

# Alcatel-Lucent Enterprise OmniAccess 303 Series Campus Access Points

Low-cost 802.11ac Wave 2 enterprise AP

The affordable mid-range OmniAccess 303 Series campus access point delivers high performance 802.11ac with MU-MIMO (Wave 2) for medium density enterprise environments. With the integrated BLE and supporting 802.3af power, the OmniAccess 303 Series AP enables enterprises to improve their work efficiency and productivity with the lowest TCO.

The compact OmniAccess 303 Series AP delivers a maximum concurrent data rate of 867 Mb/s in the 5 GHz band and 300 Mb/s in the 2.4 GHz band (for an aggregate peak data rate of 1.2 Gb/s). Featuring 2x2:2SS, the OmniAccess 303 is designed for medium device density environments, such as schools, retail branches, warehouses, hotels and enterprise offices, where the environment is cost sensitive.



## Unique benefits

- Unified AP - deploy with or without controller
  - The 303 Series access points can be deployed in either controller-based (AOS-W) or controller-less (InstantOS) deployment mode
- Dual Radio 2x2 802.11ac access point with Multi-User MIMO (wave 2)
  - Supports up to 867 Mb/s in the 5 GHz band (with 2SS/ VHT80 client devices) and up to 300 Mb/s in the 2.4 GHz band (with 2SS/HT40 clients)
- Advanced Cellular Coexistence (ACC)
  - Minimizes interference from 3G/4G cellular networks, distributed antenna systems and commercial small cell/femtocell equipment

## Datasheet

Alcatel-Lucent Enterprise OmniAccess 303 Series Campus Access Points

- Quality of service for unified communications applications
  - Supports priority handling and policy enforcement for unified communication apps, including Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing
- OmniAccess AppRF technology leverages deep packet inspection to classify and block, prioritize or limit bandwidth for over 2,500 enterprise apps or groups of apps
- RF Management
  - Adaptive Radio Management (ARM) technology with AirMatch automatically assigns channel, width and power settings based on environment and client density. It also provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high- performance WLANs
  - The OmniAccess 303 Series Access Points 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 2.4 GHz and 5 GHz radio bands to identify sources of RF interference from HT20 through VHT80 operation
- Secure Core
  - Device assurance: Use of Trusted Platform Module (TPM) for secure storage of credentials and keys as well as secure boot
  - 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 les, URLs and IPs, providing comprehensive protection against advanced online threats

Daisy-chain your wired network to connect and power any network device (IP camera, IOT gateway, or even a second Access Point) to the E1 Ethernet port of the AP303P. Simplify and cost-reduce the installation of multiple devices by sharing switch ports and cabling.

## Choose your operating mode

The OmniAccess 303 Series Access Points offer a choice of deployment and operating modes to meet your unique management and deployment requirements:

- The 303 Series AP is a unified AP that supports both controller-based and controller-less deployment modes, providing maximum flexibility.
- Controller-based mode - When deployed in conjunction with an OmniAccess Mobility Controller, OmniAccess 303 Series Access Points offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Controller-less (Instant) mode - The controller function is virtualized in a cluster of APs in Instant mode. As the network grows and/or requirements change, Instant deployments can easily migrate to controller-based mode.
- Remote AP (RAP) mode for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer (SA), dedicated or hybrid, for identifying sources of RF interference
- Secure enterprise mesh portal or point

## Specifications

### Hardware variants

- OAW-AP303: Internal antenna models
- OAW-AP303P: second Ethernet with PoE out

### Wi-Fi radio specifications

- AP type: Indoor, dual radio, 5 GHz 802.11ac 2x2 MIMO and 2.4 GHz 802.11n 2x2 MIMO
- 5 GHz (radio 0):
  - Two spatial stream Single User (SU) MIMO for up to 867 Mb/s wireless data rate to individual 2SS VHT80 client devices
  - Two spatial stream Multi User (MU) MIMO for up to 867 Mb/s wireless data rate to two 1SS MU-MIMO capable client devices simultaneously
- 2.4 GHz (radio 1):
  - Two spatial stream Single User (SU) MIMO for up to 300 Mb/s wireless data rate to individual 2SS HT40 client devices
- Support for up to 256 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835 GHz
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz
- 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):
  - 2.4 GHz band: +21 dBm (18 dBm per chain)

- 5 GHz band: +21 dBm (18 dBm per chain)

