

# ALCATEL-LUCENT OMNIACCESS 100 SERIES REMOTE ACCESS POINTS

WIRELESS AND WIRED NETWORKING FOR  
SMBs, BRANCH OFFICES AND TELEWORKERS

The multifunctional Alcatel-Lucent OmniAccess™ 100 Series Remote Access Points (RAPs) deliver secure 802.11n wireless and wired networking to small-to-medium-sized businesses and access to corporate resources from branch and home offices. With superior deployment flexibility, the OmniAccess 100 Series RAPs can operate in Alcatel-Lucent Instant mode, with control by the Alcatel-Lucent OmniVista™ 3600 Air Manager (AM), or in controller-managed mode where all network services are centralized by Alcatel-Lucent OmniAccess LAN (WLAN) Controllers. In Alcatel-Lucent Instant mode, traffic is locally bridged, but it still provides the flexibility of secure tunneling to an OmniAccess WLAN Controller.



The OmniAccess 100 Series RAPs offer a wide range of enterprise-class features, including role-based network access, policy-based forwarding, and Adaptive Radio Management (ARM), which optimizes Wi-Fi client performance and ensures that OmniAccess Access Points (APs) stay clear of interference.

At locations that require greater coverage, the OmniAccess 100 Series RAPs can join an Alcatel-Lucent Instant WLAN cluster. With the addition of an OmniAccess 100 RAP or any OmniAccess Instant AP, the entire cluster is managed as one. If one OmniAccess Instant AP fails, another AP automatically takes over with no disruption.

With a wireless data rate up to 300 Mb/s in the 2.4-GHz and 5-GHz radio bands, the OmniAccess 100 Series RAPs have one 10/100/1000Base-T Ethernet uplink, one 10/100Base-T local Ethernet port and one USB port to connect to 3G and 4G networks.

## ADVANCED SECURITY

The OmniAccess 100 Series RAPs provide advanced security for both wireless and wired traffic:

- With an OpenDNS service subscription, OmniAccess Instant APs deliver integrated web filtering, malware and botnet protection to every device connected to the WLAN
- Integrated Trusted Platform Module (TPM) provides secure storage of credentials and keys
- SecureJack-capable for secure tunneling of wired Ethernet traffic
- VPN configuration functionality enables the OmniAccess Instant AP to create a single VPN tunnel to an OmniAccess WLAN Controller in the data center. The OmniAccess WLAN Controller acts solely as a VPN end-point and does not supply the Instant AP with any configuration.

## WIRELESS AND WIRED MODES OF OPERATION

The OmniAccess 100 series offers a choice of operating modes.

- Wireless
  - OmniAccess Instant Access Point (AP)
  - WLAN AP or RAP managed by the OmniAccess WLAN Controller
  - Control by OmniVista 3600 AM
  - Hybrid WLAN Access Points and Air Monitor (AM)
  - Secure enterprise mesh
- Wired
  - 10/100/1000Base-T Ethernet uplink port, 10/100Base-T Ethernet local port
  - User authentication: IEEE 802.1X, captive portal, MAC authentication or open access
  - Policy-based forwarding for local resource access

## FEATURES AND BENEFITS

FEATURES	BENEFITS
Adaptive Radio Management (ARM)	Delivers best-in-class RF management, including automatic transmit power and channel control with auto coverage-hole correction
Spectrum analyzer to scan the 2.4-GHz and 5-GHz radio bands	Scans remotely to identify sources of RF interference
Wireless or wired operating mode	Provides flexibility for meeting unique management and deployment requirements

## TECHNICAL SPECIFICATIONS

### Wireless radio specifications

- AP type: Dual-radio, dual-band IEEE 802.11n indoor
- Software-configurable dual radio supports 2.4 GHz and 5 GHz
- 2x2 MIMO with two spatial streams and up to 300 Mb/s wireless data rate
- Supported frequency band (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 5.875 GHz
- Available channels: Managed by OmniAccess Instant or OmniAccess WLAN Controller, depending on the configured regulatory domain
- Supported radio technologies:
  - IEEE 802.11b: Direct-Sequence Spread Spectrum (DSSS)
  - IEEE 802.11a/g/n: Orthogonal Frequency Division Multiplexing (OFDM)
  - IEEE 802.11n: 2x2 MIMO with two spatial streams
- Supported modulation types:
  - IEEE 802.11b: BPSK, QPSK, CCK
  - IEEE 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +21 dBm
  - 5-GHz bands: +21 dBm
- Advanced Cellular Coexistence (ACC) feature to effectively deal with interference from cellular systems
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity (CDD) for improved downlink RF performance
- Short guard interval for 20-MHz and 40-MHz channels
- Space time-blocking code (STBC) for increased range and improved reception
- Supported data rates (Mb/s):
  - IEEE 802.11b: 1, 2, 5.5, 11
  - IEEE 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - IEEE 802.11n: MCS0 to MCS15 (6.5 Mb/s to 300 Mb/s)
- IEEE 802.11n high-throughput (HT) support: HT 20/40
- IEEE 802.11n packet aggregation: A-MPDU, A-MSDU

