

## Alcatel-Lucent OmniAccess AP134, OmniAccess AP135

DUAL RADIO 802.11N 3X3:3 ACCESS POINT

The Alcatel-Lucent OmniAccess AP134 and OmniAccess AP135 indoor 802.11n access points (APs) maximize performance for mobile devices in extremely high-density Wi-Fi® environments and ensure strong threat protection using integrated MACSec\* security.

These multifunction APs deliver wire-like performance at data rates up to 450 Mb/s per radio. Taking advantage of 802.11n technology, the AP134 and AP135 employ three spatial streams to deliver 50 percent more throughput and support 50 percent more mobile devices in high-density environments compared to previous generation APs.



AP134

The AP134 features two 3x3 MIMO dual band 2.4-GHz/5-GHz radios with external antenna interfaces, while the AP135 features the same radios with internal antennas. Both are built to provide years of trouble-free operation and are backed by a limited lifetime warranty.

MACSec authentication and encryption on Ethernet ports enable secure AP deployment by interoperating with the MACSec capability on Switches and other wiring closet devices.

The AP134 and AP135 feature dual 10/100/1000Base-T Ethernet interfaces and operate from standard 802.3af and 802.3at Power over Ethernet (PoE) sources. The secondary Ethernet interface (active only when supplying 802.3at PoE or DC power to the access point) enables secure authorized backhaul for wired network-attached devices.

The key to ensuring wire-like performance and reliability is the Alcatel-Lucent unique Adaptive Radio Management (ARM) and spectrum analysis capabilities, which manage the 2.4-GHz and 5-GHz radio bands to deliver maximum client performance while mitigating any RF interference.

The multifunction AP134 and AP135 can be configured through the WLAN Switch/Controller to provide WLAN access with part-time air monitoring for wireless IPS and spectrum analysis. They can be configured as dedicated air monitors within the campus WLAN or can be remotely located. They can enable wireless mesh networking for high performance network backhaul where wired cabling is not available.



AP135

FEATURES	BENEFITS
IEEE 802.11n 3x3 MIMO (three spatial streams) access point	High-speed wireless with up to 450 Mb/s of throughput. Improved coverage compared with 802.11a/b/g technologies. Backward compatibility with 802.11a/b/g Wi-Fi client.
802.3af and 802.3at PoE power sourcing	Operates with existing 802.3af-compliant PoE. Devices and new 802at devices. Removes the need to upgrade existing PoE infrastructure as well as provides compatibility with future upgrades.
MACSec authentication and encryption	Enables secure AP deployment by interoperating with the MACSec capability on Switches.
WLAN access with part-time Air monitoring	Removes the need to have additional Air monitors. Part-time Air monitoring enhances user experience by reducing RF interference without impacting WLAN performance.
Fully featured, enterprise-grade access point	Integral part of the OmniAccess wireless product family to offer enterprise-wide high-speed wireless deployments with high performance and high density.  Supports key enterprise-grade functions such as ARM, air monitoring over 2.5 GHz and 5 GHz spectrum, wireless intrusion prevention, Call Admission Control (CAC), quality of service (QoS), and battery life extension for portable phone equipment.

## Technical specifications

### Application

- 802.11n indoor APs designed to support maximum performance for maximum client density, with maximum deployment flexibility and security

### Operating mode

- Campus AP, air monitor (AM) and spectrum monitor
- Remote AP, AM and spectrum monitor

### Radios

- Software-configurable single/dual radio capable of supporting 2.4 GHz and 5 GHz

### RF management

- Automatic transmit power and channel management control with auto coverage hole correction using ARM
- Spectrum analysis scans the 2.4-GHz and 5-GHz radio bands to provide increased visibility into non-802.11n RF interference sources and their effect on 802.11n channel quality.

### Advanced features

- Remote AP, spectrum analysis, secure enterprise mesh and wireless intrusion protection
- MACSec security for authorization and data encryption between the AP ports and the wired access layer (requires MACSec support on the wired edge switch)

- Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys
- SecureJack-capable for secure tunneling of wired Ethernet traffic

### Antenna

- AP134: Three RP-SMA antenna interfaces for external dual band antennas
- AP135: Six internal down-tilt omnidirectional antennas; three per frequency band
  - 2.4 GHz to 2.5 GHz/3.5 dBi
  - 5.150 GHz to 5.875 GHz/4.5 dBi

### Wireless radio specifications

- AP type: Dual radio, dual band 802.11n indoor
- Supported frequency bands (country-specific restrictions apply)
  - 2.400 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
  - 802.11b: Direct sequence spread spectrum (DSSS)
  - 802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)
  - 802.11n: 3x3 MIMO with up to three spatial streams
- 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 transmit power
  - 2.4 GHz: 23 dBm (limited by local regulatory requirements)
  - 5 GHz: 23 dBm (limited by local regulatory requirements)
- Maximum ratio combining (MRC) for improved receiver performance
- Short guard interval for 20-MHz and 40-MHz channels
- Space Time Blocking Code (STBC) for increased range and improved reception
- Low Density Parity Check (LDPC) for high efficiency error correction and increased throughput
- Transmit Beam-forming (TxBF) ready platform for increased reliability in signal delivery
- Association rates (Mb/s)
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: MCS0 – MCS23 (6.5 Mb/s to 450 Mb/s)
- 802.11n High throughput (HT) support: HT 20/40
- 802.11n Packet aggregation: A-MPDU, A-MSDU

### Power

- 48 V DC 802.3af PoE or 802.3at PoE+
- 12 V DC for external AC supplied power (adapter sold separately)
- Maximum power consumption: 15 watts

### Interfaces

#### Network

- 2 x 10/100/1000Base-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
- Supports MACSec encryption, 802.3az (EEE)
- 48 V DC 802.3af PoE or 802.3at PoE+ interoperable with intelligence power sourcing equipment (both ports)

#### Antenna (model AP134 only)

- 3 x RP-SMA antenna interfaces (supports up to 3x3 MIMO)

#### Other

- 1 x RJ-45 console interface

### Mounting

#### Standard

- Wall mounting using built-in mount features
- Recessed ceiling tile rail mounting using one of two adapters supplied with the AP (9/16 in. and 15/16 in. rails)

#### Options mounting kit

- Wall-mount bracket for offset wall mounting, providing spacing between wall and unit (cable bend radius)

#### Security

- Kensington security lock point

## Mechanical

### Dimensions/weight

- Unit: 170 mm x 170 mm x 45 mm (6.69 in. x 6.69 in. x 1.77 in.), 760 g (1.68 lb)
- Shipping box: 285 mm x 240 mm x 70 mm (11.22 in. x 9.45 in. x 2.76 in.), 1050 g (2.31 lb)

## Environmental

### Operating

- Temperature: 0°C to 50°C (32°F to 122°F)
- Humidity: 5% to 95% non-condensing

## Storage and transportation temperature range

- Temperature: -40°C to +70°C (-40°F to +158°F)

## Regulatory

- 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
- CB Scheme Safety, cTUVus
- Japan MIC/VCCI
- Korea KCC
- Brazil ANATEL
- Mexico NOM/COFETEL
- China SRRC/CCC
- UL2043 Compliant
- AS/NZS 4260, 4771, 3548

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

## Warranty

- Limited lifetime warranty

## Certifications

- Wi-Fi certified 802.11a/b/g/n

Table 1. AP135 RF performance

RATE	2.4 GHZ		5 GHZ	
	TRANSMIT POWER (PER ACTIVE TRANSMIT CHAIN)	RECEIVE SENSITIVITY	TRANSMIT POWER (PER ACTIVE TRANSMIT CHAIN)	RECEIVE SENSITIVITY
<b>802.11B</b>				
1 Mb/s	18	-97		
11 Mb/s	18	-92		
<b>802.11A/G</b>				
6 Mb/s	18	-94	18	-94
54 Mb/s	16	-81	16	-82
<b>802.11N HT20</b>				
MCS0/8/16	17	-94	17	-94
MCS7/15/23	12	-78	12	-78
<b>802.11N HT40</b>				
MCS0/8/16	17	-92	17	-92
MCS7/15/23	11	-75	11	-74

## Ordering information

PART NUMBER	DESCRIPTION
OAW-AP134	OmniAccess AP134 Wireless Access Point, 802.11a/b/g/n, 3x3:3, dual radio, external antenna connectors
OAW-AP135	OmniAccess AP135 Wireless Access Point, 802.11a/b/g/n, 3x3:3, dual radio, integrated antennas
OAW-AP130-MNT	OmniAccess AP130 Series Access Point wall/ceiling mounting kit
OAW-AP-AC-UN	OmniAccess AP92, AP93, AP105, AP134, AP135 universal AC power adapter kit — North America, Japan, United Kingdom, Italy, EC (Shuko), Australia, China, India, Korea
OAW-MS-3501G	1 Port 802.3af PoE Midspan 10/100/1000 15.4 W
OAW-MS-9001G	1 Port 802.3at PoE Midspan 10/100/1000 30 W

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