

# ALCATEL-LUCENT ENTERPRISE OMNIACCESS AP103H HOSPITALITY ACCESS POINT

## COST-EFFECTIVE DUAL-BAND COVERAGE IN MODERATELY DENSE HOSPITALITY WI-FI ENVIRONMENTS

Multifunctional and affordable, the dual-radio Alcatel-Lucent Enterprise OmniAccess™ AP103H hospitality access point (AP) maximizes mobile device performance in moderately dense Wi-Fi environments while minimizing interference from cellular networks.



AP103H (Front view)



AP103H (Back view)



AP103H (Bottom view)

The AP103H installs in minutes and easily mounts to an electrical or data wall box. It uses the existing structured cabling system to provide secure wired and Wi-Fi network access in dormitories, classrooms, hotels, medical clinics and multitenant environments.

The compact and cost-effective AP103H delivers wireless data rates up to 300 Mb/s per radio, employing 802.11n technology with two spatial MIMO streams. This 2x2:2 AP features dedicated 2.4 GHz and 5 GHz radios and integrated omnidirectional antennas.

For wired connectivity, the AP103H provides two secure downlink switch ports, a passive pass-through RJ-45 port, and a 10/100/1000BASE-T uplink port. It can be powered using an 802.3af Power over Ethernet (PoE) source on the uplink network port or a 12-V DC power supply.

### FEATURES

- Best-in-class Radio Frequency (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 Wi-Fi client performance and ensures 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
  - Secure jack-capable for secure tunneling of wired Ethernet traffic.

### BENEFITS

- Wi-Fi client optimization
 

To eliminate sticky client behavior while users roam, the AP103H 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.
- 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 AP103H additionally supports priority handling and policy enforcement for unified communication apps, including Microsoft® Lync™ with encrypted videoconferencing, voice, chat and desktop sharing.

The AP103H 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.

Managed by Alcatel-Lucent Enterprise OmniAccess Mobility Controllers, the AP103H offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.

## TECHNICAL SPECIFICATIONS

### Operating modes

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

### Wireless radio specifications

- AP type: Indoor, dual radio, 5-GHz 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 300 Mb/s wireless data rate
- Support for up to 32 associated client devices, and up to eight BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 GHz to 5.250 GHz
  - 5.250 GHz to 5.350 GHz
  - 5.470 GHz to 5.725 GHz
  - 5.725 GHz 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: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-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)
- 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 and 40-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
- 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)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

### Antennas

- Two integrated dual-band omnidirectional antennas for 2x2 MIMO with maximum antenna gain of 3.6 dBi in 2.4 GHz and 3.3 dBi in 5 GHz. Antennas are optimized for vertical wall mounted orientation of the AP

### Other interfaces

- E0: 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48 V DC (nominal) 802.3af PoE
- E1-E2: 2x 10/100BASE-T Ethernet network interfaces (RJ-45)
  - Auto-sensing link speed and MDI/MDX
- PT: Passive RJ-45 pass-through port
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5 mm length
- Visual indicator (single tricolor LED): power/system status
- Dual-function push-button: Factory reset during device power up and LED on/off control during normal operation
- Serial console interface (proprietary; optional adapter cable available)
- Kensington® security slot

For wired connectivity: two secure downlink switch ports, one passive pass-through RJ-45 port, and one 10/100/1000BASE-T uplink port.

### Power

- Maximum (worst-case) power consumption: 9.4 watts PoE or 8.3 W DC
- Maximum (worst-case) power consumption in idle mode: 3.5 W PoE or 2.9 W DC
- Direct DC source: 12 V DC nominal, ±5%
- Power over Ethernet (PoE): 48 V DC (nominal) 802.3af compliant source
- Power sources sold separately
- When both power sources are available, DC power takes priority

### Mounting

- Included with AP:
  - Mount plate for single-gang electrical/data wall-box (various worldwide standards)
- Spare mounting kit:
  - AP103H-MNT1: Mount plate for single-gang electrical/data wall-box (various worldwide standards)
- Optional mounting kit:
  - AP-103H-MNT2: Mount plate for dual-gang electrical/data wall-box (various worldwide standards)

### Mechanical

- Dimensions/weight (unit, excluding mount accessories):
  - 86 mm (W) × 30 mm (D) × 140 mm (H) (3.39 in × 1.18 in × 5.51 in)
  - 260 g (9.17 oz)
- Dimensions/weight (unit, as mounted):
  - 86 mm (W) × 31 mm (D) × 140 mm (H) (3.39 in × 1.22 in × 5.51 in)
  - 305 g (10.76 oz)
- Dimensions/weight (shipping):
  - 143 mm (W) × 49 mm (D) × 168 mm (H) (5.63 in × 1.93 in × 6.61 in)
  - 420 g (14.82 oz)
- AP attaches securely to mount bracket using built-in security features. Removing the unit from the bracket requires a custom tool that ships with the product.