### Encrypted VPN throughput

- Up to 20 Mb/s

### Power

- Supported power sources:
  - IEEE 802.3af Power over Ethernet (PoE) or IEEE 802.3at (PoE+) on uplink Ethernet port (Note: When using PoE, the USB port will be enabled only when an IEEE 802.3at-compliant source is used.)
  - 12 V from external power adapter (sold separately)
- Maximum power consumption:
  - Without USB device connected: 12.5 W
  - With USB device: 15 W

### Antennas

- RAP-108: Two RP-SMA connectors for external dual-band antennas
- RAP-109: Four integrated omnidirectional antennas for 2x2 MIMO with maximum antenna gain of 5.0 dBi in both 2.4 GHz and 5 GHz. Built-in antennas are optimized for vertical orientation.

### Interfaces

- Network:
  - ENET0 (uplink): One 10/100/1000Base-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
  - ENET1 (local): One 10/100Base-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
- One port for DC power connector
- One USB 2.0 port (Type A connector)
- One serial console interface (RJ-45)
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (2x)
  - Radio status (2x)
- Kensington security slot
- Reset button

### Mounting

- Desktop (vertical): Using stand supplied with product
- Wall (vertical): Using optional wall mount accessory
- Ceiling (horizontal, not recommended for OmniAccess 109 RAP): Using optional ceiling mount accessories

### Physical specifications

- Dimensions (unit) - excluding desk mount:
  - Width: 160 mm (6.30 in)
  - Depth: 43 mm (1.69 in)
  - Height: 160 mm (6.30 in)
- Dimensions (unit) - with desk mount:
  - Width: 181 mm (7.13 in)
  - Depth: 72 mm (2.83 in)
  - Height: 160 mm (6.30 in)
- Weight (unit): 300 g (.66 lb)
  - Excluding desk mount: 385 g (13.6 oz)
  - With desk mount: 460 g (16.2 oz)
- Dimensions (shipping)
  - Width: 230 mm (9.06 in)
  - Depth: 220 mm (8.66 in)
  - Height: 90 mm (3.5 in)
- Weight (shipping): 750 g (1.65 lb)

### Environmental specifications

- 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 compliance

- 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 Alcatel-Lucent representative.

### Safety certifications

- CB Scheme Safety, cTUVus
- Wi-Fi certified 802.11a/b/g/n

### Minimum software versions

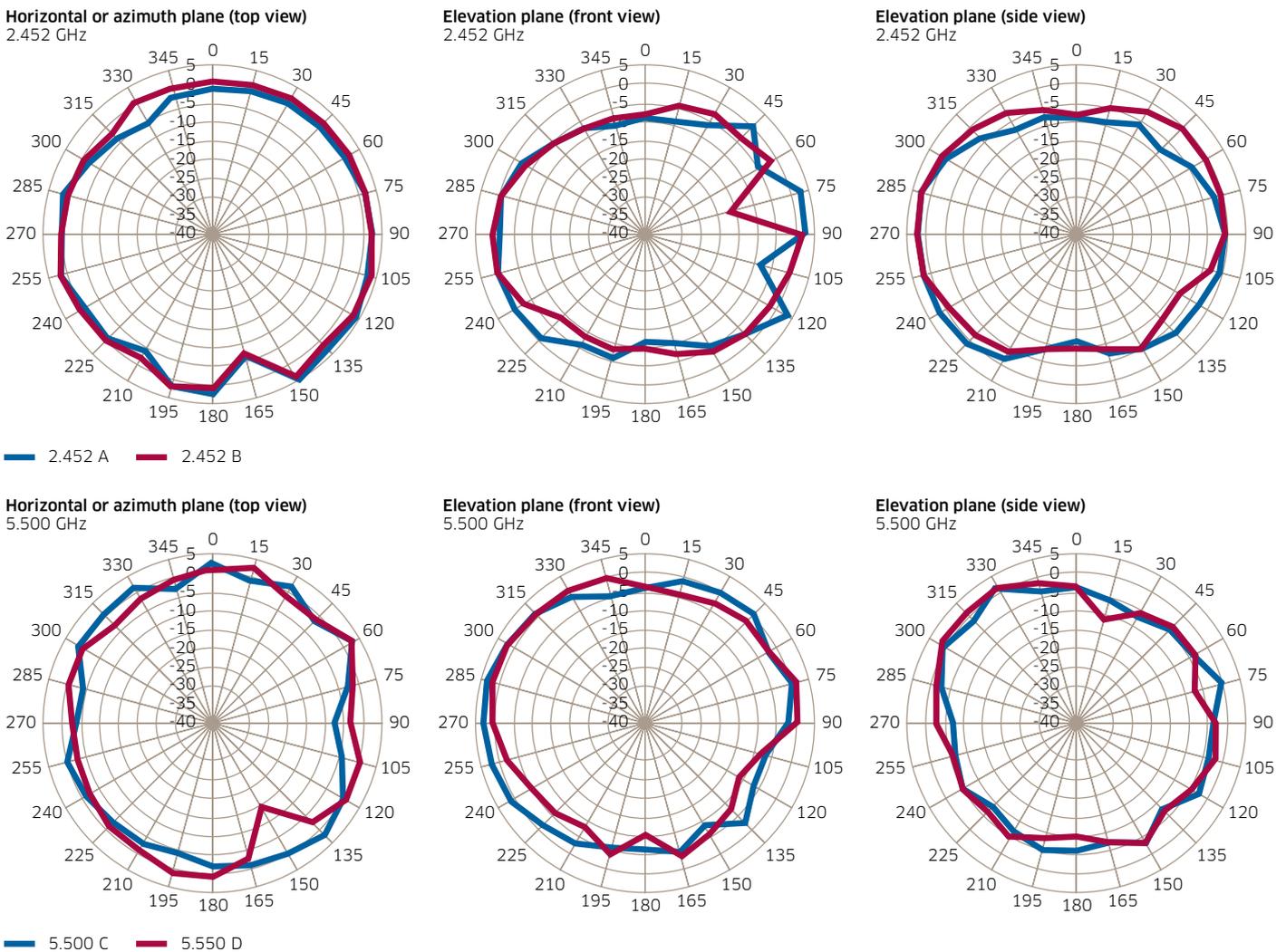
- Alcatel-Lucent AOS-W 6.2
- Instant 3.2.0.0

