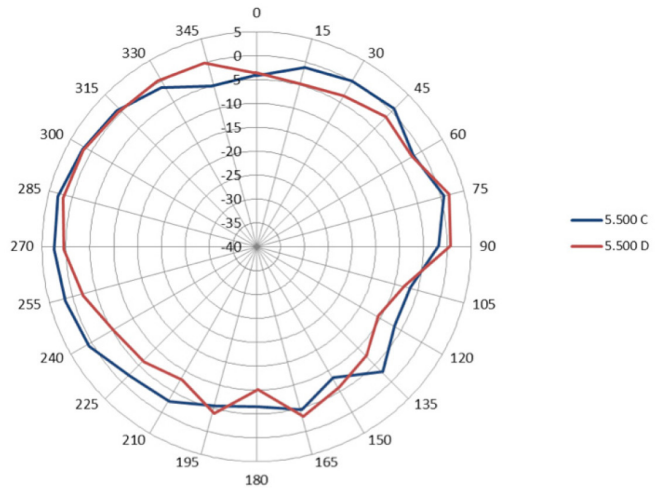
Horizontal or azimuth plane (top view) 2.452 GHz



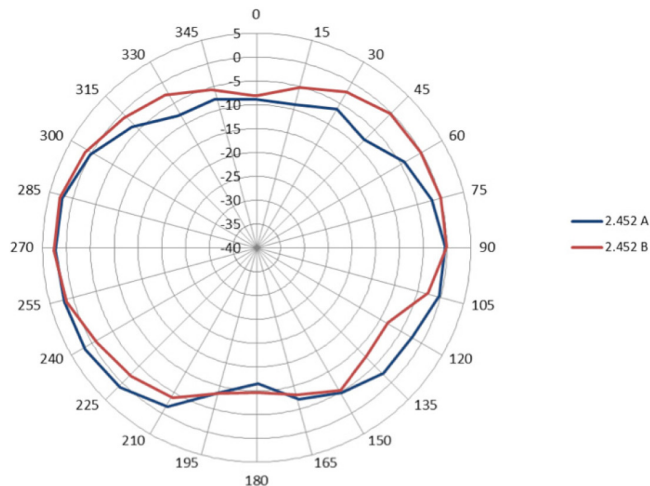
Horizontal or azimuth plane (top view) 5.500 GHz



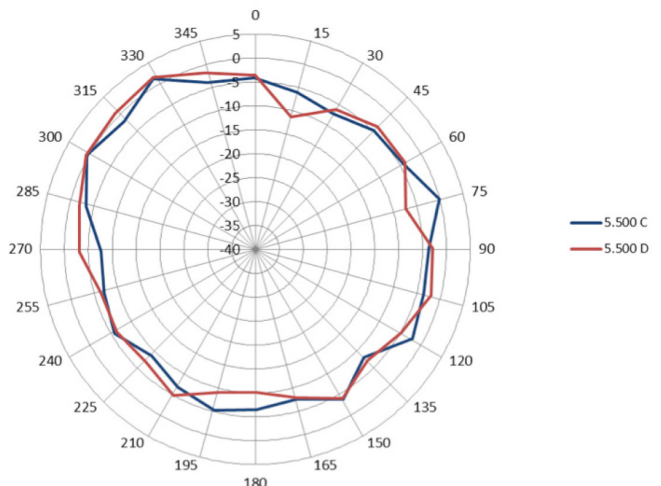
Elevation plane (front view) 2.452 GHz



Elevation plane (front view) 5.500 GHz



Elevation plane (side view) 2.452 GHz



Elevation plane (side view) 5.500 GHz

\*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](http://dell.com/warranty).

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