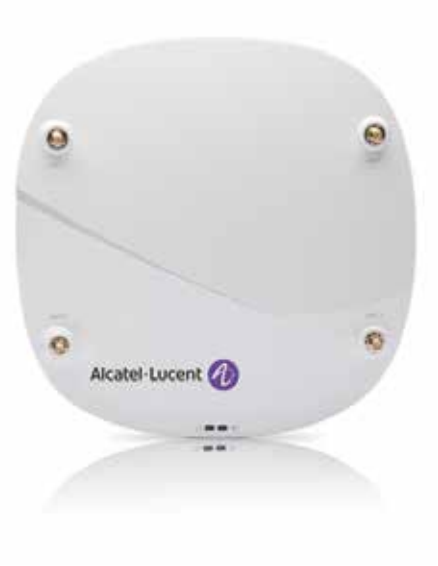
ALCATEL-LUCENT ENTERPRISE OMNIACCESS 310 SERIES ACCESS POINTS

HIGH-PERFORMANCE 802.11AC WAVE 2

The Alcatel-Lucent OmniAccess® 310 Series access points deliver high performance and superb user experience for mobile devices, Internet of Things (IoT) devices, and applications in dense office environments. Featuring the 4x4:4SS MU-MIMO capability, advanced ClientMatch radio management, the 310 Series enables an all-wireless digital work environment in a cost-effective manner.



With a maximum concurrent data rate of 1,733 Mbps in the 5 GHz band and 400 Mbps in the 2.4 GHz band (for an aggregate peak data rate of 2.1 Gbps), the 310 Series

APs can quickly add required capacities to your existing or new wireless networks. The mid-range 310 Series, with its single gigabit Ethernet uplink, is ideal for high device density environments, such as schools, retail branches, hotels and enterprise offices, where the organization is cost sensitive.

The high performance and high density 802.11ac 310 Series supports 160 MHz channel bandwidth (VHT160), multi-user MIMO (MU-MIMO) and 4 spatial streams (4SS). It provides simultaneous multicast data transmission to multiple devices, maximizing data throughput and improving network efficiency.

The 310 Series includes the enhanced ClientMatch technology that extends the client steering technology with MU-MIMO client awareness. It automatically identifies MU-MIMO capable mobile devices and steers those devices to the closest

MU-MIMO capable OmniAccess 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 users achieve the best WLAN performance in a mixed device environment during the technology transition period.

UNIQUE BENEFITS

- Dual Radio 802.11ac access point with Multi-User MIMO
  - ¬ Supports up to 1,733Mbps in the 5GHz band (with 4SS/VHT80 or 2SS/VHT160 clients) and up to 400 Mbps in the 2.4 GHz band (with 2SS/VHT40 clients).
- 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 Microsoft 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.
  - ¬ The OmniAccess 310 series APs can be confi 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.

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- Support for additional 5 GHz bands
  - ¬ Supports software upgrade to enable additional 5 GHz spectrums when governments expand available frequencies.
- Intelligent app visibility and control
  - ¬ AppRF technology leverages deep packet inspection to classify and block, prioritize or limit bandwidth for over 1,500 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 fi 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 310 Series Access Points, 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 fi feature to turn off if AP power consumption will exceed the available power budget. In rare cases it may be necessary to take additional power saving measures, but in most cases, the 310 Series APs will operate in unrestricted mode.

CHOOSE YOUR OPERATING MODE

OmniAccess 310 series APs offer a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed mode – When managed by OmniAccess Mobility Controllers, 310 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 AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up one Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes. If WLAN requirements change, a built-in migration path allows 310 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

AP310 SERIES SPECIFICATIONS

- OAW-AP314 (controller-managed) and OAW-IAP314 (Instant):
  - ¬ 802.11ac – 5 GHz 4x4 MIMO (1,733 Mbps max rate) and 2.4 GHz 2x2 MIMO (400 Mbps max rate) radios, with a total of four dual-band RP-SMA connectors for external antennas
- OAW-AP315 (controller-managed) and OAW-IAP315 (Instant):
  - ¬ 802.11ac – 5 GHz 4x4 MIMO (1,733 Mbps max rate) and 2.4 GHz 2x2 MIMO (400 Mbps max rate) radios, with a total of four integrated omni-directional downtilt dual-band antennas

WI-FI RADIO SPECIFICATIONS

- AP type: Indoor, dual radio, 5 GHz 802.11ac 4x4 MIMO and 2.4 GHz 802.11n 2x2 MIMO
- Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 5 GHz: Four spatial stream Single User (SU) MIMO for up to 1,733 Mbps wireless data rate to individual 4x4 VHT80 or 2x2 VHT160 client devices
- 2.4 GHz: Two spatial stream Single User (SU) MIMO for up to 400 Mbps wireless data rate to individual 2x2 VHT40 client devices (300 Mbps for HT40 802.11n client devices)
- 5 GHz: Four spatial stream Multi User (MU) MIMO for up to 1,733 Mbps wireless data rate to up to three MU-MIMO capable client devices simultaneously
- 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 2.4835 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 (conducted) transmit power (limited by local regulatory requirements):
  - ¬ 2.4 GHz band: +18 dBm per chain
  - ¬ 5 GHz band: +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 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, 80-MHz and 160-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 (Mbps):
  - ¬ 802.11b: 1, 2, 5.5, 11
  - ¬ 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - ¬ 802.11n: 6.5 to 600 (MCS0 to MCS31)
  - ¬ 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4 for VHT20/40/80, NSS = 1 to 2 for VHT160)
- 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

WI-FI ANTENNAS

- AP314/IAP314: Four RP-SMA connectors for external dual band antennas. Worst-case internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 0.6dB in 2.4 GHz and 1.2dB in 5 GHz.
- AP315/IAP315: Four integrated dual-band downtilt omni-directional antennas for 4x4 MIMO with maximum antenna gain of 3.1dBi in 2.4 GHz and 5.0dBi in 5 GHz. 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 2.4 GHz and 5.7dBi in 5 GHz.

