ALCATEL-LUCENT OMNIACCESS 103 SERIES ACCESS POINTS
COST-EFFECTIVE DUAL-BAND COVERAGE IN LOW-DENSITY ENTERPRISE WI-FI

Alcatel-Lucent OmniAccess 103 series wireless access points (APs) maximize mobile device performance in low-density Wi-Fi environments while minimizing interference from cellular networks.

These compact and cost-effective APs deliver wireless data rates up to 300 Mb/s per radio, employing 802.11n technology with two spatial MIMO streams.

The OmniAccess AP103 and Instant IAP103 models feature a 2.4-GHz and a 5-GHz radio, each with 2x2:2 MIMO and two integrated omnidirectional down-tilt antennas per radio.

To eliminate sticky client behavior while users roam, the OmniAccess 103 series APs feature 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.

FEATURES

- Advanced Cellular Coexistence (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
- Adaptive Radio Management™ technology
  - ¬ Manages the 2.4-GHz and 5-GHz radio bands to optimize Wi-Fi client performance and ensures that APs stay clear of RF interference

- Configuration for 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, Alcatel-Lucent Instant 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 for secure tunneling of wired Ethernet traffic

BENEFITS

- Multifunctional and affordable
- Improved client performance
- Interference free performance
- Best-in-class RF management

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OPERATING MODES

OmniAccess 103 series APs offer a choice of operating modes to meet your unique management and deployment requirements.

Controller-managed mode

When managed by Alcatel-Lucent Mobility Controllers, the OmniAccess AP103 offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.

Alcatel-Lucent Instant™ mode

In Alcatel-Lucent Instant mode, a single OmniAccess IAP103 automatically distributes the network configuration to other Instant APs in the WLAN. If WLAN and network requirements change, a built-in migration path allows Alcatel-Lucent Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

TECHNICAL SPECIFICATIONS

Operating modes

- 802.11a/b/g/n Alcatel-Lucent Instant AP
- 802.11a/b/g/n Mobility Controller-managed AP
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer
- Secure enterprise mesh
- Remote AP (RAP) when used with a Mobility Controller

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
- 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)
- 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 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: Aggregated MAC protocol data unit (A-MPDU), Aggregated MAC-level service data unit (A-MSDU)

Power

- Maximum power consumption: 9.5 W (POE) or 8 W (DC)
- Power sources sold separately
- Direct DC source: 12 V DC nominal, ±5%
- Power over Ethernet (PoE): 48 V DC (nominal) 802.3af or 802.3at-compliant source

Antennas

- Four integrated down-tilt omnidirectional antennas for 2x2 MIMO with maximum antenna gain of 3.9 dBi at 2.44 GHz, 4.1 dBi at 5.2 GHz and 4.3 dBi at 5.8 GHz. Built-in antennas are optimized for horizontal ceiling-mounted orientation of the AP.

Other interfaces

- 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 or 802.3at PoE+
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Serial console interface (proprietary; optional adapter cable available)
- Visual indicators (LEDs):
  - ¬ Power/system status
  - ¬ Ethernet link status (ENET)
  - ¬ Radio status (two; RAD0, RAD1)
- Kensington security slot
- Reset button

Mounting

- Included with AP:
  - ¬ Mounting brackets (2) for attaching to 9/16-inch or 15/16-inch T-bar drop-tile ceiling
- Optional mounting kits:
  - ¬ OAW-AP220-MNTC2: OmniAccess AP220 Series Access Point Mount Kit (ceiling grid). Contains 2 x ceiling grid rail adapters (for Interlude and Silhouette style rails)
  - ¬ OAW-AP220-MNTW1: OmniAccess AP220 Series Access Point Mount Kit (basic, flat surface). Contains 1 x flat surface wall/ceiling mount bracket

Physical dimensions

- Unit (excluding mounting accessories):
  - ¬ Width: 150 mm (5.9 in)
  - ¬ Depth: 150 mm (5.9 in)
  - ¬ Height: 41.5 mm (1.63 in)
  - ¬ Weight: 300 g (0.66 lb)
- Shipping:
  - ¬ Width: 192 mm (7.6 in)
  - ¬ Depth: 178 mm (7.0 in)
  - ¬ Height: 68 mm (2.68 in)
  - ¬ Weight: 500 g (1.10 lb)

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 (IC)
- 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.

Regulatory model number

OAW-AP103 and OAW-IAP103: APIN0103

Certifications

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

Warranty

- Alcatel-Lucent limited lifetime warranty

Minimum operating system software versions

- AOS™ 6.4.0
- Alcatel-Lucent InstantOS™ 4.1.0.0 (planned availability mid-2014)

Table 1. RF performance

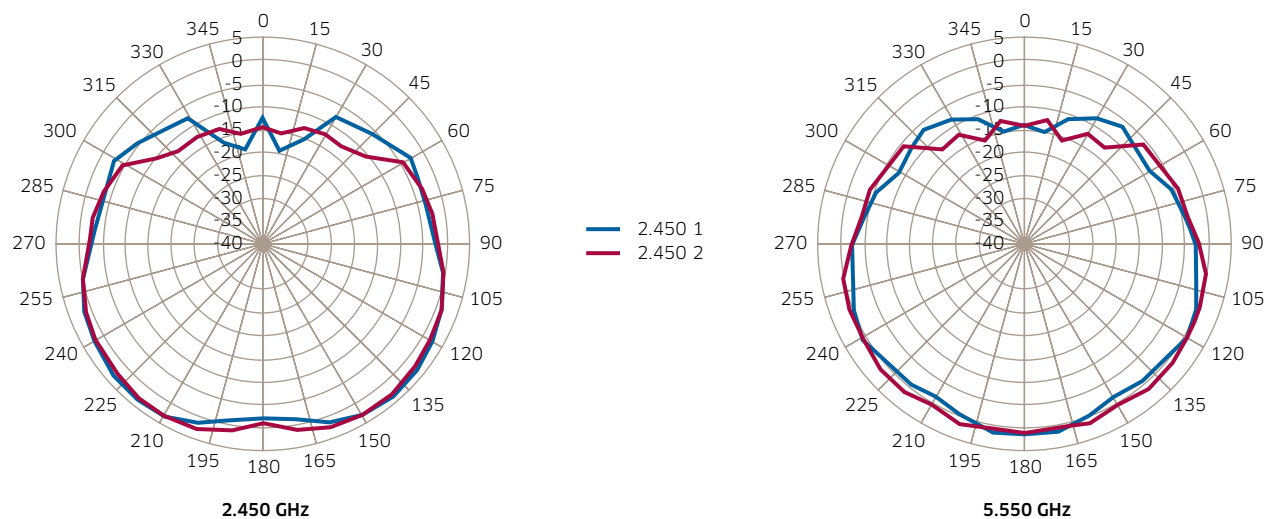|	MAXIMUM TRANSMIT POWER (DBM) PER TRANSMIT CHAIN	RECEIVER SENSITIVITY (DBM) PER RECEIVE CHAIN
2.4 GHZ		
IEEE 802.11B		
1 Mb/s	18	-93
11 Mb/s	18	-91
IEEE 802.11g		
6 Mb/s	18	-88
54 Mb/s	16	-76
IEEE 802.11n Ht20		
MCS0/8/16	18	-88
MCS7/15/23	14	-73
IEEE 802.11n Ht40		
MCS0/8/16	18	-86
MCS7/15/23	14	-70
5 GHZ		
IEEE 802.11a		
6 Mb/s	18	-92
54 Mb/s	16	-76
IEEE 802.11n Ht20		
MCS0/8/16	18	-92
MCS7/15/23	14	-73
IEEE 802.11n Ht40		
MCS0/8/16	18	-89
MCS7/15/23	14	-69

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

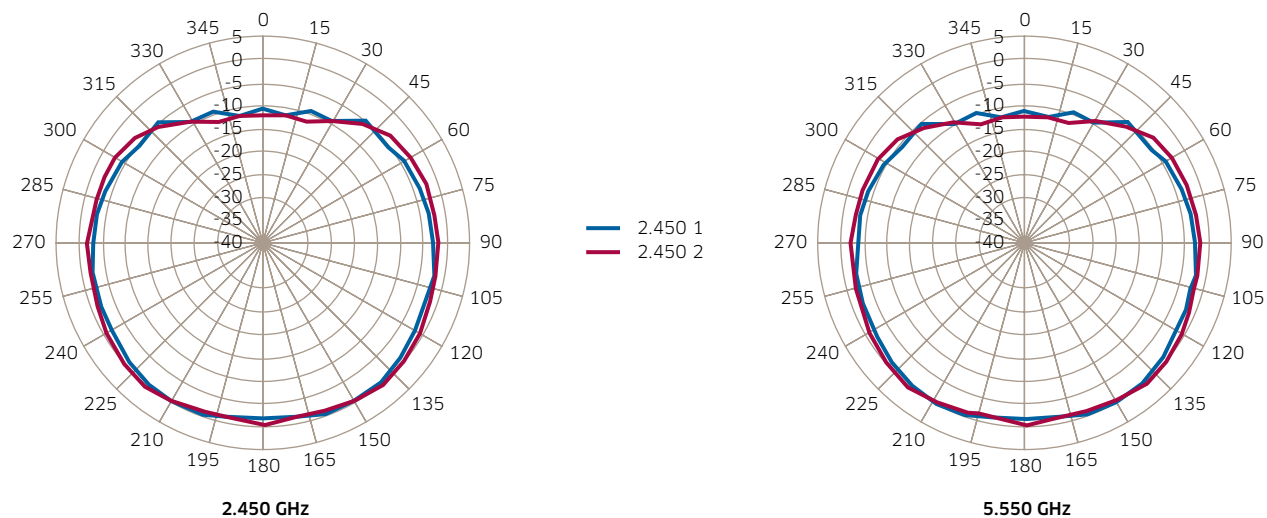## Figure 1. OmniAccess AP103 and IAP103 antenna pattern plots

Horizon or Azimuth plane (top view)

2.450 GHz

5.550 GHz
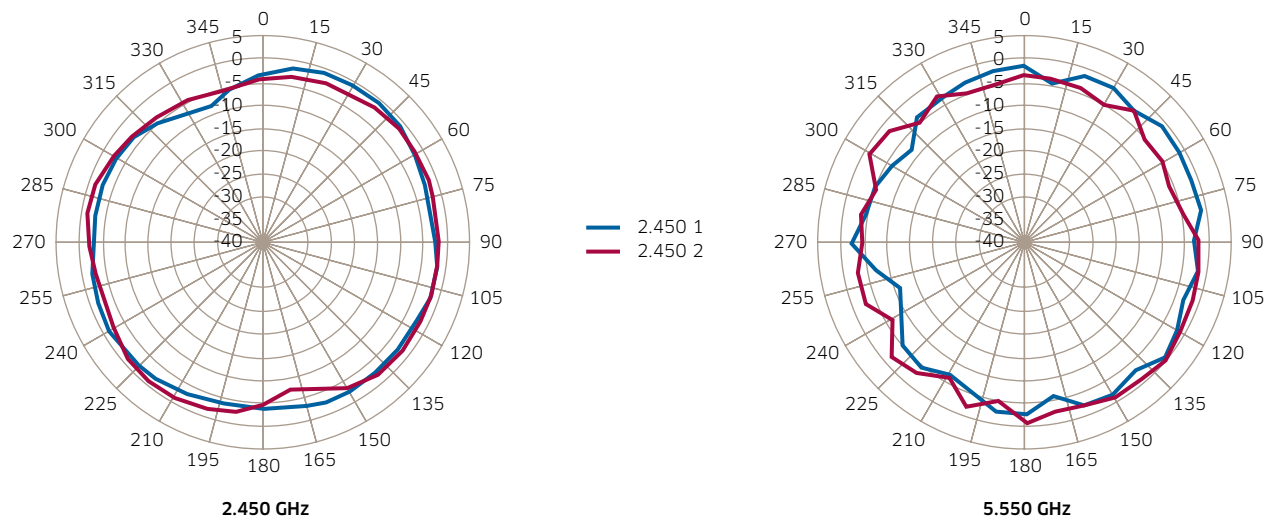
Elevation plane (side view, 0-degree angle)

2.450 GHz

5.550 GHz

Elevation plane (side view, 90-degree angle)

2.450 GHz

5.550 GHz

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
AP103 SERIES ACCESS POINTS	
OAW-AP-103	OmniAccess AP103 wireless access point. Dual radio IEEE 802.11a/b/g/n wireless access point with support for IEEE 802.11 'B/G/N' and IEEE 802.11'A/N' operation, dual-band integral antenna, 1 x 10/100/1000Base-T (RJ-45) Ethernet interface (supports IEEE 802.3af Power over Ethernet), 1 x 12 V DC power interface, Console port (pin header)
OAW-IAP-103-RW	OmniAccess Instant AP103 wireless access point. Dual radio IEEE 802.11a/b/g/n wireless access point with support for IEEE 802.11 'B/G/N' and IEEE 802.11 'A/N' operation, dual-band integral antenna, 1 x 10/100/1000Base-T (RJ-45) Ethernet Interface (Supports IEEE 802.3af Power over Ethernet), 1 x 12 V DC power interface, Console port (pin header). Restricted regulatory domain: Rest of world
OAW-IAP-103-US	OmniAccess Instant AP103 wireless access point. Dual radio IEEE 802.11a/b/g/n wireless access point with support for IEEE 802.11 'B/G/N' and IEEE 802.11 'A/N' operation, dual-band integral antenna, 1 x 10/100/1000Base-T (RJ-45) Ethernet interface (supports IEEE 802.3af Power over Ethernet), 1 x 12 V DC power interface, Console port (pin header). Restricted regulatory domain: United States
OAW-IAP103-IS	OmniAccess W-IAP103 Wireless Instant Access Point, 802.11n, 2x2:2, dual radio, integrated antennas - Restricted regulatory domain: Israel
OAW-IAP103-JP	OmniAccess W-IAP103 Wireless Instant Access Point, 802.11n, 2x2:2, dual radio, integrated antennas - Restricted regulatory domain: Japan
MOUNTING ACCESSORIES	
OAW-AP220-MNTW2	OmniAccess AP220 Series Access Point Mount Kit (box style, secure, flat surface). Contains 1x flat surface wall/ceiling secure mount cradle.
OAW-AP220-MNTC2	OmniAccess AP220 Series Access Point Mount Kit (ceiling grid). Contains 2 x ceiling grid rail adapters (for Interlude and Silhouette style rails).
OAW-AP220-MNTW1	OmniAccess AP220 Series Access Point Mount Kit (basic, flat surface). Contains 1 x flat surface wall/ceiling-mount bracket.
GENERIC INDOOR AP ACCESSORIES	
OAW-AP-AC-UN	12 V/18 W Indoor Access Point AC power adapter. Universal, ships with 8 country-specific plug inserts (US, EU, UK, Australia, China, Korea, Argentina, Brazil)
OAW-AP-AC-12V18	OmniAccess12 V DC/18 W AC Power Adapter for compatible indoor AP models. Does not include country-specific power cord
OAW-MS-3501G	1 Port IEEE 802.3af PoE Midspan 10/100/1000 15.4 W. No power cord included

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