Alcatel-Lucent OmniAccess Instant for OmniAccess Instant Access Points 92, 93, 105, 134 and 135

INSTANT VIRTUALIZATION OF OMNIACCESS WLAN SWITCH /CONTROLLER

The Alcatel-Lucent OmniAccess Instant virtualizes Alcatel-Lucent OmniAccess Mobility Controller capabilities on 802.11n access points (APs), creating a feature-rich, enterprise-grade wireless LAN (WLAN) that delivers the affordability and simplicity of an entry-level Wi-Fi® network.

IAP92

IAP93

IAP105

IAP134

IAP135

Offering impressive scalability, the OmniAccess Instant can be installed at a single site or deployed across multiple geographically-dispersed locations. Up to 16 OmniAccess Instant Access Points (IAPs) can be controlled by a single IAP that automatically becomes a primary virtual controller. In the event of primary virtual controller failure, another OmniAccess IAP automatically takes on the role with no disruption.

The OmniAccess Instant product family consists of five IAPs: the OmniAccess IAP92, OmniAccess IAP93, OmniAccess IAP1O5, OmniAccess IAP 134 and OmniAccess IAP 135.

IAP134 and IAP135 maximize mobile device performance in extremely high-density Wi-Fi client environments and provide strong threat protection with integrated IEEE 802.1AE MACsec security. IAP105 brings affordability to high-density Wi-Fi areas, while the single-radio IAP92 and IAP93 optimize mobile device performance in low-density Wi-Fi environments.

Virtual-controller technology
The virtual-controller technology in the OmniAccess Instant delivers enterprise-grade capabilities such as AP auto discovery, 8O2.1X authenti-cation, role- and device-based policy enforcement, rogue detection and OmniAccess Adaptive Radio Manage- ment (ARM), which optimizes Wi-Fi client behavior by ensuring the APs remain free from RF interference.

Ease of deployment
OmniAccess Instant is up and running in minutes. From a laptop, simply connect wirelessly to a SSID to perform over-the-air provisioning in three easy steps. To expand, just install more OmniAccess IAPs; configurations are automatically uploaded from the designated virtual controller.

IAP MODEL	SPATIAL STREAMS	RADIOS	ANTENNAS	THROUGHPUT PER RADIO
IAP135	3x3 MIMO	Two (2.4 and 5 GHz)	Internal	450 Mbps
IAP134	3x3 MIMO	Two (2.4 and 5 GHz)	External	450 Mbps
IAP104	2x2 MIMO	Two (2.4 and 5 GHz)	Internal	300 Mbps
IAP93	2x2 MIMO	One (2.4 or 5 GHz)	Internal	300 Mbps
IAP92	2x2 MIMO	One (2.4 or 5 GHz)	External	300 Mbps

Management and visibility
Multiple OmniAccess Instant networks can be securely and centrally managed by the Alcatel-Lucent OmniVistaM 3600 Air Manager, allowing the OmniAccess Instant to operate hundreds of remote locations. With the OmniVista 3600 Air Manager, IT has real-time visibility into users, mobile devices and OmniAccess WLANs from a single management console.

Investment Protection
As WLAN requirements expand, the OmniAccess Instant can be re-imaged as an 802.11n campus AP and migrated to a centralized OmniAccess Mobility Controller architecture that supports up to 2048 APs. In addition to providing WLAN access, APs in a centralized, controller architecture can provide wireless intrusion protection and powerful spectrum-analysis capabilities.

FEATURES	BENEFITS
Virtual Mobility Controller	Enables any IAP to be the controller, eliminating the need for a dedicated controller
Autoselection of virtual Mobility Controller	Autoselects controller with redundancy, enabling ease of use with always-on redundancy
One-touch, over-the-air provisioning, autodiscovery and autoconfiguration	Offers one-touch, over—the-air provisioning of first lAP, and auto-discovery and auto-
Centralized management of multiple instant networks	Centrally and securely manage multiple OmniAccess lnstant networks using OV3600 Air
Re-image IAP to campus AP	Re-images IAP to campus APs, providing investment protection because same

Application

• Cost-effective indoor 802.11n single- or dual-radio, dual-band APs for low- to extremely high-density deployments.

Operating Mode

• 802.11a/b/g/n AP

• Spectrum monitor

• Air monitor (AM)

Radios

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

• IAP-134/IAP-135: Dual radio 802.11n-capable, implementing 3x3 MIMO with three spatial streams, providing up to 450 Mbps data rate per radio

• IAP-105: Dual radio 802.11n-capable, implementing 2x2 MIMO with two spatial streams, providing up to 300 Mbps data rate per radio

• IAP-92/IAP-193: Single radio 802.11n-capable, implementing 2x2 MIMO with two spatial streams, providing up to 300 Mbps data rate per radio

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 802.11n channel quality.

