

Alcatel-Lucent OmniAccess 340 Series Campus Access Points

Extreme performance 802.11ac Wave 2 APs
with dual-5 GHz and multi-gig Ethernet support

The OmniAccess 340 series access points provide the fastest 802.11ac gigabit data speeds and superb user experience for mobile devices and applications in a digital workplace. Designed with an integrated, 802.3bz Compliant, HPE SmartRate multi-gig Ethernet port to eliminate wired bottlenecks, these APs offer unmatched wireless performance and capacity. The unique and flexible dual-5 GHz architecture of the 340 series offers a way to double 5 GHz capacity where needed, without compromise or restrictions.



Thanks to advanced ClientMatch technology, the 340 series can automatically detect and classify 802.11ac Wave 2 capable mobile devices. This allows ClientMatch to automatically group Wave 2 capable devices onto a single Wave 2 radio so that performance benefits of multi-user MIMO can be realized – without the adverse effects of slower 802.11ac and traditional 802.11n capable mobile devices. This means increased network capacity and a boost in network efficiency.

With maximum data rates of 2,166 Mb/s in the 5 GHz band¹ and 800 Mb/s in the 2.4 GHz band (for an aggregate peak data rate of 3.0 Gb/s in dual-band mode and 4.3 Gb/s in dual-5 GHz mode), the 340 series APs deliver a best-in-class, next-generation 802.11ac Wi-Fi infrastructure that is ideal for lecture halls, auditoriums, public venues, and high-density office environments.

These high performance and high density 340 Series 802.11ac access points support up to 160 MHz channel bandwidth (VHT160), and 4 spatial streams (4SS) for both SU- and MU-MIMO communications.

¹ Initially, the 5 GHz radio will be limited to 1,733 Mb/s. The proprietary extension (1024-QAM support) to enable MCS10 and MCS11 and rates up to 2,166 Mb/s will be introduced in a later SW release. Please check SW release notes for this upgrade. With 1,733 Mb/s, the aggregate peak numbers drop to 2.5 Gb/s (dual-radio) and 3.5 Gb/s (dual-5 GHz).

Unique benefits

- Unified AP – deploy with or without controller
 - The 340 Series APs can be deployed in either controller- based (AOS-W) or controllerless (InstantOS) deployment mode
- Dual Radio 4x4 802.11ac access point with Multi-User MIMO (wave 2)
 - Supports up to 2,166 Mb/s per radio in the 5 GHz band (with 4SS/VHT80 or 2SS/VHT160 clients) and up to 800 Mb/s in the 2.4 GHz band (with 4SS/VHT40 clients)
 - Antenna polarization diversity (fixed) for optimized RF performance
- Optional dual-5 GHz mode supported, where the 2.4 GHz radio is converted to a second 5 GHz radio
 - Both 5 GHz radios providing full coverage, doubling the performance and capacity
 - Unlike competitive solutions, the 340 Series is designed to isolate the two 5 GHz transmitters for higher performance
 - Conversion can be manual/fixed, or automatic and dynamic (software controlled, under-the hood), based on system-wide capacity and load in both bands
- HPE SmartRate uplink Ethernet port (E0)
 - Supports up to 2.5 Gb/s with NBase-T and IEEE 802.3bz Ethernet compatibility
 - Backwards compatible with 100/1000Base-T
- Hitless PoE failover between both Ethernet ports
- 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 communications applications
 - Supports priority handling and policy enforcement for unified communication apps, including Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing
- AppRF technology leverages deep packet inspection to classify and block, prioritize, or limit bandwidth for thousands of applications in a range of categories
- Best-in-class RF Management
 - Integrated AirMatch technology manages the 2.4-GHz and 5-GHz radio bands and actively optimizes the RF environment including channel width, channel selection and transmit power
 - Adaptive Radio Management (ARM) technology provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high- performance WLANs
- 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 VHT160 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 protection² 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
 - SecureJack-capable for secure tunneling of wired Ethernet traffic

² Not supported in dual-5 GHz mode

- 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 based on the amount of power available to the unit
 - Software configurable to disable capabilities in certain orders. For the 340 Series Access Points, by default, the USB interface will be the first feature to turn off if the AP power consumption exceeds the available power budget

Choose your operating mode

The OmniAccess 340 Series APs offer a choice of deployment and operating modes to meet your unique management and deployment requirements:

