

Alcatel-Lucent OmniAccess 320 series access points

Service Multi-tenant Network Management

Multifunctional Alcatel-Lucent OmniAccess® 320 series wireless access points (APs) provide the best 802.11ac Wi-Fi® connectivity and user experience. Featuring our Enhanced ClientMatch and Beacon technologies, the 320 series enables the highest capacity, performance, and efficiency in extremely high-density environments.

With a maximum concurrent data rate of 1,733 Mb/s in the 5 GHz band and 800 Mb/s in the 2.4 GHz band (aggregated data rate of 2.5 Gb/s), the 320 series APs deliver best-in-class next-generation .11ac Wi-Fi infrastructure for the highest-density environments. The high-performance and high-density 802.11ac 320 series supports multi-user multiple-input and multiple-output (MU-MIMO) and 4 spatial streams (4SS). It provides simultaneous multicast data transmission to multiple devices, maximizing data throughput and improving network efficiency.

The 320 series includes the patent-pending 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 Aruba® 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 wireless local area network (WLAN) performance in a mixed device environment during the technology transition period.

The 320 series has an integrated Bluetooth® Beacon that simplifies the remote management of a network of large-scale battery-powered beacons while also providing advanced location and indoor way-finding, and proximity-based push notification capabilities. It allows businesses to leverage mobility context to develop applications that deliver an enhanced user experience and increase the value of the wireless network for organizations.



Unique benefits

- Dual-radio 4x4 802.11ac AP with MU-MIMO
 - Supports up to 1,733 Mb/s in the 5 GHz band (with 4SS or very high throughput (VHT) 80 clients) and 800 Mb/s in the 2.4 GHz band (with 4SS/VHT40 clients).
- Built-in Bluetooth Low-Energy (BLE) radio
 - Enables location-based services with BLE-enabled mobile devices receiving signals from multiple Beacons at the same time.
 - Simplifies battery-powered beacon management.
- 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 radio frequency interference (RFI) to deliver reliable, high-performance WLANs.
 - The OmniAccess 320 series APs can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, virtual private network (VPN) tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.
- Support for additional 5 GHz bands
 - Supports software upgrades to enable additional 5 GHz spectrums when governments expand available frequencies.
- 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 RFI.

- 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 files, URLs and IPs, providing comprehensive protection against advanced online threats.
 - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys.
 - SecureJack-capable for secure tunneling of wired Ethernet traffic.

Choose your operating mode

OmniAccess 320 series APs offer a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed mode – when managed by Mobility Controllers, OmniAccess 320 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 the 320 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 RFI.
- Secure enterprise mesh.

OAW-AP320 series specifications

- OAW-AP325 and OAW-IAP325
 - 5 GHz (1,733 Mb/s max rate) and 2.4 GHz (800 Mb/s max rate) radios, each with 4x4 MIMO support and a total of eight integrated omni-directional downtilt antennas.
- OAW-AP324 and OAW-IAP324
 - 5 GHz (1,733 Mb/s max rate) and 2.4 GHz (800 Mb/s max rate) radios, each with 4x4 MIMO support and a total of four combined, diplexed (dual-band) external RP-SMA antenna connectors.

Wi-Fi radio specifications

- AP type: Indoor, dual-radio, 5 GHz 802.11ac and 2.4 GHz 802.11n 4x4 MIMO.
- Software-configurable dual-radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1).
- Four spatial stream SU-MIMO for up to 1,733 Mb/s wireless data rate to a single client device.
- Three spatial stream MU-MIMO for up to 1,300 Mb/s 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 basic service set identifiers (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: binary phase-shift keying (BPSK), quality phase-shift keying (QPSK), complementary code keying (CCK)
 - 802.11a/g/n/ac: BPSK, QPSK, 16-quadrature amplitude modulation (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: +24 dBm (18 dBm per chain)
 - 5 GHz band: +24 dBm (18 dBm per chain)
 - Note: conducted transmit power levels exclude antenna gain. For total equivalent isotropically radiated power (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 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 beamforming (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 450 (MCS0 to MCS23)
 - 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: Aggregated Mac Protocol Data Unit (A-MPDU), Aggregated Mac Service Data Unit (A-MSDU)

Wi-Fi antennas

- OAW-AP324/OAW-IAP324: Four RP-SMA connectors for external dual-band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 2.5 dB in 2.4 GHz and 1.5 dB in 5 GHz.
- OAW-AP325/OAW-IAP325: Eight integrated downtilt omnidirectional antennas for 4x4 MIMO with maximum antenna gain of 3.5 dBi in 2.4 GHz and 5.0 dBi in 5 GHz. Built-in antennas are optimized for horizontal ceiling-mounted orientation of the AP. The downtilt angle for maximum gain is approximately 30 degrees.

Other interfaces

- Two 10/100/1000BASE-T Ethernet network interfaces (RJ-45)
 - Auto-sensing link speed and MDI/MDX
 - Link Aggregation support to achieve platform throughput up to 2 Gb/s
 - 802.3az Energy Efficient Ethernet (EEE)
 - PoE-PD: 48 V DC (nominal) 802.3af or 802.3at PoE
- DC power interface, accepts 2.1/5.5mm center-positive circular plug with 9.5mm length
- USB 2.0 host interface (Type A connector)
- Bluetooth Low Energy (BLE) radio
 - Up to 4 dBm transmit power (class 2) and -94 dBm receive sensitivity
 - Integrated antenna, -5 dBi gain (30 degrees downtilt)
 - Can be disabled with configuration
- Visual indicators (tri-color LEDs): For system and radio status
- Reset button: Factory reset (during device power-up)
- Serial console interface (RJ-45)
- Kensington security slot