Advance Features

• IEEE 802.1AE MACsec (IAP-134 and IAP-135)

• Wireless intrusion detection and prevention

• Secure enterprise mesh

• Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys

• RADIUS support

• Bandwidth limiting

Wireless Radio Specifications

• AP type: Single-radio/Dual-radio, dual-band 802.11n indoor

• 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 5.850 GHz

• Available channels: 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 (IAP-105, IAP-92, IAP-93)

   - 802.11n: 3x3 MIMO with 3 spatial streams (IAP-134, IAP-135)

• 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

• IAP-134/IAP-135

   - 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 (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

(IAP-105, IAP-92, IAP-93)

- 802.11n: MCS0-MCS23/6.5 Mbps-450 Mbps

(IAP-134, IAP-135)

• 802.11n high-throughput (HT) Support: HT 20/40

• 802.11n packet aggregation: A-MPDU, A-MSDU

Power

• 48 V DC 802.3af power over Ethernet

• 12 V DC for external AC supplied power (adapter sold separately)

• Maximum power consumption:

- IAP-92/93: 10 watts

- IAP-105: 12.5 watts

- IAP-134/135

- When powered from 802.3at PoE or DC: 14 watts

- When powered from 802.3af PoE: 12.5 watts

Antenna

• AP-134: Three RP-SMA antenna interfaces for external dualband antennas

• AP-135: Six internal downtilt omni-directional antennas; three per frequency band

- 2.4 to 2.5 GHz/3.5 dBi

- 5.150 to 5.875 GHz/4.5 dBi

• IAP-105: 4 x integrated, omni-directional antenna elements (supporting up to 2x2 MIMO with spatial diversity). Maximum antenna gain:

- 2.4 GHz/2.5 dBi

- 5.150 GHz to 5.875 GHz/4.0 dBi

• IAP-92: Dual, RP-SMA interfaces for external antenna support

• IAP-93: Integrated, omni-directional antenna elements (supporting up to 2x2 MIMO with spatial diversity)

- 2.4 GHz/2.5 dBi

- 5 GHz/5.8 dBi

Interfaces

IAP-105, IAP-92 and IAP-93

• Network:

- 1 x 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX

• Power:

- 1 x DC power connector

• Other:

- 1 x RJ-45 console interface

IAP-134 and IAP-135

• Network:

- 2x10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX

- 802.1AE MACsec connectionless data confidentiality and integrity

- 802.3az (EEE)

- 48 V DC 802.3af PoE or 802.3at PoE+ interoperable with intellisource power sourcing equipment (both ports)

• Antenna (model AP-134 only):

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

• Other:

- 1 x RJ-45 console interface

Mounting

• Standard:

- Wall

- Tool-less ceiling tile rail (15/16")

• Mounting kit:

- Desk stand and wall outlet mount plate

- Solid wall mount bracket

- Wall box mount bracket (fits standard US single gang wall boxes)

- Ceiling tile rail adapters (15/16" & 9/16" recessed or nonrecessed)

• Optional 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):
  - IAP-134 and IAP-135:

    170 mm x 170 mm x 45 mm

    (6.69" x 6.69" x 1.77"), 760 g (1.68 lb)
  - IAP-105: 132 mm x 135 mm x 45 mm

    (5.2" x 5.3" x 1.8"), 0.3 kg (10.56 oz)
  - IAP-92 and IAP-93:

    120 mm x 130 mm x 35 mm

    (4.7" x 5.1" x 1.4") 255 g (9 oz)
- Dimensions/weight (shipping):
  - IAP-134 and IAP-135:

    285 mm x 240 mm x 70 mm

    (11.22" x 9.45" x 2.76"), 1,050 g (2.31 lb)
  - IAP-105:

    195 mm x 170 mm x 55 mm

    (7.7" x 6.7" x 2.2"), 0.44 kg (15.52 oz)
  - IAP-92 and IAP-93:

    180 mm x 155 mm x 45 mm

    (7.1" x 6.1" x 1.8"), 375 g (13.2 oz)

Environmental

- Operating:
  - Temp: 0° C to 50° C (+32° F to +122° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation temperature range:
  - Temp: -40° C to +70° C (-40° F to +158° F)