- The 340 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 340 Series APs 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)² for wireless IDS, rogue detection and containment
- Spectrum analyzer (SA)², dedicated or hybrid, for identifying sources of RF interference
- Secure enterprise mesh portal or point

Specifications

Hardware variants

- OAW-AP344: External antenna models
- OAW-AP345: Internal antenna models

Wi-Fi radio specifications

- AP type: Indoor, dual radio, 5 GHz 802.11ac 4x4 MIMO and 2.4 GHz 802.11n 4x4 MIMO
 - The 2.4 GHz radio supports all 802.11ac rates as well (proprietary extension)
- Software-configurable dual radio supports:
 - Dual-radio mode: 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
 - Dual-5 GHz mode: upper 5 GHz (Radio 0) and lower 5 GHz (Radio 1)

- 5 GHz:
 - Four spatial stream Single User (SU) MIMO for up to 1,733 Mb/s wireless data rate to individual 4SS VHT80 or 2SS VHT160 client devices
 - Four spatial stream Multi User (MU) MIMO for up to 1,733 Mb/s wireless data rate to up to four 1SS or two 2SS MU-MIMO capable client devices simultaneously
 - Peak data rate increases to 2,166 Mb/s when using 1024-QAM modulation (proprietary extension)
- 2.4 GHz:
 - Four spatial stream Single User (SU) MIMO for up to 600 Mb/s wireless data rate to individual 4SS HT40 client devices, and up to 800 Mb/s to individual 4SS VHT40 devices (proprietary extension)
- 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 GHz³
 - 5.250 to 5.350 GHz³
 - 5.470 to 5.725 GHz⁴
 - 5.725 to 5.850 GHz⁴
- 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)

³ Not supported on radio 0 in dual-5 GHz mode

⁴ Not supported on radio 1 in dual-5 GHz mode

- Supported modulation types:
 - 802.11b: BPSK, QPSK, CCK
 - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM (proprietary extension)
- 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
 - 5 GHz band: +24 dBm (18 dBm per chain)⁵

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, 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 (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 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)
- 802.11ac: 1,950 and 2,166 (MCS10 and MCS11, NSS = 1 to 4 for VHT20/40/80, NSS = 1 to 2 for VHT160)⁶
- 802.11n high-throughput (HT) support: HT20/40
- 802.11ac very high throughput (VHT) support: VHT20/40/80/160
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Wi-Fi antennas

- OAW-AP344: External antenna models. Two sets of four RP-SMA antenna connectors:
 - Primary: A0 - A3, connected to chains 0 through 3 respectively on each associated radio
 - With AP in dual-radio mode: dual-band interfaces, diplexing signals to/from radio 0 (full 5 GHz) and radio 1 (2.4 GHz)
 - With AP in dual-5 GHz mode: 5 GHz interfaces from radio 0 (upper 5 GHz)
 - Secondary: B0 - B3, connected to chains 0 through 3 respectively
 - With AP in dual-radio mode: not used
 - With AP in dual-5 GHz mode: 5 GHz interfaces from radio 1 (lower 5 GHz)
- Total internal losses between radio and external connectors:
 - With AP in dual-radio mode: 2.0 dB for 5 GHz, 2.0 dB for 2.4 GHz
 - With AP in dual-5 GHz mode: 2.0 dB for upper 5 GHz, 1.7 dB for lower 5 GHz
- OAW-AP345: Internal antenna models. A total of eight internal omni-directional downtilt antennas
 - Radio 1: four cross-polarized dual-band downtilt omni-directional antennas for 4x4 MIMO with peak antenna gain of 5.8 dBi (2.4 GHz) and 5.6 dBi (5 GHz) per antenna.

- With AP in dual-radio mode: used for 2.4 GHz only
- With AP in dual-5 GHz mode: used for lower 5 GHz only
- Radio 0: four cross-polarized 5 GHz downtilt omni-directional antennas for 4x4 MIMO with peak antenna gain of 5.5 dBi per antenna
 - With AP in dual-radio mode: used for full 5 GHz only
 - With AP in dual-5 GHz mode: used for upper 5 GHz only
- All internal 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 all antennas per radio, the peak gain of the average (effective) pattern is:
 - Radio 1: 3.1 dBi in 2.4 GHz and 2.7 dBi in 5 GHz
 - Radio 0: 2.2 dBi in 5 GHz

Other interfaces

- One HPE SmartRate port (RJ-45, maximum negotiated speed 2.5 Gb/s)
 - Auto-sensing link speed (100/1000/2500BASE-T) and MDI/MDX
 - 2.5 Gb/s speed complies with NBase-T and 802.3bz specifications
 - PoE-PD: 48Vdc (nominal) 802.3at PoE
- One 10/100/1000BASE-T Ethernet network interface (RJ-45)
 - Auto-sensing link speed and MDI/MDX
 - PoE-PD: 48Vdc (nominal) 802.3at PoE
- Link aggregation (LACP) support between both network ports for redundancy and increased capacity
- DC power interface, accepts 1.35/3.5-mm center-positive circular plug with 9.5-mm length
- USB 2.0 host interface (Type A connector)

⁵ Reduced by 2 dB in dual-5 GHz mode

⁶ Proprietary extension; shown rates shown are for the highest NSS only; additional rates for lower NSS values are supported as well.

- Bluetooth Low Energy (BLE) radio
 - Up to 4 dBm transmit power (class 2) and -91 dBm receive sensitivity
 - Integrated vertically polarized omnidirectional antenna with roughly 30 degrees downtilt and peak gain of 4.9 dBi (AP345) or 3.1 dBi (AP344)
 - Visual indicators (tri-color LEDs): for System and Radio status
 - Reset button: factory reset, LED mode control (normal/off)
 - Serial console interface (proprietary, µUSB physical jack)
 - Kensington security slot
- The USB interface and second Ethernet port (E1 if E0 is used, otherwise E0) are disabled, and both radios are restricted to 2x2 operation (AP in dual-radio mode) or 1x1 operation (AP in dual-5 GHz mode) when using an 802.3af PoE power source
 - Maximum (worst-case) power consumption:
 - DC powered: 20.0 W (AP in dual-radio mode), 22.8 W (AP in dual-5 GHz mode)
 - PoE powered (802.3at): 21.9 W (AP in dual-radio mode), 25.1 W (AP in dual-5 GHz mode)
 - PoE powered (802.3af): 13.5 W
 - All numbers above are without an external USB device connected. When sourcing the full 5W power budget to such a device, the incremental (worst-case) power consumption for the AP is up to 6W (DC) or 6.6 W (PoE)
 - Maximum (worst-case) power consumption in idle mode: 11 W (DC or PoE)

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: 48Vdc nominal, ± 5%
- Power over Ethernet (PoE): 48Vdc (nominal) 802.3af/802.3at compliant source
- When powered by a direct DC power source, the AP will operate without restrictions
- When powered by PoE and with the IPM feature enabled, the AP will start up in unrestricted mode, but it may apply restrictions depending on the PoE budget and actual power. What IPM restrictions to apply, and in what order, is programmable.
- When powered by PoE with the IPM feature disabled, the AP will apply some fixed restrictions:
 - The USB interface is disabled when using an 802.3at PoE power source

Mounting

- The AP ships with two (black) 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 below for details

Mechanical

- Dimensions and weight (unit, excluding mount accessories):
 - 22.5 cm (W) x 22.4 cm (D) x 5.2 cm (H) 8.9" (W) x 8.9" (D) x 2.0" (H)
 - 1.05 kg or 2.31 lbs
- Dimensions and weight (shipping):
 - 33.9 cm (W) x 29 cm (D) x 8.8 cm (H) 13.3" (W) x 11.4" (D) x 3.5" (H)
 - 1.65 kg or 3.63 lbs

Environmental

- Operating:
 - Temperature: 0° C to +50° C (+32° F to +122° F)
 - Humidity: 5% to 93% non-condensing
- Storage and transportation:
 - Temperature: -40° C to +70° C (-40° F to +158° F)

Reliability

- MTBF: 640 khrs (73 yrs) at +25C operating temperature

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, EN60601-1-2

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

Regulatory model numbers

- OAW-AP344: APIN0344
- OAW-AP345: APIN0345

Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance certified 802.11a/b/g/n, ac
- Wi-Fi CERTIFIED™ ac (with wave 2 features)