### 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 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 and EN 60601-1-2

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

## Reliability

- Mean time between failures: 500,858 hours (57.2 years) at +25°C operating temperature

## Regulatory model number

- AP103H: APINH103

## Certifications

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

## Warranty

- Limited lifetime Warranty

## Minimum software versions

- AOS-W 6.4.1.0

## Product ships with

- AP103H Hospitality AP
- Single-gang universal mount plate
- Two mount screws (#6-32 × 1 in machine screw)
- Tool for secure mount mechanism
- Installation guide

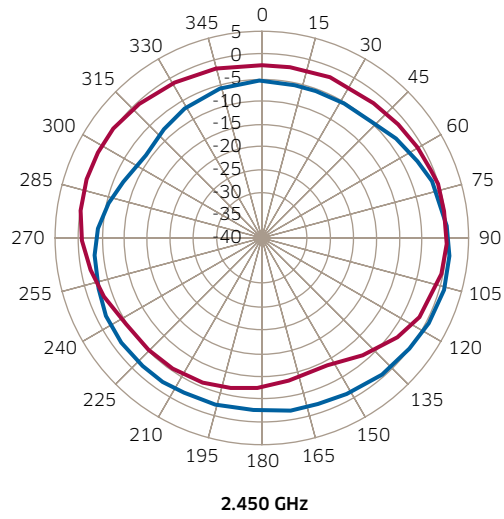
**Table 1. RF performance**

	MAXIMUM TRANSMIT POWER (DBM) PER TRANSMIT CHAIN	RECEIVER SENSITIVITY (DBM) PER RECEIVE CHAIN
<b>2.4 GHz</b>		
<b>802.11b</b>		
1 Mb/s	18.0	-92.0
11 Mb/s	18.0	-89.0
<b>802.11g</b>		
6 Mb/s	18.0	-88.0
54 Mb/s	16.0	-75.0
<b>802.11n ht20</b>		
MCS0/8	18.0	-88.0
MCS7/15	14.0	-71.0
<b>802.11n ht40</b>		
MCS0/8	18.0	-85.0
MCS7/15	14.0	-68.0
<b>5 GHz</b>		
<b>802.11a</b>		
6 Mb/s	18.0	-93.0
54 Mb/s	16.0	-76.0
<b>802.11n ht20</b>		
MCS0/8	18.0	-94.0
MCS7/15	14.0	-73.0
<b>802.11n ht40</b>		
MCS0/8	18.0	-91.0
MCS7/15	14.0	-70.0

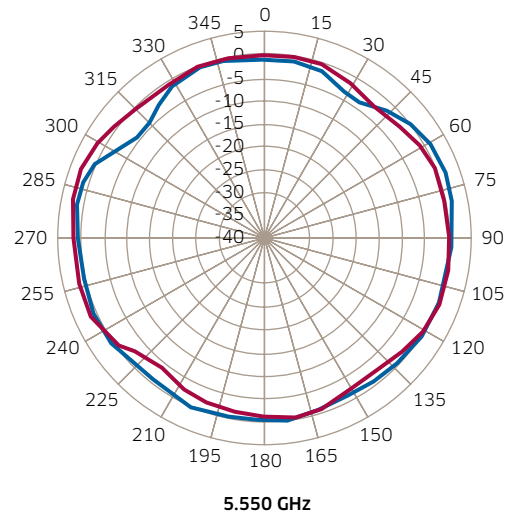
Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings.

**Figure 1. Antenna pattern plots**

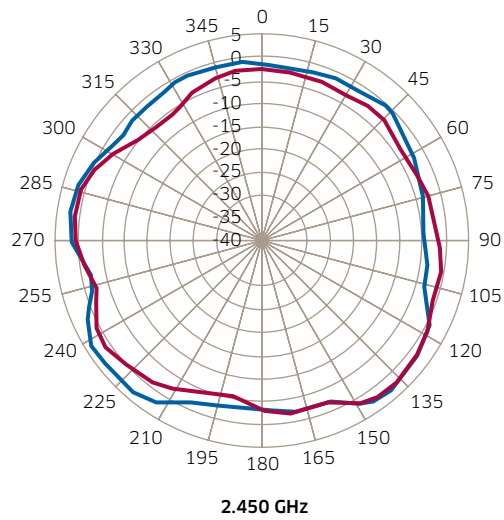
**Horizon or Azimuth plane (top view)**



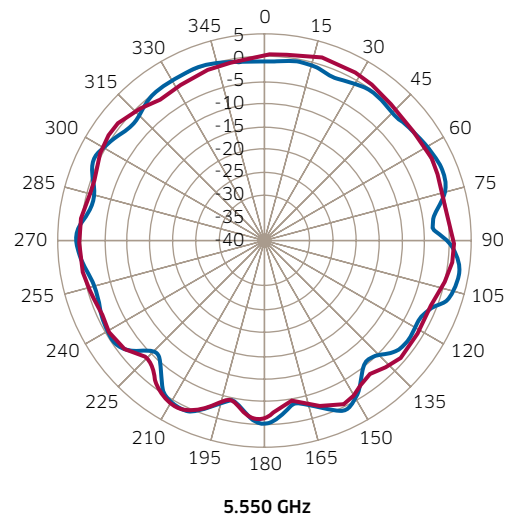
— 2.450 L  
— 2.450 R



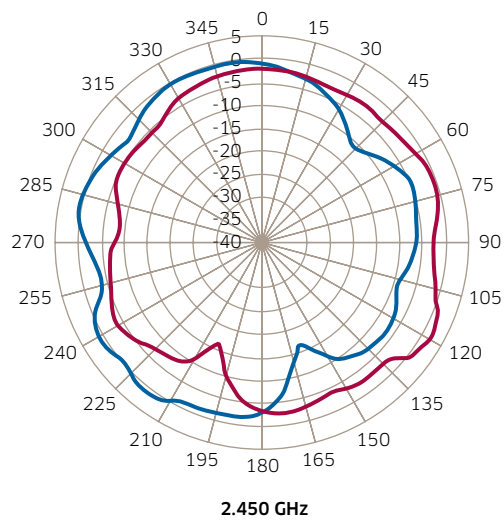
**Elevation plane (side view)**



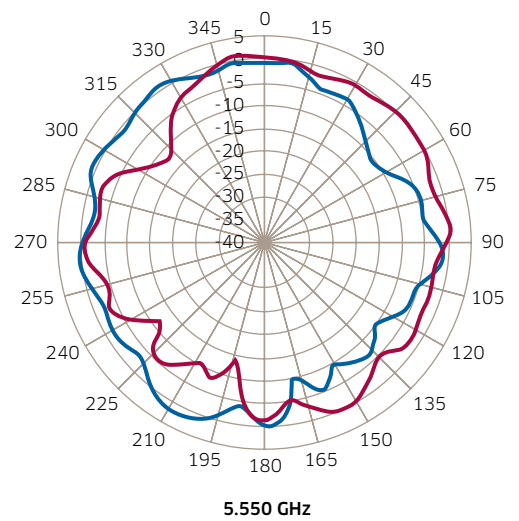
— 2.450 L  
— 2.450 R



**Elevation plane (front view)**



— 2.450 L  
— 2.450 R



## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
<b>AP103H Access Points</b>	
OAW-AP103H	OmniAccess AP103H Wireless Access Point - Hospitality, 802.11n, 2x2:2, dual radio, integrated antennas
<b>Mounting Spares</b>	
AP-103H-MNT1	OmniAccess AP103H Access Point Mount Kit (single) Kit with spare for single gang wall-box mount adapter shipping with OAW-AP103H
<b>Mounting Accessories</b>	
AP-103H-MNT2	OmniAccess AP103H Access Point Mount Kit (dual) Kit with optional dual gang wall-box mount adapter for OAW-AP103H
<b>Generic Indoor AP Accessories</b>	
OAW-AP-AC-UN	Universal AC Power Adapter Kit for OmniAccess AP and IAP 105, 92, 92 - North America, Japan, United Kingdom, Italy, EC (Shuko), Australia, China, India, Korea
OAW-AP-AC-12V18	OmniAccess12VDC/18W AC Power Adapter for compatible indoor AP models. Does not include country specific power cord (order separately)
OAW-MS-3501G	1 Port 802.3af PoE Midspan 10/100/1000 15.4W. No power cord included
OAW-AP-CBL-SER	AP console port adapter cable (proprietary to DB9 female RS232)