ARUBA INSTANT
Creates a Feature-Rich, Enterprise-Grade Wireless LAN

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

Offering impressive scalability, Aruba Instant can be installed at a single site or deployed across multiple geographically-dispersed locations.

Multiple Aruba Instant APs can be managed by a single AP designated as a Virtual Controller, and multiple Virtual Controller networks can be centrally managed with the Aruba AirWave™ management system.

The Aruba Instant product family consists of five APs – IAP-134, IAP-135, IAP-105, IAP-92 and IAP-93.

IAP-134 and IAP-135 maximize mobile device performance in extremely high-density Wi-Fi client environments and provide strong threat protection with integrated IEEE 802.1AE MACsec

security. IAP-105 brings affordability to high-density Wi-Fi areas, while the single-radio IAP-92 and IAP-93 optimize mobile device performance in low-density Wi-Fi environments.

VIRTUAL CONTROLLER TECHNOLOGY

The Virtual Controller technology in Aruba Instant delivers enterprise-grade capabilities such as automatic quality of service (QoS), 802.1X authentication, role- and device-based policy enforcement, rogue containment and Adaptive Radio Management™ (ARM™), which optimizes Wi-Fi client behavior by making sure that APs stay clear of RF interference.

EASE OF DEPLOYMENT

Aruba Instant is up and running in minutes. From a laptop, simply connect wirelessly to an SSID to perform over-the-air provisioning in minutes. To expand wireless coverage, simply install more Aruba Instant APs – configurations are automatically distributed from the Virtual Controller.

MANAGEMENT AND VISIBILITY

Multiple Aruba Instant networks can be securely and centrally managed by AirWave, allowing Aruba Instant to operate in hundreds of distributed locations. With AirWave, IT has real-time visibility into users, mobile devices, and the wired and wireless infrastructure from a single management console.

The multifunction Aruba Instant can be configured to provide WLAN access with part-time air monitoring, dedicated air monitoring for wireless IPS and spectrum analysis or secure enterprise mesh functionality.

INVESTMENT PROTECTION

As application and WLAN requirements change over time, Aruba Instant can migrate to a centralized Mobility Controller architecture that supports up to 2,048 APs.

Aruba Instant Model	Spatial Streams	Radios	Antennas	Throughput per Radio
IAP-135	3x3 MIMO	Two (2.4 and 5 GHz)	Internal	450 Mbps
IAP-134	3x3 MIMO	Two (2.4 and 5 GHz)	External	450 Mbps
IAP-105	2x2 MIMO	Two (2.4 and 5 GHz)	Internal	300 Mbps
IAP-93	2x2 MIMO	One (2.4 or 5 GHz)	Internal	300 Mbps
IAP-92	2x2 MIMO	One (2.4 or 5 GHz)	External	300 Mbps

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.

ADVANCED 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 dual-band 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

INTERFACES (CONTINUED)

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 non-recessed)
- 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**
IAP-135	Aruba Instant 135 AP (802.11a/n and 802.11b/g/n: integrated antennas)
IAP-134	Aruba Instant 134 AP (802.11a/n and 802.11b/g/n: antenna connectors)
AP-130-MNT	Aruba 130 Series Access Point Flat Surface Mounting Kit.
IAP-105	Aruba Instant 105 AP (802.11a/n and 802.11b/g/n)
AP-105-MNT	Aruba 105 Access Point Mounting Kit for flat surfaces or wall boxes (note: covers DC power interface)
AP-105-MNT-C	Aruba 105 Access Point Ceiling Mounting Kit (rail adapters)
AP-105-MNT-DC	Aruba 105 Access Point Mounting Kit for flat surfaces or wall boxes (leaves DC power interface exposed)
IAP-92	Aruba Instant 92 AP (802.11a/n or 802.11b/g/n: antenna connectors)
IAP-93	Aruba Instant 93 AP (802.11a/n or 802.11b/g/n: integrated antenna)
AP-90-MNT	Aruba 90 Series Access Point Mounting Kit
AP-AC-UN	Aruba 12 V DC Universal AC Power Adapter Kit – North America, Japan, United Kingdom, Italy, EC (Europlug), Australia, China, India, Korea

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

	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				
MCS0/8/16	18	-96	18	-96
MCS7/15/23	12	-81	12	-81
802.11n HT40				
MCS0/8/16	18	-91	18	-91
MCS7/15/23	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 HT40								
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.
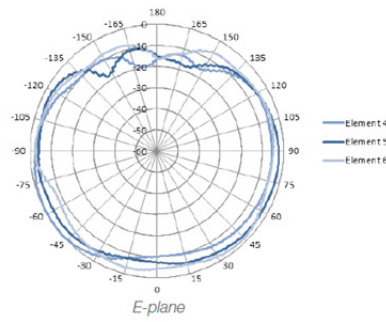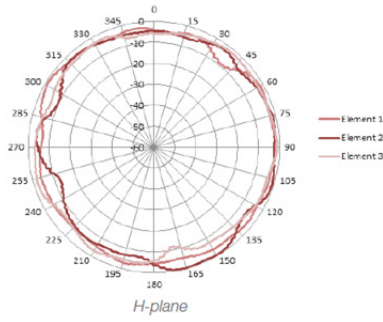
INTERNAL ANTENNA PATTERN PLOTS
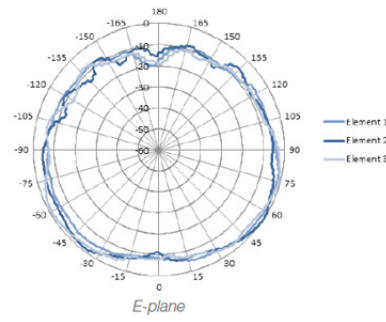
AP-135

2.450 GHz, H-Plane, 20 degrees down-tilt
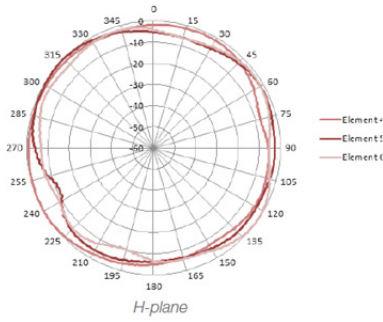
2.450 GHz, E-plane, AP facing down
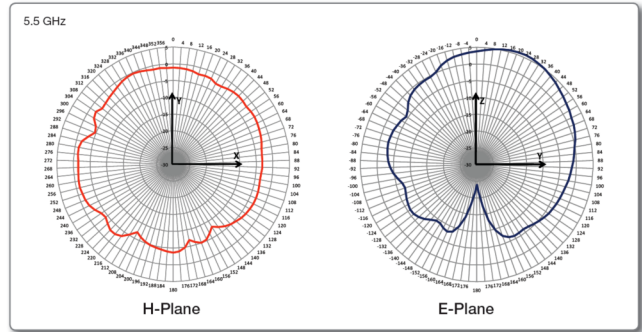
5.500 GHz, H-Plane, 20 degrees down-tilt

5.500 GHz, E-plane, AP facing down
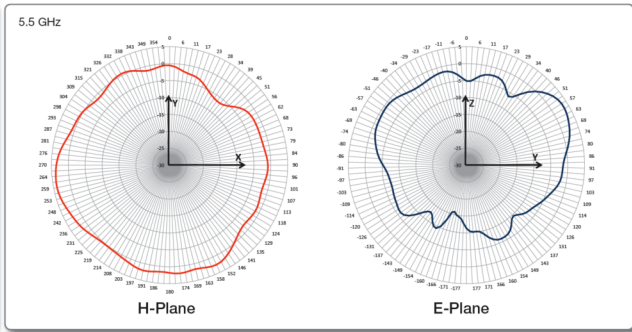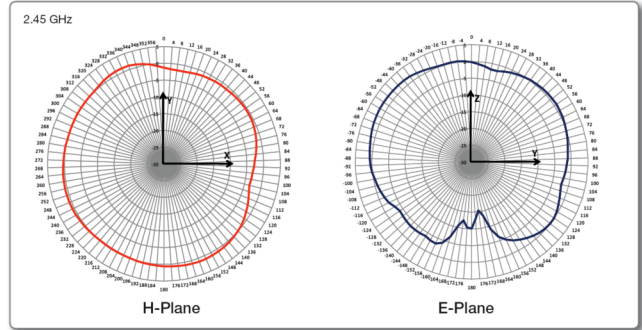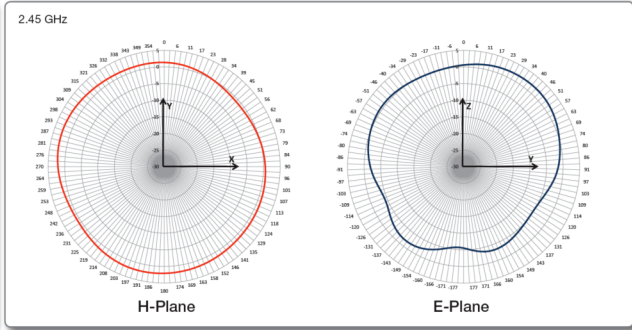
IAP-105

IAP-92/IAP-93

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