Note: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain

- Advanced Cellular Coexistence (ACC) minimizes the impact of 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, 40 MHz and 80 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
- Transmit beam-forming (TxBF) for increased signal reliability and range
- Supported data rates (Mb/s):
  - 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)
  - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2)
  - 802.11n high-throughput (HT) support: HT20/40
  - 802.11ac very high throughput (VHT) support: VHT20/40/80
  - 802.11n/ac packet aggregation: A-MPDU, A-MSDU

### Wi-Fi antennas

- OAW-AP303: Internal antenna models
  - Two vertically polarized dual-band downtilt omni-directional antennas for 2x2 MIMO with peak antenna gain of 3.5 dBi (2.4 GHz) and 6.9 dBi (5 GHz) per antenna.
  - The antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30 degrees.
  - Combining the patterns of both antennas per radio, the peak gain of the average (effective) pattern is 2.1 dBi in 2.4 GHz and 5.7 dBi in 5 GHz.

### Other interfaces

- E0: One 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - PoE-PD: 48Vdc (nominal) 802.3af PoE
- DC power interface, accepts 2.1/5.5-mm center-positive circular plug with 9.5-mm length
- E1 (AP303P models only): One 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PSE (output): 48Vdc (nominal) 802.3af/at PoE
- Bluetooth Low Energy (BLE) radio
  - Up to 3dBm transmit power (class 2) and -93dBm receive sensitivity
  - Integrated vertically polarized omnidirectional antenna with roughly 30 degrees downtilt and peak gain of 4.5dBi
  - Zigbee 802.15.4 radio (AP303P models only)
- Visual indicators (tri-color LEDs): for System and radio status
- Reset button: factory reset (during device power-up), LED mode control (normal/off)
- Serial console interface (proprietary,  $\mu$ USB physical jack)
- Kensington security slot

### Power sources and consumption

- 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

### AP303 models:

- Direct DC source: 12Vdc nominal,  $\pm$ 5%
- DC power interface accepts 2.1/5.5-mm center-positive circular plug with 9.5-mm length
- Power over Ethernet (PoE): 48Vdc (nominal) 802.3af compliant source
- Maximum (worst-case) power consumption: 10.1W (PoE) or 8.8W (DC)

## Datasheet

- Maximum (worst-case) power consumption in idle mode: 4.2W (PoE) or 4.0W (DC)

#### AP303P models:

- Direct DC source: 48Vdc nominal, ±5%
- DC power interface accepts 1.35/3.5-mm center-positive circular plug with 9.5-mm length
- Power over Ethernet (PoE-PD) on E0: 48Vdc (nominal) 802.3af/at/bt compliant source
- PoE-PSE function on E1 disabled when powered by 802.3af PoE
- Maximum (worst-case) power consumption: 11.3 (PoE) or 11.5 (DC)
- Maximum (worst-case) power consumption in idle mode: 6.8 (PoE) or 7.0 (DC)
- Power consumption numbers exclude power to support PoE-PSE function on E1

#### Mounting

- The AP ships with a (black) mount 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 below for details

#### Mechanical

- Dimensions and weight (unit, excluding mount accessories):
  - 150 mm (W) x 150 mm (D) x 35 mm (H) or 5.9" (W) x 5.9" (D) x 1.4" (H)
  - AP303 models: 260g or 9.2oz
  - AP303P models: 280g or 9.9oz
- Dimensions and weight (shipping):
  - 190 mm (W) x 180 mm (D) x 60 mm (H) or 7.4" (W) x 7.0" (D) x 2.4" (H)
  - AP303 models: 410 g or 14.5 oz
  - AP303P models: 430 g or 15.2 oz

#### Environmental

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 93% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

#### Reliability (at +25C operating temperature)

- AP303 models MTBF: 795 khrs (91 years)
- AP303P models MTBF: 518 khrs (59 years)

#### Regulatory

- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- EMC Directive 2014/30/EU

- Low Voltage Directive 2014/35/EU
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

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

#### Regulatory model numbers

- OAW-AP303: APINO303
- OAW-AP303P: APINP303

#### Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac
- WPA, WPA2 and WPA3 – Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE)
- Wi-Fi Alliance certified (WFA) 802.11ac with Wave 2 features
- Passpoint® (Release 2) with AOS-W and Instant 8.3+

#### Warranty

- Limited lifetime warranty

#### Minimum software versions

- AP303 models: AOS-W and InstantOS 8.3.0.0
- AP303P models: AOS-W and InstantOS 8.4.0.0