Regulatory

- FCC/Industry of Canada
- R&TTE Directive 1995/5/EC 72/23/EECC
- EN 300 328
- EN 301 893
- CB Scheme Safety, cTUVus
- Korea KCC
- Mexico NOM/COFETEL
- UL2043 Compliant
- CE Marked
- Low Voltage Directive
- EN 301 489
- UL/IEC/EN 60950
- Japan MIC/VCCI
- Brazil ANATEL
- China SRRC/CCC
- AS/NZS 4260, 4771, 3548

Warranty

- Limited lifetime warranty

Certifications

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

Ordering Information

PART NUMBER	DESCRIPTION
OMNIACCESS INSTANT ACCESS POINTS	
OAW-IAP135	OmniAccess Instant AP135 Wireless Access Point, 802.11abgn, 3x3:3, dual radio, integrated antennas. Unrestricted Regulatory Domain. These products should be considered as `Rest of World` products and MUST NOT be used for deployments in the United States, Japan or Israel
OAW-IAP134	OmniAccess Instant AP134 Wireless Access Point, 802.11abgn, 3x3:3, dual radio,antenna connectors. Requires external antenna. Unrestricted Regulatory Domain. These products should be considered as `Rest of World` products and MUST NOT be used for deployments in the United States, Japan or Israel
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-IAP105	OmniAccess IAP105 wireless AP, dual-radio IEEE 802.11a/b/g/n wireless AP with support for 802.11B/G/N and 802.11A /N operation, dual-band integral antenna, 1 x 10/100/1000Base-T (RJ-45) Ethernet interface (supports 802.3af PoE), 1 x 12-V DC power interface; AC power adapter kit (OAW-AP-AC-UN) sold separately
OMNIACCESS IAP ACCESSORIES	
OAW-AP-AC-UN	OmniAccess AP92, AP93, AP105 universal AC power adapter kit - North America, Japan, United Kingdom, Italy, EC (Shuko), Australia, China, India, Korea
OAW-AP90-MNT	OmniAccess IAP90 series AP wall or ceiling mounting it
OAW-AP105-MNT	OmniAccess IAP105 wall or ceiling mounting kit
OAW-AP105-MNTC	OmniAccess IAP105 ceiling mounting kit, rail adapters only
OAW-MS-3501G	1 Port 802.3af PoE MS 10/100/1000 15.4 W

RF Performance Table

IAP-134 and IAP-135				
	Transmit power per active transmit chain (dBm)	Receive Sensitivity (dBm)	Transmit power per active transmit chain (dBm)	Receive Sensitivity (dBm)
	2.4 GHz		5 GHz	
802.11b				
1 Mbps	18	-96		
11 Mbps	18	-96		
802.11a/g				
6 Mbps	18	-96	18	-96
54 Mbps	16	-86	16	-86
802.11n HT20				

	IAP-105				IAP-92/IAP-93			
MCS0/8/16	18	-96			18	-96		
MCS7/15/2	12	-81			12	-81		
802.11n HT40								
MCS0/8/16	18	-91			18	-91		
MCS7/15/2	12	-76			12	-76		

	IAP-105				IAP-92/IAP-93			
	Max TX power per active TX chain (dBm)	RX sensitivity (dBm)	Max TX power per active TX chain (dBm)	RX Sensitivity (dBm)	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		2.4 GHz		5 GHz	
802.11b								
1 Mbps	20	-96			18	-96		
2 Mbps	20	-96			18	-96		
5.5 Mbps	20	-94			18	-94		
11 Mbps	20	-93			18	-93		
802.11a/g								
6 Mbps	20	-96	20	-96	18	-93	18	-93
9 Mbps	20	-96	20	-96	18	-93	18	-93
12 Mbps	20	-96	20	-96	18	-87	18	-87
18 Mbps	20	-95	20	-95	18	-87	18	-87
24 Mbps	20	-92	20	-91	18	-85	18	-85
36 Mbps	19	-89	19	-88	15	-82	15	-82
48 Mbps	18	-85	18	-84	14	-80	14	-80
54 Mbps	17	-83	17	-83	14	-80	14	-80
802.11n HT20								
MCS0	20	-96	20	-96	18	-93	18	-93
MCS1	20	-95	20	-94	17	-93	17	-93
MCS2	20	-93	20	-92	17	-87	17	-87
MCS3	20	-90	20	-89	16	-87	16	-87
MCS4	19	-87	19	-86	16	-83	16	-83
MCS5	18	-82	18	-82	15	-80	15	-80
MCS6	17	-81	17	-80	14	-77	14	-77
MCS7	15	-80	15	-79	13	-75	13	-75
MCS8	20	-95	20	-95	18	-93	18	-93
MCS9	20	-93	20	-92	17	-93	17	-93
MCS10	20	-91	20	-90	17	-87	17	-87
MCS11	20	-87	20	-87	16	-87	16	-87
MCS12	19	-84	19	-84	16	-83	16	-83
MCS13	18	-81	18	-80	15	-80	15	-80
MCS14	17	-80	17	-78	14	-77	14	-77
MCS15	15	-77	15	-77	13	-75	13	-75
802.11n HT4								
MCS0	20	-93	20	-92	18	-90	18	-90
MCS1	20	-93	20	-92	17	-90	17	-90
MCS2	20	-90	20	-89	17	-87	17	-87
MCS3	20	-86	20	-86	16	-84	16	-84
MCS4	19	-83	19	-83	16	-80	16	-80
MCS5	18	-79	18	-80	15	-77	15	-77
MCS6	17	-77	17	-77	14	-77	14	-77
MCS7	15	-76	15	-76	13	-73	13	-73
MCS8	20	-92	20	-92	18	-90	18	-90
MCS9	20	-89	20	-90	17	-90	17	-90
MCS10	20	-87	20	-87	17	-87	17	-87

MCS11	20	-84	20	-84	16	-84	16	-84
MCS12	19	-82	19	-81	16	-80	16	-80
MCS13	18	-76	18	-77	15	-77	15	-77
MCS14	17	-76	17	-75	14	-77	14	-77
MCS15	15	-73	15	-73	13	-73	13	-73

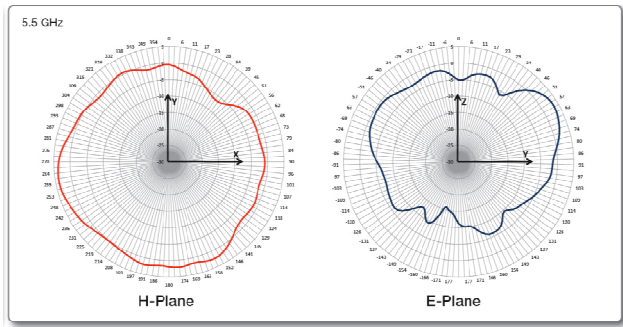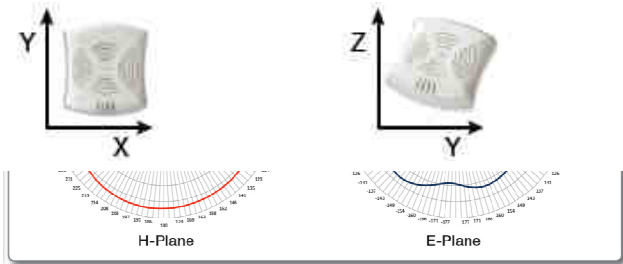*Maximum capability of the hardware provided. Maximum transmit power will be limited by local regulatory settings.*
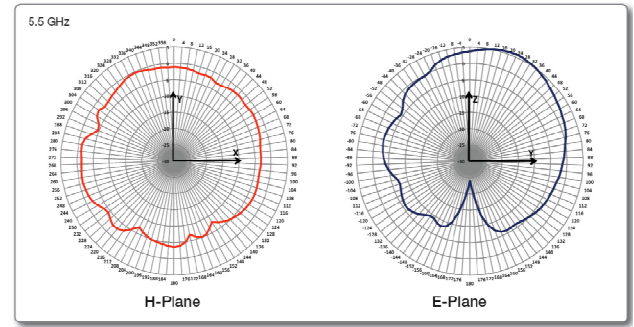
Antenna Plots

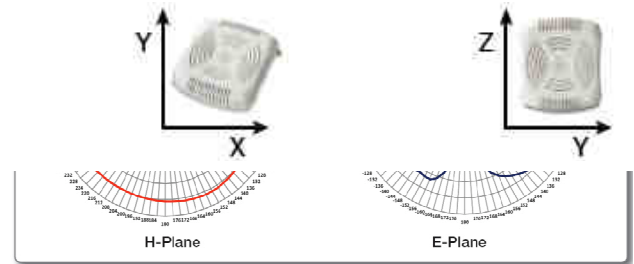### IAP135

IAP105

2.45 GHz

H-Plane   E-Plane

5.5 GHz

H-Plane   E-Plane

IAP92/93

2.45 GHz

H-Plane   E-Plane

5.5 GHz

H-Plane   E-Plane

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