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
- Direct DC source: 12Vdc nominal, +/- 5%
  - ¬ Interface accepts 2.1/5.5-mm center-positive circular plug with 9.5-mm 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 an 802.3af PoE source (see details on Intelligent Power Monitoring elsewhere in this datasheet)
  - ¬ Without IPM, the USB port is disabled and transmit power of the 2.4 GHz radio chains is reduced by 3dB to 15dBm max when the AP is powered by and 802.3af PoE source
- Maximum (worst-case) power consumption: 14.4W (802.3at PoE), 13.6W (802.3af PoE) or 12.7W (DC)
  - ¬ Excludes power consumed by external USB device (and internal overhead); this could add up to 6.3W (PoE) or 5.9W (DC) for a 5W/1A USB device
- Maximum (worst-case) power consumption in idle mode: 6.4W (PoE) or 5.9W (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):
  - ¬ 182mm (W) x 180mm (D) x 48mm (H)
  - ¬ 650g/23oz
- Dimensions/weight (shipping):
  - ¬ 223mm (W) x 218mm (D) x 55mm (H)
  - ¬ 850g/30oz

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-specifi regulatory information and approvals, please see your Alcatel-Lucent Enteprise representative.

RELIABILITY

MTBF: 916,373 hrs (105yrs) at +25C operating temperature

REGULATORY MODEL NUMBERS

- OAW-AP314 and OAW-IAP314: APIN0314
- OAW-AP315 and OAW-IAP315: APIN0315

CERTIFICATIONS

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

WARRANTY

- limited lifetime warranty

MINIMUM OPERATING SYSTEM SOFTWARE VERSIONS

- AOS-W 6.5.0.0
- InstantOS 4.3.0.0

RF PERFORMANCE TABLE		
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz		
802.11b		
1 Mbps	18.0	-95.0
11 Mbps	18.0	-88.0
802.11g		
11 Mbps	18.0	-88.0
54 Mb/s	15.5	-75.0
802.11n HT20		
MCS0/8	18.0	-90.0
MCS7/15	14.0	-71.0
802.11n HT40		
MCS0/8	18.0	-87.0
MCS7/15	14.0	-68.0
5 GHz		
802.11a		
6 Mbps	18.0	-90.0
54 Mbps	16.0	-73.0
802.11n HT20		
MCS0/8/16/24	18.0	-90.0
MCS7/15/23/31	14.0	-71.0
802.11n HT40		
MCS0/8	16.0	-90.0
MCS7/15	14.5	-68.0
802.11ac VHT20		
MCS0	18.0	-90.0
MCS9	12.0	-65.0
802.11ac VHT40		
MCS0	18.0	-87.0
MCS9	12.0	-62.0
802.11ac VHT80		
MCS0	18.0	-83.0
MCS9	12.0	-59.0
802.11ac VHT160		
MCS0	18.0	-82.0
MCS9	12.0	-57.0

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

ORDERING INFORMATION	
Part Number	Description
AP310 Series Access Points	
OAW-AP314	OmniAccess AP314 Wireless Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors
OAW-AP315	OmniAccess AP315 Wireless Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas
OAW-IAP314-IS	OmniAccess IAP314 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors – Restricted regulatory domain: Israel
OAW-IAP314-JP	OmniAccess IAP314 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors – Restricted regulatory domain: Japan
OAW-IAP314-RW	OmniAccess IAP314 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors – Unrestricted Regulatory Domain. MUST NOT be used for deployments in the United States, Japan or Israel.
OAW-IAP314-US	OmniAccess IAP314 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors – Restricted regulatory domain: United States
OAW-IAP315-IS	OmniAccess IAP315 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas – Restricted regulatory domain: Israel
OAW-IAP315-JP	OmniAccess IAP315 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas – Restricted regulatory domain: Japan
OAW-IAP315-RW	OmniAccess IAP315 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas – Unrestricted Regulatory Domain. MUST NOT be used for deployments in the United States, Japan or Israel.
OAW-IAP315-US	OmniAccess IAP315 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas – Restricted regulatory domain: United States
Mounting Spares	
AP-220-MNT-C1	OmniAccess Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Color: black. Spare.
Mounting Accessories	
AP-220-MNT-C2	OmniAccess Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for Interlude and silhouette style rails). Color: black
AP-220-MNT-W1	OmniAccess Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket. Color: black
AP-220-MNT-W1W	OmniAccess Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket. Color: white
AP-220-MNT-W2	OmniAccess Access Point Mount Kit (secure, flat surface). Contains 1x flat surface wall/ceiling mount cradle. Color: black
AP-220-MNT-W2W	OmniAccess Access Point Mount Kit (secure, flat surface). Contains 1x flat surface wall/ceiling mount cradle. Color: white
Other Accessories	
AP-315-CVR-20	Kit of 20 snap-on covers for AP-315. Plain white, non-glossy, with holes for LED indicators. Color: white
Generic Indoor AP Accessories	
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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