**Table 1. OmniAccess100 Series RAP RF performance table**

RF PERFORMANCE TABLE		
	MAXIMUM TRANSMIT POWER (dBm) PER TRANSMIT CHAIN	RECEIVER SENSITIVITY (dBm) PER RECEIVE CHAIN
<b>IEEE 802.11B (2.4 GHz)</b>		
1 Mb/s	18.0	-92.0
2 Mb/s	18.0	-92.0
5.5 Mb/s	18.0	-90.0
11 Mb/s	18.0	-88.0
<b>IEEE 802.11G (2.4 GHz) AND IEEE 802.11A (5 GHz)</b>		
6 Mb/s	18.0	-88.0
54 Mb/s	16.0	-75.0
<b>IEEE 802.11N (HT20 2.4 GHz AND 5 GHz)</b>		
MCS0/8	18.0	-88.0
MCS7/15	14.0	-71.0
<b>IEEE 802.11N (HT40 2.4 GHz AND 5 GHz)</b>		
MCS0/8	18.0	-85.0
MCS7/15	14.0	-68.0

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

**Figure 1. OmniAccess 109 RAP antenna pattern plots**



## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
<b>OMNIACCESS 100 SERIES REMOTE ACCESS POINTS</b>	
OAW-RAP108	OmniAccess 108 Instant RAP wireless access point, 802.11a/b/g/n, 2x2:2, dual radio, antenna connectors
OAW-RAP108-US	OmniAccess 108 Instant RAP wireless access point, 802.11a/b/g/n, 2x2:2, dual radio, antenna connectors - Restricted regulatory domain: United States
OAW-RAP108-JP	OmniAccess 108 Instant RAP 108 wireless access point, 802.11a/b/g/n, 2x2:2, dual radio, antenna connectors - Restricted regulatory domain: Japan
OAW-RAP109	OmniAccess 109 Instant RAP wireless access point, 802.11a/b/g/n, 2x2:2, dual radio, integrated antennas
OAW-RAP109-US	OmniAccess Instant RAP-109 wireless access point, 802.11a/b/g/n, 2x2:2, dual radio, integrated antennas - Restricted regulatory domain: United States
OAW-RAP109-JP	OmniAccess 109 Instant RAP wireless access point, 802.11a/b/g/n, 2x2:2, dual radio, integrated antennas - Restricted regulatory domain: Japan
<b>OMNIACCESS 100 SERIES RAP ACCESSORIES</b>	
OAW-RAP100-MNT	OmniAccess 100 series RAP access point wall and ceiling mount kit
OAW-AP-AC-UN	12 V DC universal AC power adapter kit (wall plug style) for compatible indoor AP models. Includes plug inserts for all Alcatel-Lucent core countries.
OAW-AP-AC-12V18	OmniAccess12VDC/18W AC Power Adapter for compatible indoor AP models. Does not include country specific power cord..
AP-ANT-20W	2.4 GHz - 2.5 GHz (2 dBi) / 4.9 GHz - 5.875 GHz (2 dBi), small size omnidirectional direct-mount antenna (white). RP-SMA connector.

## WARRANTY

Limited lifetime warranty