Warranty

- Limited lifetime warranty

Minimum operating system software

- AOS-W & InstantOS 8.3.0.0

RF performance table

	Maximum transmit power (dBm) per transmit chain ⁷	Receiver sensitivity (dBm) per receive chain ⁷
802.11b 2.4 GHz		
1 Mb/s	18	-97
11 Mb/s	18	-88
802.11g 2.4 GHz		
6 Mb/s	18	-94
54 Mb/s	16	-76
802.11n HT20 2.4 GHz		
MCS0/8/16/24	18	-94
MCS7/15/23/31	14	-74
802.11n HT40 2.4 GHz		
MCS0/8/16/24	18	-91
MCS7/15/23/31	14	-71
802.11a 5GHz		
6 Mb/s	18	-92
54 Mb/s	16	-74
802.11n HT20 5 GHz		
MCS0/8/16/24	18	-92
MCS7/15/23/31	14	-71
802.11n HT40 5 GHz		
MCS0/8/16/24	18	-89
MCS7/15/23/31	14	-68
802.11ac VHT20 5 GHz		
MCS0	18	-92
MCS9	12	-66
MCS11 ⁸	10	-60
802.11ac VHT40 5 GHz		
MCS0	18	-89
MCS9	12	-63
MCS11 ⁸	10	-57
802.11ac VHT80 5 GHz		
MCS0	18	-86
MCS9	12	-60
MCS11 ⁸	10	-54
802.11ac VHT160 5 GHz		
MCS0	18	-81
MCS9	12	-55
MCS11 ⁸	10	-49

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.

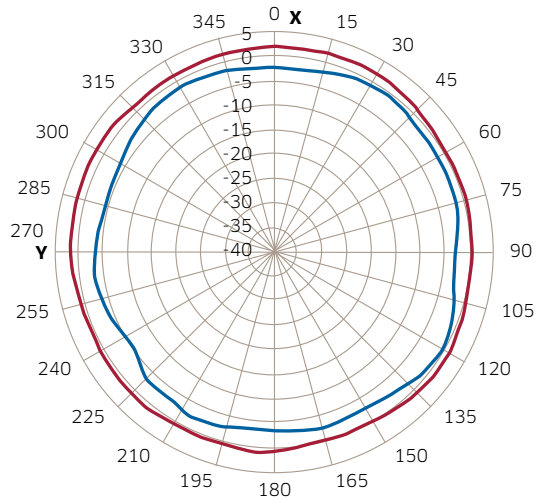
⁷ In dual-5 GHz mode, all 5 GHz numbers are degraded by 2 dB

⁸ Proprietary extension

Antenna pattern plots

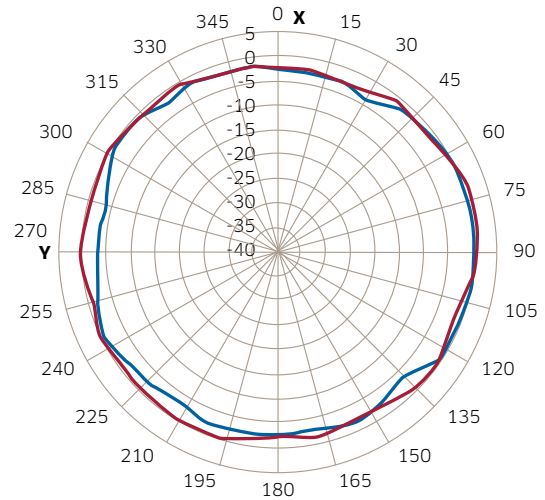
Horizontal planes (top view, AP facing forward)

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



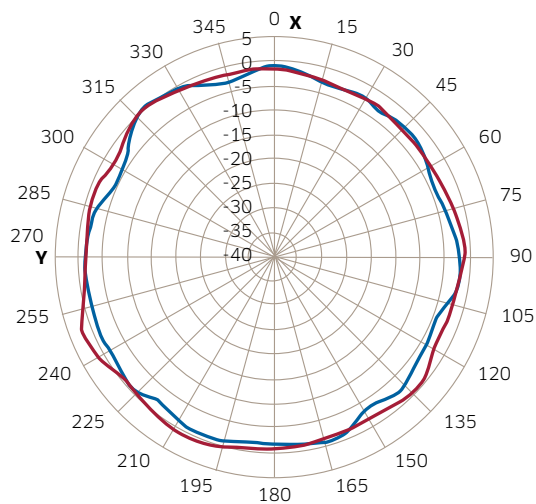
2.45 GHz Wi-Fi (dual-radio mode, radio 1)

— 2.45 GHz Wi-Fi (R1) average azimuth
— 2.45 GHz Wi-Fi (R1) average downtilt



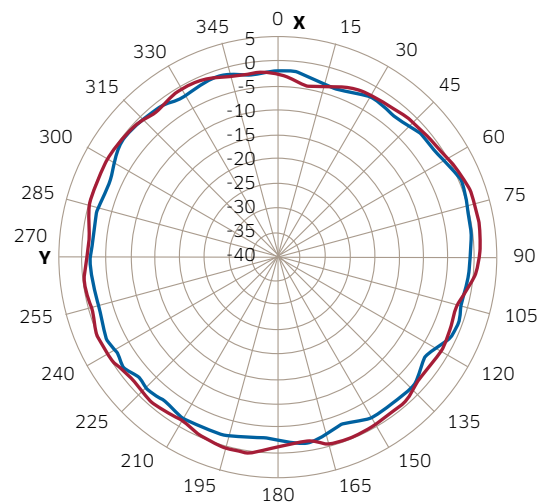
5.5 GHz Wi-Fi (dual-radio mode, radio 0)

— 5.5 GHz Wi-Fi (R0) average azimuth
— 5.5 GHz Wi-Fi (R0) average downtilt



5.18 GHz Wi-Fi (dual-5 GHz mode, radio 1)

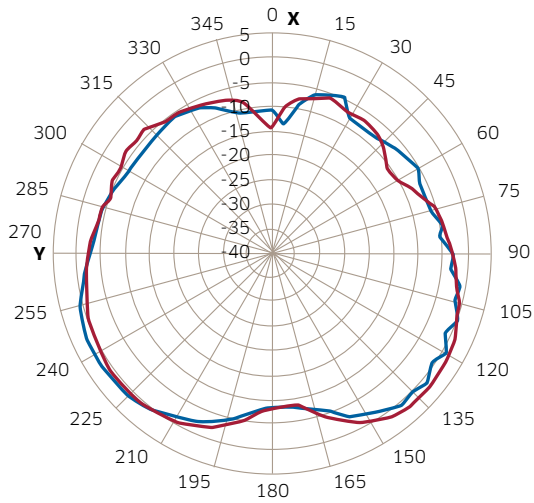
— 5.18 GHz Wi-Fi (R1) average azimuth
— 5.18 GHz Wi-Fi (R1) average downtilt



5.875 GHz Wi-Fi (dual-5 GHz mode, radio 0)

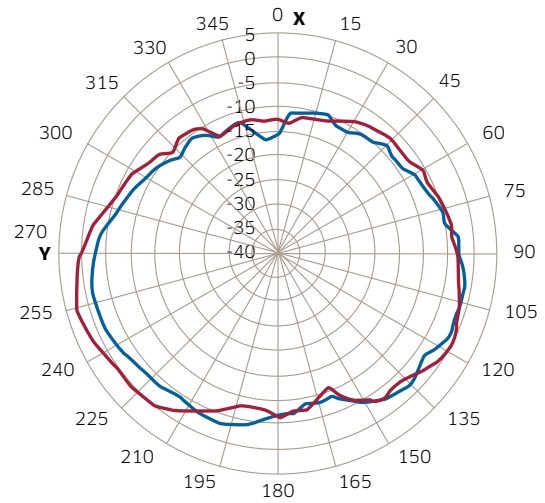
— 5.875 GHz Wi-Fi (R0) average azimuth
— 5.875 GHz Wi-Fi (R0) average downtilt

Elevation planes (side view, AP facing down)
 Showing side view with AP rotated both 0 and 90 degrees



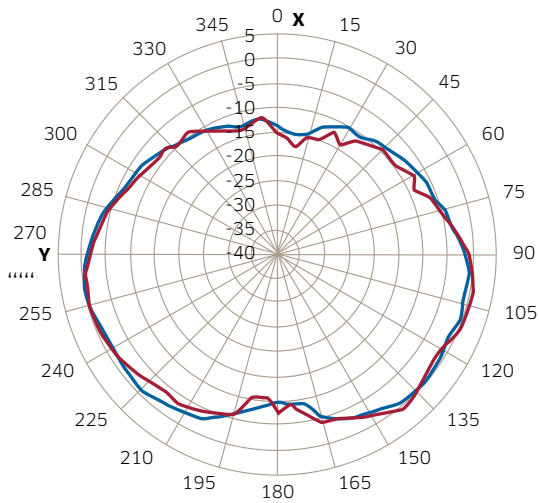
2.45 GHz Wi-Fi (dual-radio mode, radio 1)

- 2.45 GHz Wi-Fi (R1) average elevation 0
- 2.45 GHz Wi-Fi (R1) average elevation 90



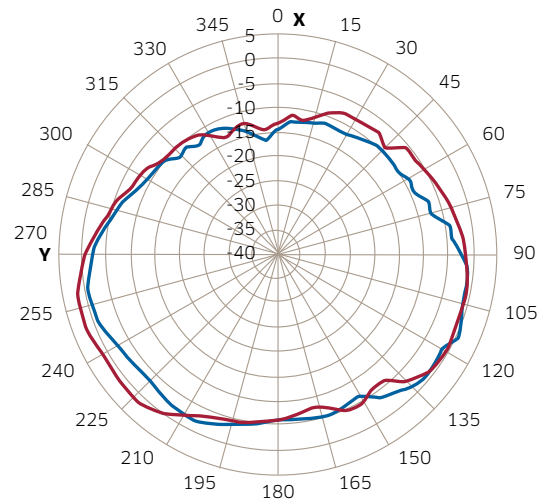
5.5 GHz Wi-Fi (dual-radio mode, radio 0)

- 5.5 GHz Wi-Fi (R0) average elevation 0
- 5.5 GHz Wi-Fi (R0) average elevation 90



5.18 GHz Wi-Fi (dual-5 GHz mode, radio 1)

- 5.18 GHz Wi-Fi (R1) average elevation 0
- 5.18 GHz Wi-Fi (R1) average elevation 90



5.875 GHz Wi-Fi (dual-5 GHz mode, radio 0)

- 5.875 GHz Wi-Fi (R0) average elevation 0
- 5.875 GHz Wi-Fi (R0) average elevation 90

Ordering information

Part number	Description
OmniAccess 340 Series Unified Access Points	
OAW-AP344-EG	OmniAccess AP344 Dual 4x4:4 MU-MIMO Radio Antenna Connectors Smart Rate Unified Campus AP. Restricted regulatory domain: Egypt
OAW-AP344-IS	OmniAccess AP344 Dual 4x4:4 MU-MIMO Radio Antenna Connectors Smart Rate Unified Campus AP. Restricted regulatory domain: Israel
OAW-AP344-JP	OmniAccess AP344 Dual 4x4:4 MU-MIMO Radio Antenna Connectors Smart Rate Unified Campus AP. Restricted regulatory domain: Japan
OAW-AP344-RW	OmniAccess AP344 Dual 4x4:4 MU-MIMO Radio Antenna Connectors Smart Rate Unified Campus AP. Restricted regulatory domain: Rest of the world
OAW-AP344-US	OmniAccess AP344 Dual 4x4:4 MU-MIMO Radio Antenna Connectors Smart Rate Unified Campus AP. Restricted regulatory domain: US
OAW-AP345-EG	OmniAccess AP345 Dual 4x4:4 MU-MIMO Radio Internal Antennas Smart Rate Unified Campus AP. Restricted regulatory domain: Egypt
OAW-AP345-IS	OmniAccess AP345 Dual 4x4:4 MU-MIMO Radio Internal Antennas Smart Rate Unified Campus AP. Restricted regulatory domain: Israel
OAW-AP345-JP	OmniAccess AP345 Dual 4x4:4 MU-MIMO Radio Internal Antennas Smart Rate Unified Campus AP. Restricted regulatory domain: Japan
OAW-AP345-RW	OmniAccess AP345 Dual 4x4:4 MU-MIMO Radio Internal Antennas Smart Rate Unified Campus AP. Restricted regulatory domain: Rest of the world
OAW-AP345-US	OmniAccess AP345 Dual 4x4:4 MU-MIMO Radio Internal Antennas Smart Rate Unified Campus AP. Restricted regulatory domain: US
Mount kit - spares	
AP-220-MNT-C1	OmniAccess 2x Ceiling Grid Rail Adapter for Basic Flat Rails Mount Kit
Mount kits - accessories	
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)
Cosmetic covers	
AP-335-CVR-20	OmniAccess Kit of 20 snap-on covers for AP-335 & AP-345. Plain white, non-glossy, with holes for LED indicators
Power accessories	
PD-9001GR-AC	OmniAccess POE midspan injector, 10/100/1000 802.3at (30 W)
AP-AC-48V36C	OmniAccess AC-to-DC Power Adapter (48 V/36 W)
Other accessories	
AP-CBL-SERU	OmniAccess Micro-USB TTL3.3 V to USB2.0 AP Console Adapter Cable