Alcatel-Lucent OmniAccess Access Points 93H

WALL PLATE 802.11N ACCESS POINTS

The multifunctional enterprise-class AP93H 802.11n access point (AP) easily mounts to an Ethernet wall plate and uses the existing structured cabling system to provide secure wired and Wi-Fi network access in dormitories, classrooms, hotels, medical clinics and multitenant environments.

Capable of delivering high-performance Wi-Fi services to multiple rooms, the AP93H greatly simplifies RF coverage planning and significantly reduces wireless LAN (WLAN) deployment costs. The AP93H is built to provide years of trouble-free operation and is backed by a limited lifetime warranty.

Delivering wire-like performance at data rates up to 300 Mbps, the AP93H features a single 2×2 MIMO 2.4-GHz or 5-GHz dual-band radio with internal antennas. For wired connectivity, it features four 10/100BASE-T switch ports, an additional pass-through RJ-45 port and a 10/100/1000BASE-T uplink port that can operate from an 802.3af power-over-Ethernet (PoE) source or a 12-volt DC power supply.

Working with centralized Alcatel-Lucent WLAN Switch/Controllers, the AP93H delivers secure, high-speed network services that move users to a “wireless where possible, wired where necessary” network access model. The network can then be right-sized by eliminating unused Ethernet switch ports, which reduces operating costs.

The AP93H leverages wireless as a primary connection with speed and reliability comparable to a wired LAN. High performance is maintained using channel bonding, block acknowledgement and MIMO radios, while advanced antenna technology increases range and reliability.

The AP93H also supports Adaptive Radio Management™ and spectrum analysis to maximize client performance and mitigate RF interference across the 2.4-GHz and 5-GHz radio bands.

In addition to wired and wireless connectivity, the multi-functioning AP93H supports a variety of operating modes, including wireless LAN (WLAN) access with part-time air monitoring, dedicated air monitoring for wireless intrusion protection and spectrum analysis, Remote AP (RAP) functionality and secure enterprise mesh.

FEATURES	BENEFITS
IEEE 802.11n 2x2 MIMO (2 spatial streams) access point	High speed wireless up to 300 Mbps of throughput. Improved coverage compared to 802.11a/b/g technology. Backward compatibility with 802.11a/b/g Wi-Fi clients
802.3af PoE Power Sourcing	Operates with existing IEEE 802.3af compliant PoE devices. Does not require an overhaul of PoE infrastructure
Fully features enterprise-grade Wall plate access point	Offers enterprise-wide, high speed wireless, high-performance secure wired and Wi-Fi network access in dormitories, classrooms, hotels, medical clinics and multitenant environments with centralized management

Technical Specifications

Operating mode

- 802.11a/b/g/n AP
- Remote AP (RAP)
- Air Monitor (AM)
- Spectrum monitor
- Secure enterprise mesh

Radio

- Software configurable radio supporting 2.4 GHz or 5 GHz
- 802.11n capable, implementing 2x2 MIMO with 2 spatial streams, providing up to 300Mbps data rate

RF management

- Automatic transmit power and channel management control with auto coverage hole correction via Adaptive Radio Management (ARM)
- Spectrum analysis remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference. This provides visibility into non-802.11 RF interference sources and their effect on 802.11 channel quality.

Advanced Features

- Integrated RAP, secure enterprise mesh point or portal, wireless intrusion detection and prevention
- Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys

Antennas

- Integrated, omni-directional antenna elements (supporting up to 2x2 MIMO with spatial diversity)
- Maximum antenna gain:
  - ¬ 2.4 GHz / 2.5 dBi
  - ¬ 5 GHz / 4.0 dBi

Wireless Radio Specifications

- AP type: Single radio, dual-band 802.11n indoor
- Supported Frequency Bands (country-specific restrictions apply):
  - ¬ 2.400 - 2.4835 GHz
  - ¬ 5.150 - 5.250 GHz
  - ¬ 5.250 - 5.350 GHz
  - ¬ 5.470 - 5.725 GHz
  - ¬ 5.725 - 5.850 GHz
- Available Channels: WLAN switch-managed, dependent upon configured regulatory domain
- Supported Radio Technologies:
  - ¬ 802.11b: Direct-Sequence Spread-Spectrum (DSSS)
  - ¬ 802.11a/g/n: Orthogonal Frequency Division Multiplexing (OFDM)
  - ¬ 802.11n: 2x2 MIMO with 2 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:
  - ¬ 2.4GHz: 21 dBm (limited by local regulatory requirements)
  - ¬ 5 GHz: 21 dBm (limited by local regulatory requirements)
- Maximum Ratio Combining (MRC) for improved uplink RF performance
  - ¬ Cyclic Delay Diversity (CDD) for improved downlink RF performance
- Association Rates (Mbps):
  - ¬ 802.11b: 1, 2, 5.5, 11
  - ¬ 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - ¬ 802.11n: MCS0 - MCS15 (6.5Mbps - 300Mbps)
- 802.11n High-Throughput (HT) Support: HT 20/40
- 802.11n Packet Aggregation: A-MPDU, A-MSDU

Interfaces

- Network:
  - ¬ 1 x 100/1000Base-T Ethernet (RJ45), Auto-sensing link speed and MDI/MDX
  - ¬ 4 x 10/100Base-T Ethernet (RJ45), Auto-sensing link speed and MDI/MDX
  - ¬ 1 x Passive RJ45 pass-though interface
- Power: 1 x DC power connector
- Other: 1 x RJ-45 console interface

Power

- 48 V DC 802.3af Power over Ethernet
- 12 V DC for external AC supplied power (adapter sold separately)
- Maximum power consumption (worst case) when:
  - ¬ POE Powered - 9 Watts
  - ¬ DC Powered - 8 Watts

Mounting

- Mount plate, supporting various worldwide electrical wall box standards.