#### RF performance table

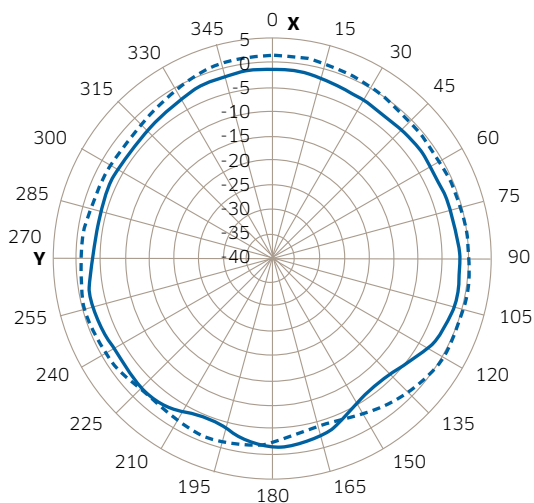
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
<b>802.11b 2.4 GHz</b>		
1 Mb/s	18.0	-93.0
11 Mb/s	18.0	-87.0
<b>802.11g 2.4 GHz</b>		
6 Mb/s	18.0	-90.0
54 Mb/s	16.0	-73.0
<b>802.11n HT20 2.4 GHz</b>		
MCS0/8	18.0	-90.0
MCS7/15	14.0	-71.0
<b>802.11n HT40 2.4GHz</b>		
MCS0/8	18.0	-87.0
MCS7/15	14.0	-68.0
<b>802.11a 5 GHz</b>		
6 Mb/s	18.0	-90.0
54 Mb/s	16.0	-73.0

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
<b>802.11n HT20 5 GHz</b>		
MCS0/8	18.0	-90.0
MCS7/15	14.0	-71.0
<b>802.11n HT40 5 GHz</b>		
MCS0/8	18.0	-87.0
MCS7/15	14.0	-68.0
<b>802.11ac VHT20 5 GHz</b>		
MCS0	18.0	-90.0
MCS9	12.0	-67.0
<b>802.11ac VHT40 5 GHz</b>		
MCS0	18.0	-87.0
MCS9	12.0	-62.0
<b>802.11ac VHT80 5 GHz</b>		
MCS0	18.0	-84.0
MCS9	12.0	-59.0

Note: Table shows the maximum hardware capability of the AP (excluding antenna and MIMO/MRC gain). Actual maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements.

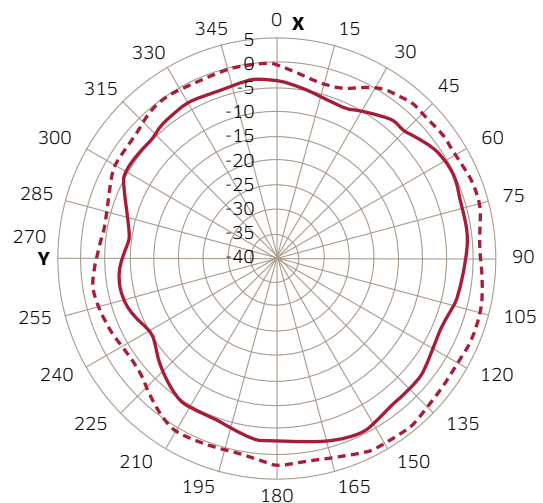
### Antenna pattern plots (Horizontal planes (top view, AP facing forward))