Power

- Maximum (worst-case) power consumption: 20 W (802.3at PoE), 13.5 W (802.3af PoE) or 18.5 W (DC)
 - Excludes power consumed by external USB device (and internal overhead); this could add up to 6 W (PoE) or 5.5 W (DC) for 5 W/1 A USB device

- Maximum (worst-case) power consumption in idle mode: 8 W (PoE) or 7 W (DC)
- Direct DC source: 48 V DC nominal, +/- 5%
- Power over Ethernet (PoE): 48 V DC (nominal) 802.3af/802.3at compliant source
 - Unrestricted functionality with 802.3at PoE
 - Power-save mode with reduced functionality from 802.3af PoE
- USB port disabled
- Second Ethernet port disabled
- 2.4 GHz radio in 1x1:1 mode
- Power sources sold separately
- When both power sources are available, DC power takes priority

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):
 - 203 mm (W) x 203 mm (D) x 57 mm (H) 8.0in. (W) x 8.0in. (D) x 2.2in. (H)
 - 950 g/34 oz
- Dimensions/weight (shipping):
 - 315 mm (W) x 265 mm (D) x 100 mm (H) 12.4 in. (W) x 10.4 in. (D) x 3.9in. (H)
 - 1,350 g/48 oz

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 representative for Alcatel-Lucent products.

Reliability

- MTBF: 739,935 h (84.5 years) at +25° C operating temperature (AP-325)

Regulatory model numbers

- OAW-AP324 and OAW-IAP324: APIN0324
- OAW-AP325 and OAW-IAP325: APIN0325

Certifications

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

Warranty

- Limited lifetime warranty

Minimum operating system software versions

- AOS-W 6.4.4.0
 - InstantOS™ 4.3.0.0
- 320 Series Access Points are not supported on OAW-4306 Series Controllers

RF performance table

	Maximum transmit power (DBM) per transmit chain	Receiver sensitivity (DBM) per receive chain
802.11b 2.4 GHz		
1 Mb/s	18.0	-97.0
11 Mb/s	18.0	-89.0
802.11G 2.4 GHz		
6 Mb/s	18.0	-93.0
54 Mb/s	18.0	-75.0
802.11N HT20 2.4 GHz		
MCS0/8/16	18.0	-92.0
MCS7/15/23	16.0	-72.0
802.11N HT40 2.4 GHz		
MCS0/8/16	18.0	-90.0
MCS7/15/23	16.0	-70.0
802.11A 5 GHz		
6 Mb/s	18.0	-93.0
54 Mb/s	16.5	-75.0
802.11N HT20 5 GHz		
MCS0/8/16	18.0	-92.0
MCS7/15/23	16.0	-72.0
802.11N HT40 5 GHz		
MCS0/8/16	18.0	-89.0
MCS7/15/23	16.0	-69.0
802.11AC VHT20 5 GHz		
MCS0	18.0	-92.0
MCS9	14.0	-65.0
802.11AC VHT40 5 GHz		
MCS0	18.0	-89.0
MCS9	14.0	-62.0
802.11AC VHT80 5 GHz		
MCS0	18.0	-86.0
MCS9	14.0	-59.0

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

Datasheet

Alcatel-Lucent OmniAccess 320 series access points

Ordering information

Part number	Description
AP320 series access points	
OAW-AP324	OmniAccess AP324 Wireless Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors.
OAW-IAP324-RW	OmniAccess AP324 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors - Restricted regulatory domain: Rest of World. Not to be used in US, Israel, Japan.
OAW-IAP324-US	OmniAccess AP324 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors - Restricted regulatory domain: United States
OAW-IAP324-JP	OmniAccess AP324 Wireless Instant Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors - Restricted regulatory domain: Japan
OAW-IAP324-IS	OmniAccess AP324 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, antenna connectors - Restricted regulatory domain: Israel
OAW-AP325	OmniAccess AP325 Wireless Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas
OAW-IAP325-RW	OmniAccess AP325 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas - Restricted regulatory domain: Rest of World. Not to be used in US, Israel, Japan.
OAW-IAP325-US	OmniAccess AP325 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas - Restricted regulatory domain: United States
OAW-IAP325-JP	OmniAccess AP325 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas - Restricted regulatory domain: Japan
OAW-IAP325-IS	OmniAccess AP325 Wireless Instant Access Point, 802.11n/ac, 4x4:4, dual radio, integrated antennas - Restricted regulatory domain: Israel
Mounting accessories	
AP-220-MNT-C1	OmniAccess Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Color: black. Spare.
AP-220-MNT-C2	OmniAccess AP220 Series 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 AP220 Series 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 AP220 Series Access Point Mount Kit (box style, secure, flat surface). Contains 1x flat surface wall/ceiling secure mount cradle. Color: black
AP-220-MNT-W2W	OmniAccess Access Point Mount Kit (box style, secure, flat surface). Contains 1x flat surface wall/ceiling secure mount cradle (color: white).
AP-320-MNT-T	OmniAccess 320 Series Access Points ceiling tile mount kit
Other accessories	
AP-325-CVR-20	Kit of 20 snap-on covers for OAW-AP325. Plain white, non-glossy, with holes for LED indicators.
AP-AC-12V30UN	OmniAccess 12 V/30 W indoor Access Point AC power adapter. Universal, ships with 8 country specific plug inserts (US, EU, UK, Australia, China, Korea, Argentina, Brazil)
PD-9001GR-AC	OAW WLAN 1 Port 802.3at PoE Midspan 10/100/1000 30 W. US power cord included. Rest all power cord shall be ordered separately.