Mechanical

- Dimensions / Weight (unit with mounting bracket):
  - ¬ 130 mm x 140 mm x 35 mm
  - ¬ 425 g
- Dimensions / Weight (shipping):
  - ¬ 200 mm x 170 mm x 58 mm
  - ¬ 580 g

Environmental

- Operating:
  - ¬ Temp: 0° to 40° C (32° to 104° F)
  - ¬ Humidity: 5 to 95% non-condensing
- Storage and Transportation Temperature Range:
  - ¬ Temp: -40° to +70° C (-40° 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
- EN 60601-1-1, EN60601-1-2

Certifications

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

Warranty

- Alcatel-Lucent limited lifetime warranty

Minimum AOS version

- 6.1.3.0

Product Ships with

- AP93H access point
- Short CAT5e Ethernet cable (2x)
- Universal mount plate
- Installation guide

Ordering Information

PART NUMBER	DESCRIPTION
OAW-AP93H	OmniAccess AP93H Wireless Access Point, 802.11an or 802.11bgn, integrated antennas, built-in switch
OAW-AP-AC-UN	OmniAccess AP92, AP93, AP93H, AP105 Universal AC Power Adapter Kit - North America, Japan, United Kingdom, Italy, EC (Shuko), Australia, China, India, Korea.
OAW-AP-AC-12V18	OmniAccess AP93H 12V DC/18 W AC Power Adapter. Does not include country specific cord.

RF performance Table

	Max TX power per active TX chain (dBm)	RX Sensitivity (dBm)	Max TX power per active TX chain (dBm)	RX sensitivity (dBm)
	2.4 GHz		**5 GHz**	
802.11b				
1Mbps	18	-94		
2 Mbps	18	-94		
5.5 Mbps	18	-93		
11 Mbps	18	-91		
802.11a/g				
6 Mbps	18	-92	18	-92
9 Mbps	18	-91	18	-91
12 Mbps	18	-87	18	-87
18 Mbps	18	-86	18	-86
24 Mbps	18	-84	18	-84
36 Mbps	15	-82	15	-82
48 Mbps	14	-79	14	-79
54 Mbps	14	-76	14	-76
802.11n HT20				
MCS0	18	-92	18	-92
MCS1	17	-90	17	-90
MCS2	17	-88	17	-88
MCS3	16	-85	16	-85
MCS4	16	-81	16	-81
MCS5	15	-79	15	-79
MCS6	15	-77	14	-77
MCS7	14	-73	13	-73
MCS8	18	-92	18	-92
MCS9	17	-90	17	-90
MCS10	17	-88	17	-88
MCS11	16	-85	16	-85
MCS12	16	-81	16	-81
MCS13	15	-79	15	-79
MCS14	15	-77	14	-77
MCS15	14	-73	13	-73
802.11n HT40				
MCS0	18	-92	18	-92
MCS1	17	-90	17	-90
MCS2	17	-88	17	-88
MCS3	16	-85	16	-85
MCS4	16	-81	16	-81
MCS5	15	-79	15	-79
MCS6	15	-77	14	-77
MCS7	14	-73	13	-73
MCS8	18	-92	18	-92
MCS9	17	-90	17	-90
MCS10	17	-88	17	-88
MCS11	16	-85	16	-85
MCS12	16	-81	16	-81
MCS13	15	-79	15	-79
MCS14	15	-77	14	-77
MCS15	14	-73	13	-73

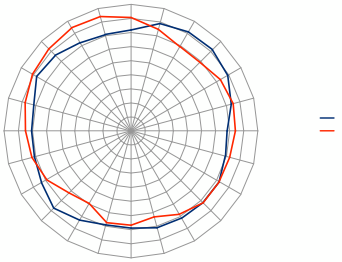
Maximum capability of the hardware provided. Maximum transmit power will be limited by local regulatory setting

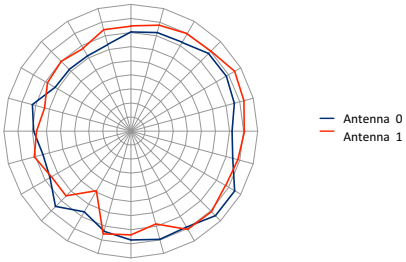
Antenna Gain Plots

H-plane (top view)

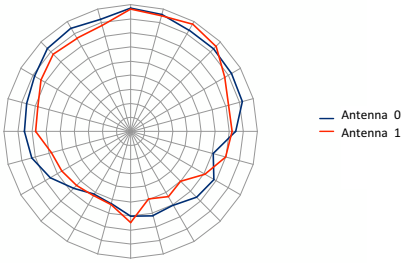
E-plane (side view)

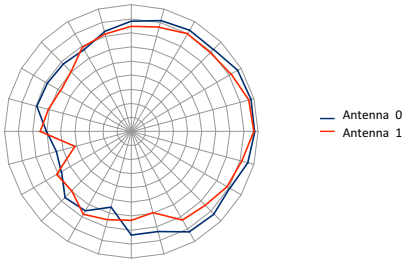
2.45 GHz





5.2 GHz





5.8 GHz