Showing both azimuth (0 degrees) and 30 degrees downtilt patterns



**2.44 GHz Wi-Fi (radio 1)**

- 2.44 GHz Wi-Fi average azimuth
- - - 2.44 GHz Wi-Fi average downtilt

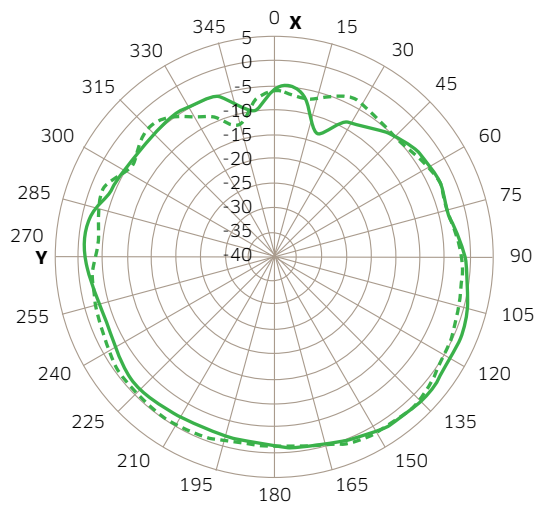


**5.5 GHz Wi-Fi (radio 0)**

- 5.5 GHz Wi-Fi average azimuth
- - - 5.5 GHz Wi-Fi average downtilt

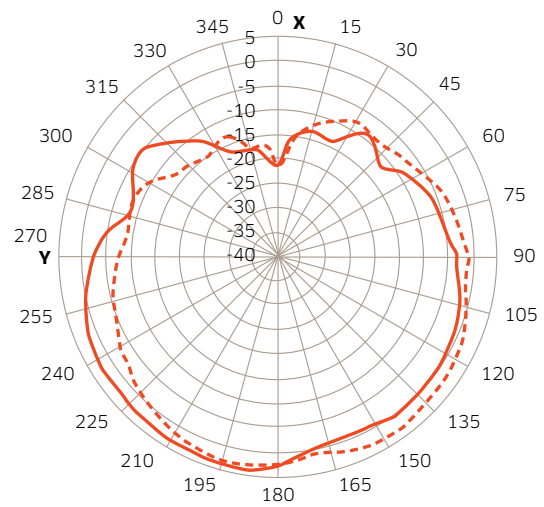
## Antenna pattern plots (Elevation planes (side view, AP facing down))

Showing side view with AP rotated 0 and 90 degrees



**2.44 GHz Wi-Fi (radio 1)**

— 2.44 GHz Wi-Fi average elevation 0  
 - - - 2.44 GHz Wi-Fi average elevation 90



**5.5 GHz Wi-Fi (radio 0)**

— 5.5 GHz Wi-Fi average elevation 0  
 - - - 5.5 GHz Wi-Fi average elevation 90

## Ordering information

Part number	Description
<b>OmniAccess 303 Series Unified Access Points</b>	
OAW-AP303-EG	OmniAccess AP303 (EG) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
OAW-AP303-IS	OmniAccess AP303 (IS) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
OAW-AP303-JP	OmniAccess AP303 (JP) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
OAW-AP303-RW	OmniAccess AP303 (RW) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
OAW-AP303-US	OmniAccess AP303 (US) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP
<b>OmniAccess 303P Series Unified Access Points</b>	
OAW-AP303P-EG	OmniAccess AP303P (EG) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
OAW-AP303P-IS	OmniAccess AP303P (IS) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
OAW-AP303P-JP	OmniAccess AP303P (JP) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
OAW-AP303P-RW	OmniAccess AP303P (RW) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
OAW-AP303P-US	OmniAccess AP303P (US) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP Dual Ethernet
<b>Mount kits - accessories</b>	
AP-220-MNT-C2	OmniAccess mount Kit with two suspended ceiling grid rail adapters for Interlude and Silhouette style rails
AP-MNT-CM1	OmniAccess Industrial grade indoor Access Point metal suspended ceiling rail mount kit
AP-220-MNT-W1	OmniAccess Flat surface wall/ceiling basic flat surface AP mount kit (black) JW047A
AP-220-MNT-W1W	OmniAccess Flat surface wall/ceiling basic flat surface AP mount kit (white)
AP-200-MNT-W3	OmniAccess Low profile box style secure small flat surface AP mount kit (white)

## Datasheet

Alcatel-Lucent Enterprise OmniAccess 303 Series Campus Access Points

Part number	Description
<b>Cosmetic covers</b>	
AP-303-CVR-20	OmniAccess 20-pack for AP-303 with Holes for LED Indicators White Non-glossy Snap-on Covers
<b>Power accessories for AP303</b>	
PD-3501G/AC	1-Port IEEE 802.3af PoE Midspan. Port speed 10/100/1000M PoE power 15.4W. No power cord included. Please order PWR-CORD-XX for country specific power cord.
AP-AC-12V30B	OmniAccess 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 PWR-CORD-xx).
<b>Power accessories for AP303P</b>	
PD-9001GR/AT/AC	1-Port IEEE 802.3at PoE Midspan. Port speed 10/100/1000M PoE power 30W. No power cord included. Please order PWR-CORD-XX for country specific power cord.
AP-AC-48V36C	OmniAccess 48V/36W AC-to-DC Desktop Style Power Adapter with Type C DC plug 1.35/3.5/9.5mm circular, 90-degree angled. (Note does not include country specific AC power cord PWR-CORD-xx).
<b>Other accessories</b>	
AP-CBL-SERU	OmniAccess Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable