

ALCATEL-LUCENT OMNIACCESS 90 SERIES ACCESS POINTS SINGLE RADIO 802.11N ACCESS POINTS

The multifunctional and affordable 90 series wireless access points (APs) deliver enterprise-grade Wi-Fi to low-density client environments in offices, hospitals, schools and retail stores.

These high-performance 802.11n APs deliver wireless data rates up to 300 Mbps per radio and ensure peak performance by utilizing channel bonding, block acknowledgement and MIMO radios. Advanced antenna technology also increases RF signal range and reliability.

The 93 series of APs features one dual-band 2.4-GHz or 5-GHz radio with 2x2 MIMO and two integrated omni-directional antennas. The 92 series feature the same radios with external antenna connectors.



BEST-IN-CLASS RF MANAGEMENT

All Alcatel-Lucent APs include Adaptive Radio Management™ technology, which is essential to 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 that APs stay clear of RF interference.

The 90 series can be configured to provide 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.

CHOOSE YOUR OPERATING MODE

The 90 series offers a choice of operating modes to meet your unique management and deployment requirements.

- **Controller-managed mode:** When managed by Alcatel-Lucent Mobility Controllers, 90 series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding. Please refer to the Alcatel-

Lucent Mobility Controller data sheets for more details.

- **Alcatel-Lucent Instant™ mode:** In Alcatel-Lucent Instant mode, a single AP is dynamically elected the Virtual Controller, which automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up one Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes

For large installations, the Alcatel-Lucent Product Activation Service dramatically reduces deployment time by automating Alcatel-Lucent Instant provisioning, firmware upgrades and inventory management. APs are factory-shipped to your deployment site and configure themselves when powered up.

If WLAN and network requirements change, a built-in migration path allows 90 series Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

RF Management

- 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 802.11n channel quality.

Security

- With an OpenDNS service subscription, Alcatel-Lucent Instant delivers 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-capable for secure tunneling of wired Ethernet traffic

Operating Modes

- 802.11a/b/g/n Alcatel-Lucent Instant AP
- 802.11a/b/g/n Mobility Controller-managed AP
- Air monitor (AM)
- Secure enterprise mesh
- Remote AP (RAP) when used with a Mobility Controller
- Spectrum analyzer when used with a Mobility Controller

Wireless Radio Specifications

- AP type: Single-radio, dual-band 802.11n indoor
- Software-configurable dual radio supports 2.4 GHz and 5 GHz
- 2x2 MIMO 802.11n with two spatial streams and up to 300 Mbps per radio
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 to 2.4835 GHz
 - 5.150 to 5.250 GHz
 - 5.250 to 5.350 GHz
 - 5.470 to 5.725 GHz
 - 5.725 to 5.875 GHz
- Available channels: Managed by Virtual Controller or Mobility Controller, dependent upon configured regulatory domain
- Controller-managed, dependent upon 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)
 - 802.11n: 2x2 MIMO with two 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: 23 dBm (limited by local regulatory requirements)
 - 5 GHz: 23 dBm (limited by local regulatory requirements)
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic Delay Diversity for improved downlink RF performance
- Space time blocking code (STBC) for increased range and improved reception
- 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 (6.5 Mbps - 300 Mbps)
- 802.11n high-throughput (HT) Support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

Power

- 48 V DC 802.3af PoE
- 12 V DC for external AC supplied power (adapter sold

separately)

- Maximum power consumption: 10 watts

Antenna

- AP92 and IAP92: Two RP-SMA connectors for external antennas
- AP93 and IAP93: Two integrated omni-directional antennas for 2x2 MIMO with maximum antenna gain
 - 2.4GHz / 3.0 dBi
 - 5GHz / 5.8 dBi

Interfaces

- Network: One 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
- Power: One DC power connector
- Other: One RJ-45 console interface

Mounting

- Included with AP:
 - Molded mounting tabs for attaching to 15/16" T-bar drop-tile ceiling
 - Slotted tabs for screw mounting to a wall, ceiling or other flat surface
- Optional mounting kit:
 - OAW-AP90-MNT: OmniAccess IAP90 series AP wall or ceiling mounting kit

Mechanical

- Dimensions/weight (unit):
 - 120 mm x 130 mm x 35 mm (4.7" x 5.1" x 1.4")
 - 255 g (9 oz)
- Dimensions/weight (shipping):
 - 180 mm x 155 mm x 45 mm (7.1" x 6.1" x 1.8")
 - 375 g (13.2 oz)

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
- EN 60601-1-1, EN60601-1-2

Certifications

- CB Scheme Safety, cTUVus
- UL2043 Plenum rating
- Wi-Fi certified 802.11a/b/g/n

Warranty

- Limited lifetime warranty

Minimum AOS version

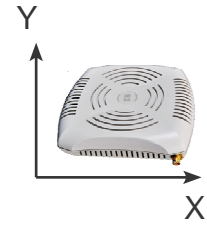
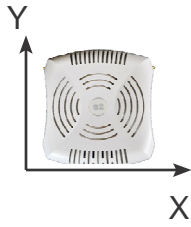
- AOS 5.0.4.2, 6.0.2.1, 6.1.2.0 on an Alcatel-Lucent Mobility Controller

IAP93 and AP92 SERIES AP RF PERFORMANCE TABLE

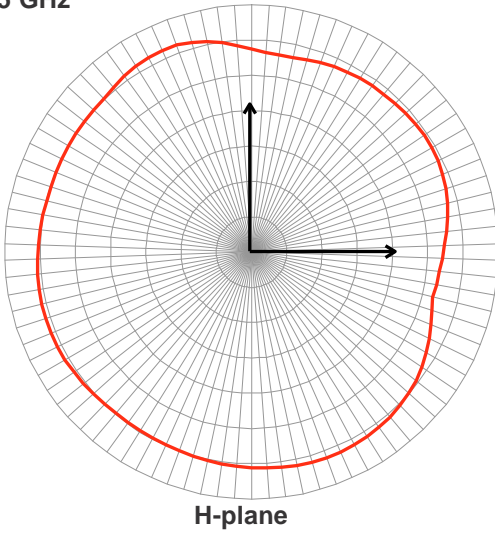
	Max TX power per active TX chain (dBm)	RX Sensitivity (dBm)	Max TX power per active TX chain (dBm)	RX Sensitivity (dBm)
	2.4 GHz		5 GHz	
802.11b				
1Mbps	18	-96		
2Mbps	18	-96		
5.5Mbps	18	-94		
11Mbps	18	-93		
802.11a/g				
6Mbps	18	-93	18	-93
9Mbps	18	-93	18	-93
12Mbps	18	-87	18	-87
18Mbps	18	-87	18	-87
24Mbps	18	-85	18	-85
36Mbps	15	-82	15	-82
48Mbps	14	-80	14	-80
54Mbps	14	-80	14	-80
802.11n HT20				
MCS0	18	-93	18	-93
MCS1	17	-93	17	-93
MCS2	17	-87	17	-87
MCS3	16	-87	16	-87
MCS4	16	-83	16	-83
MCS5	15	-80	15	-80
MCS6	14	-77	14	-77
MCS7	13	-75	13	-75
MCS8	18	-93	18	-93
MCS9	17	-93	17	-93
MCS10	17	-87	17	-87
MCS11	16	-87	16	-87
MCS12	16	-83	16	-83
MCS13	15	-80	15	-80
MCS14	14	-77	14	-77
MCS15	13	-75	13	-75
802.11n HT40				
MCS0	18	-90	18	-90
MCS1	17	-90	17	-90
MCS2	17	-87	17	-87
MCS3	16	-84	16	-84
MCS4	16	-80	16	-80
MCS5	15	-77	15	-77
MCS6	14	-77	14	-77
MCS7	13	-73	13	-73
MCS8	18	-90	18	-90
MCS9	17	-90	17	-90
MCS10	17	-87	17	-87
MCS11	16	-84	16	-84
MCS12	16	-80	16	-80
MCS13	15	-77	15	-77
MCS14	14	-77	14	-77
MCS15	13	-73	13	-73

Maximum capability of the hardware provided. Maximum transmit power will be limited by local regulatory settings.
RF performance numbers for IAP92 and AP92 slightly lower due to additional RF circuitry

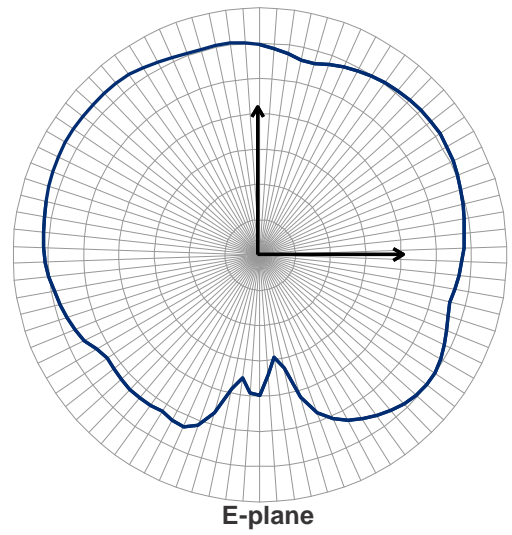
AP93 and IAP93 ANTENNA PATTERN PLOTS



2.45 GHz

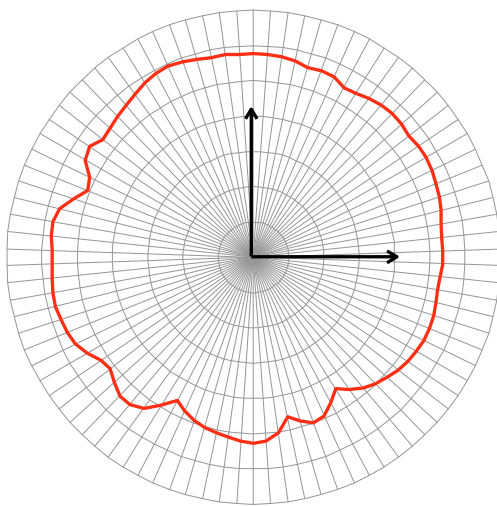


H-plane

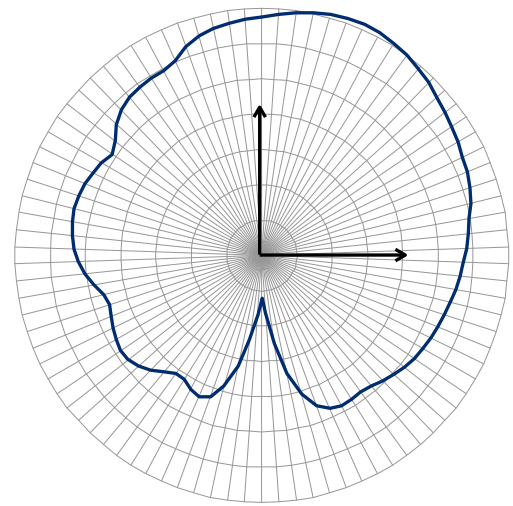


E-plane

5.5 GHz



H-plane



E-plane

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
OAW-IAP92	OmniAccess IAP92 wireless AP, 802.11abgn, dual-band, single radio, with external antenna connectors (RP-SMA)
OAW-IAP93	OmniAccess IAP93 wireless AP, 802.11abgn, dual-band, single radio, integrated antennas
OAW-AP92	OmniAccess AP92 wireless AP, 802.11abgn, dual-band, single radio, with external antenna connectors (RP-SMA)
OAW-AP93	OmniAccess AP93 wireless AP, 802.11abgn, dual-band, single radio, integrated antennas
OAW-AP-AC-UN	Universal AC Power Adapter Kit for OmniAccess AP and IAP 135,134, 105, 104, 92, 92 - North America, Japan, United Kingdom, Italy, EC (Shuko), Australia, China, India, Korea.
OAW-AP90-MNT	OmniAccess IAP90 series AP wall or ceiling mounting kit
OAW-MS-3501G	1 Port 802.3af PoE MS 10/100/1000 15.4 W

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