ALCATEL-LUCENT ENTERPRISE OMNIACCESS 205H ACCESS POINT

HIGH-PERFORMANCE DUAL-RADIO 802.11AC ACCESS POINTS FOR THE HOSPITALITY INDUSTRY AND BRANCH DEPLOYMENTS

The multifunctional and affordable AP205H access point (AP) combines high-performance wireless mobility with wired Gigabit Ethernet access in a surprisingly compact device.

This compact and cost-effective dual-radio AP can be easily mounted to a standard data wall box. It uses the existing structured cabling system to provide secure wired and wireless network access in dormitories, classrooms, hotels, medical clinics and other multi-tenant environments.

In addition, using a unique mount kit accessory, the AP205H can easily be converted to a desk-mounted AP that provides the same benefits for branch offices and teleworkers.

Capable of delivering high-performance Wi-Fi® services to multiple rooms, the 205H simplifies the planning of radio frequency (RF) coverage and reduces WLAN deployment costs. The AP205H is built to provide years of trouble-free operation and is backed by a limited lifetime warranty.

The 205H delivers wireless data rates of up to 867 Mb/s to 5-GHz devices with 802.11ac technology. It leverages two spatial multiple-input and multiple-output (MIMO) streams while simultaneously supporting 2.4-GHz 802.11n clients with data rates of up to 400 Mb/s.

The integrated antennas of the 205H are optimized for deployments where the AP is mounted vertically, either on a wall or desk. The antenna patterns are slightly directional, focusing the RF energy to and from the area in front of the AP.

Three local Gigabit Ethernet ports are available to securely attach wired devices to your network. One of these ports is also capable of supplying power over Ethernet (PoE) to the attached device.

The 205H itself receives power from either an AC-to-DC adapter accessory or from the switch it attaches to, using PoE through the uplink Gigabit Ethernet port.

FEATURES

- Best-in-class RF management
  - ¬ All OmniAccess® APs include Adaptive Radio Management™ (ARM) technology, which is essential for creating the most reliable, high-performance WLANs. ARM manages the 2.4-GHz and 5-GHz radio bands to optimize the Wi-Fi client performance and ensures that APs stay clear of RF interference.
- 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.
- Security
  - ¬ SecureJack-capable for secure tunneling of wired Ethernet traffic.
- Wi-Fi client optimization
  - ¬ To eliminate sticky client behavior while users roam, the AP205H features patented ClientMatch™ technology, which continuously gathers session performance metrics from mobile devices. If a mobile device moves away from an AP or if RF interference impedes performance, ClientMatch automatically steers the device to a better AP.

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- Advanced Cellular Coexistence (ACC)
  - ¬ ACC enables WLANs to perform at peak efficiency by minimizing interference from 3G/4G LTE networks, distributed antenna systems, and commercial small cell/femtocell equipment.
- Quality of service for unified communications apps
  - ¬ The OmniAccess AP203H supports priority handling and policy enforcement for unified communication apps, including Microsoft® Lync® with encrypted videoconferencing, voice, chat and desktop sharing.

BENEFITS

- Two devices in one
  - ¬ The 205H delivery includes everything you need to deploy it as a wall-mounted hospitality AP. It is attached directly to a standard single gang data wall box. Using an optional accessory stand, the 205H can also be easily converted to a desk-mounted remote AP.
- Flexible operating mode. Alcatel-Lucent Enterprise offers a choice of AP operating modes to meet your unique management and deployment requirements:
  - ¬ Controller-managed mode. When managed by OmniAccess Mobility Controllers, OmniAccess APs offer centralized configuration, data encryption, policy enforcement, and network services, as well as distributed and centralized traffic forwarding.
  - ¬ InstantOS™ mode. In Instant mode, a single AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up an 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 instant APs to become part of a WLAN that is managed by a Mobility Controller.

TECHNICAL SPECIFICATIONS

- AP205H (controller-managed) and IAP205H (Instant): Dual-radio 2x2:2 802.11ac APs for hospitality and branch offices with integrated antennas, three local Gigabit Ethernet ports, PoE out, USB host interface. Supports wall box and desk mount deployments.

ADVANCED FEATURES

- RF 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 205H 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
- Security
  - ¬ With an OpenDNS® service subscription, Instant remote access points (RAPs) 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

OPERATING MODES

- Mobility Controller-managed AP
- Instant AP
- Remote AP (RAP) for branch deployments
- Air monitor (AM) for wireless intrusion protection system (IDS), rogue detection and containment
- Spectrum analyzer, dedicated or hybrid
- Secure enterprise mesh

WIRELESS RADIO

- AP type: Indoor, dual-radio, 5 GHz 802.11ac and 2.4 GHz 802.11n 2x2:2
- Software-configurable dual-radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 2x2 MIMO with two spatial streams and up to 867 Mb/s (80-MHz channel) or 400 Mb/s (40-MHz channel) wireless data rate

- Supported frequency bands (country-specific restrictions apply):
  - ¬ 2.4000GHz 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 the 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), Quadrature phase-shift keying (QPSK), complementary code keying (CCK)
  - ¬ 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum transmit power (antenna gain not included):
  - ¬ 5-GHz band: +21 dBm (18 dBm per chain)
  - ¬ 2.4-GHz band: +21 dBm (18 dBm per chain)
  - ¬ Power may be restricted to comply with local regulatory rules
- 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 beam-forming (TxBF) for increased reliability in signal delivery
- 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: 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)

ANTENNAS
- Four integrated semi-directional antennas for 2x2 MIMO with maximum antenna gain of 4.0 dBi in 2.4 GHz and 6.0 dBi in 5 GHz. Built-in antennas are optimized for vertical orientation of the AP.

OTHER INTERFACES
- Uplink: 10/100/1000BASE-T Ethernet (RJ-45, back)
  - ¬ Auto-sensing link speed and medium dependent interface / medium dependent interface crossover (MDI/MDI-X)
  - ¬ 802.3az Energy Efficient Ethernet (EEE)
  - ¬ PoE-powered device (PoE-PD) (input): 48 V DC (nominal) 802.3af/at PoE
- Local: Three 10/100/1000BASE-T Ethernet (RJ-45, bottom)
  - ¬ Auto-sensing link speed and MDI/MDI-X
  - ¬ 802.3az Energy Efficient Ethernet (EEE)
  - ¬ One port: PoE power sourcing equipment (PoE-PSE) (output): 48 V DC (nominal) 802.3af PoE
- Passive pass-through interface (two RJ-45, back and bottom)
- USB 2.0 host interface (Type A connector)
  - ¬ 3G/4G cellular modems
  - ¬ Device battery charging port
  - ¬ Capable of supplying up to 1A/5 watts of power to an attached device
- DC power interface, accepts 1.35/3.5-mm center-positive circular plug with 9.5-mm length
- Visual indicators (LEDs):
  - ¬ Power/system status
  - ¬ PoE-PSE status
- Reset/LED control button ("paperclip access")
  - ¬ Factory reset (when activated during device power up)
  - ¬ LED control: toggle off/normal
- Serial console interface (custom, four-pin header)
- Kensington security slot

POWER
- Direct DC source: 48 V DC nominal, +/- 5%
- PoE: 48 V DC (nominal) 802.3af/at compliant source

- Power sources sold separately. Recommended OmniAccess part numbers:
  - ¬ DC: AP-AC-48V36 (48 V/36 watts)
  - ¬ PoE: PD-9001GR-AC (802.3at)
- When both power sources are connected and active, DC power takes priority
- Power modes:
  - ¬ DC: unrestricted mode (USB: 5 watts max, PoE-PSE: 15.4 watts max)
  - ¬ 802.3at PoE: reduced mode (USB disabled when PoE-PSE enabled, PoE-PSE reduced power budget: 10 watts max)
  - ¬ 802.3af PoE: restricted (USB and PoE-PSE disabled)
- Maximum (worst-case) power consumption:
  - ¬ DC: 12 watts max, plus 16.5 watts max for PoE-PSE and 5.5 watts max for USB
  - ¬ 802.3at PoE: 13 watts max, plus 11.5 watts max for PoE-PSE or 6 watts max for USB
  - ¬ 802.3af PoE: 13 watts max
- Maximum (worst-case) power consumption in idle mode (excluding PoE-PSE, USB): 7.5 watts

MOUNTING
- Included with AP: Mount plate to attach AP to single gang wall box (most international variations covered), security screw
- Optional mounting kits:
  - ¬ AP-205H-MNT2: OmniAccess mount plate and insert for use with dual gang box (most North America variations covered)
  - ¬ AP-205H-MNTR: OmniAccess 205H Access Point desk mount conversion kit. Includes desk mount and RJ-45 jumper.

MECHANICAL
- Dimensions/weight (with supplied single-gang wall box mount plate, as mounted):
  - ¬ 86 mm (W) x 40 mm (D) x 150 mm (H), 3.38" (W) x 1.57" (D) x 5.90" (H)
  - ¬ 375 g/13.22 oz
- Dimensions/weight (shipping):
  - ¬ 115 mm (W) x 63 mm (D) x 167 (H), 4.52" (W) x 2.4" (D) x 6.57" (H)
  - ¬ 500 g/17.63 oz

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 1999/5/EC
- Low-Voltage Directive 2006/95/EC
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2
  For more country-specific regulatory information and approvals, contact your Alcatel-Lucent Enterprise representative.

RELIABILITY
- MTBF: 709,492 hours (81 years) at +25° C operating temperature

REGULATORY MODEL NUMBER
- OAW-AP205H and OAW-IAP205H: APINH205

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

WARR ANTY
- Limited lifetime warranty

MINIMUM SOFTWARE VERSIONS
- AOS-W 6.4.3.0
- InstantOS 4.2.0.0

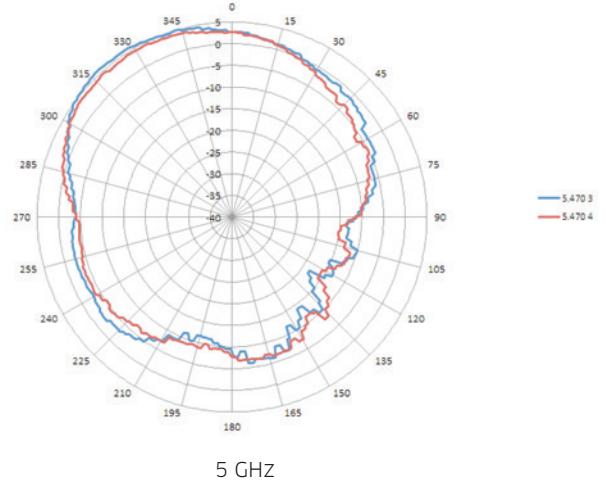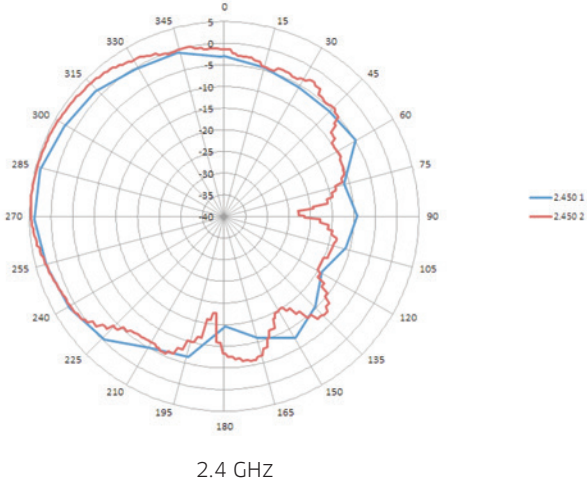| RF PERFORMANCE TABLE		
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz		
802.11b		
1 Mb/s	18.0	-97.0
11 Mb/s	18.0	-89.0
802.11g		
6 Mb/s	18.0	-93.0
54 Mb/s	15.5	-75.0
802.11n HT20		
MCS0/8	18.0	-92.0
MCS7/15	14.0	-71.0
802.11n HT40		
MCS0/8	18.0	-89.0
MCS7/15	14.0	-68.0
802.11ac VHT20		
MCS0	18.0	-92.0
MCS8	12.5	-68.0
802.11ac VHT40		
MCS0	18.0	-89.0
MCS9	12.0	-63.0
5 GHz		
802.11a		
6 Mb/s	16.0	-95.0
54 Mb/s	15.0	-77.0
802.11n HT20		
MCS0/8	16.0	-94.0
MCS7/15	14.5	-71.0
802.11n HT40		
MCS0/8	16.0	-90.0
MCS7/15	14.5	-68.0
802.11ac VHT20		
MCS0	16.0	-94.0
MCS8	14.0	-69.0
802.11ac VHT40		
MCS0	16.0	-89.0
MCS9	14.0	-63.0
802.11ac VHT80		
MCS0	16.0	-86.0
MCS9	14.0	-60.0

Numbers above exclude antenna gain. Table shows the maximum capability of the radios. Transmit power may be restricted in software to comply with local regulatory rules.
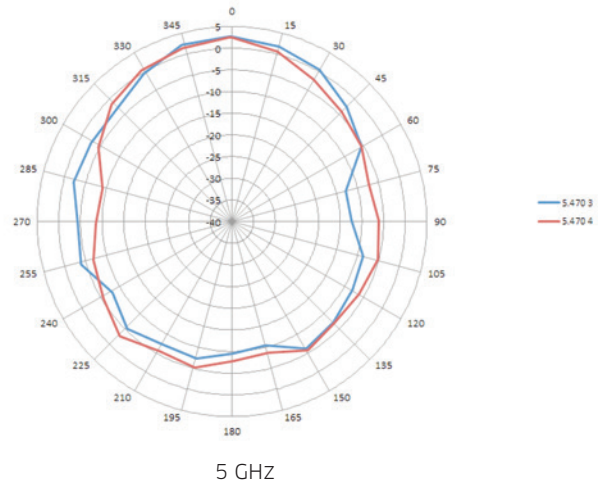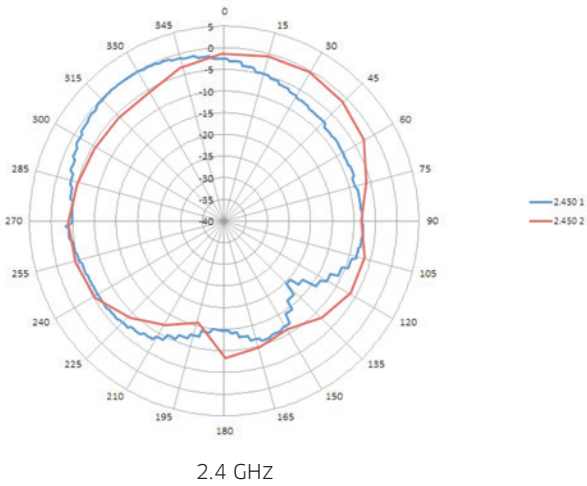
ANTENNA PATTERN PLOTS

Horizontal or Azimuth plane (top view, AP front facing left)

2.4 GHz

5 GHz
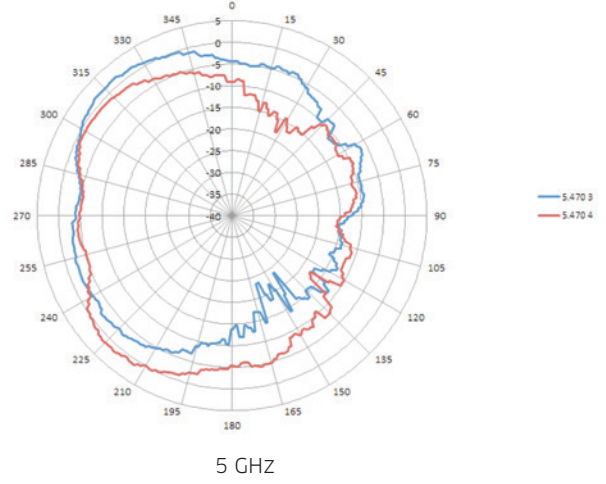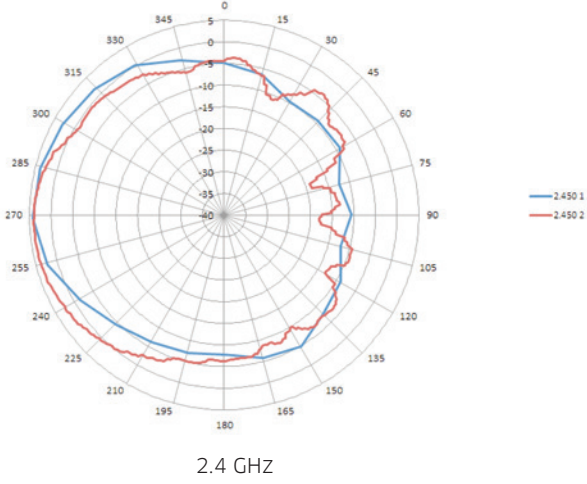
Elevation plane (side view, AP front facing left)

2.4 GHz

5 GHz

Elevation plane (front view)

2.4 GHz

5 GHz

ORDERING INFORMATION

Part Number	Description
AP205H Access Points	
OAW-AP205H	OmniAccess AP205H Wireless Access Point - Hospitality, 802.11ac, 2x2:2, dual radio, integrated antennas
OAW-IAP-205H-RW	OmniAccess IAP205H Wireless Instant Access Point - Hospitality, 802.11ac, 2x2:2, dual radio, integrated antennas - Unrestricted Regulatory Domain. These products should be considered as 'Rest of World' products and MUST NOT be used for deployments in the United States, Japan or Israel
OAW-IAP-205H-US	OmniAccess IAP205H Wireless Instant Access Point - Hospitality, 802.11ac, 2x2:2, dual radio, integrated antennas - Restricted regulatory domain: United States
OAW-IAP-205H-JP	OmniAccess IAP205H Wireless Instant Access Point - Hospitality, 802.11ac, 2x2:2, dual radio, integrated antennas - Restricted regulatory domain: Japan
OAW-IAP-205H-IL	OmniAccess IAP205H Wireless Instant Access Point - Hospitality, 802.11ac, 2x2:2, dual radio, integrated antennas - Restricted regulatory domain: Israel
Mounting Spares	
AP-205H-MNT1	OmniAccess 205H Access Point Mount Kit (single) – Kit with spare single gang wall-box mount adapter for AP205H
Mounting Accessories	
AP-205H-MNT2	OmniAccess 205H Access Point Mount Kit (dual) – Kit with optional dual gang wall-box mount adapter for AP205H
AP-205H-MNTR	OmniAccess 205H Access Point desk mount conversion kit – includes desk mount and RJ45 jumper
Generic Indoor AP Accessories	
AP-AC-48V36	OmniAccess 48V/36W Indoor Access Point AC power adapter. Does not include country-specific power cord (order separately)
PD-3501G-AC	OmniAccess PoE midspan injector, 10/100/1000 802.3af (15.4 watts) Note: AP has reduced functionality when using 802.3af PoE (USB port and PSE capability disabled)
PD-9001GR-AC	OmniAccess 30W 802.3at PoE midspan injector, 10/100/1000BASE-T Ethernet

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