DATA SHEET

ARUBA RAP-155 SERIES REMOTE ACCESS POINTS

High-performance wireless and wired networking for small/medium businesses and branch offices

The multifunctional Aruba RAP-155 series delivers secure 802.11n wireless and wired networking to small/medium businesses and access to corporate resources from branch offices. It is ideal for ultra-high-density Wi-Fi environments that require fast encrypted throughput.

With unmatched deployment flexibility, the RAP-155 series can operate in Aruba Instant mode controlled by the AirWave management platform or in controller-managed mode where all network services are centralized by Aruba Mobility Controllers.

In Aruba Instant mode, traffic is locally bridged but it still provides the flexibility of establishing secure IPsec VPN tunnels back to Mobility Controllers.

The RAP-155 series offers a wide range of enterprise-class features, including role-based network access, and policy-based forwarding.

At locations that require greater coverage, the RAP-155 can join an Aruba Instant WLAN cluster. Simply install additional RAP-155s or any Aruba Instant AP and the entire cluster is managed as one. If one Aruba Instant AP fails, another AP automatically takes over with no disruption.

With a wireless data rate up to 450 Mbps, the dual-radio RAP-155 has five Ethernet ports (one uplink and four local) and a USB port to connect to 3G and 4G networks. Optionally, the RAP-155 can provide power over Ethernet (PoE) on its two local ports for IP phones and other devices.

When operating in Aruba Instant mode, the cloud-based Aruba Activate service dramatically reduces RAP deployment time by performing zero-touch provisioning and inventory management.

With Aruba Activate, RAPs are factory-shipped to remote deployment sites and obtain their configurations automatically when powered up.

ADVANCED FEATURES

- ClientMatch technology eliminates sticky clients by continuously gathering session performance metrics and utilizing this data to steer mobile devices to the best AP and radio, even as users roam and RF conditions change.
- Adaptive Radio Management (ARM) technology automatically assigns channel and power settings, provides airtime fairness, auto-corrects Wi-Fi coverage holes, and ensures that APs stay clear of RF interference.
- Zero-touch provisioning as well as inventory management with the cloud-based Aruba Activate service.
- Security:
  - With an OpenDNS service subscription, Aruba 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
  - VPN configuration functionality enables the Instant AP to create a single VPN tunnel to an Aruba Mobility Controller in the data center. The Mobility Controller acts solely as a VPN end-point and does not supply the Instant AP with any configuration.

OPERATING MODES

- Wireless
  - Aruba Instant AP
  - Mobility Controller-managed WLAN AP or RAP
  - Air monitor
  - Hybrid WLAN AP and air monitor
  - Secure enterprise mesh

- Wired
  - 10/100/1000BASE-T Ethernet uplink port, four 10/100/1000BASE-T Ethernet local ports
    - > Two local Ethernet ports are PoE capable (product option)
  - User authentication: 802.1X, captive portal, MAC authentication or open access
  - Policy-based forwarding for local resource access

WIRELESS RADIO SPECIFICATIONS

- AP type: Dual radio, dual-band 802.11n indoor
- Software-configurable dual radio supports 2.4 GHz and 5 GHz
- 2x2 MIMO with two spatial streams and up to 300 Mbps wireless data rate in 2.4 GHz
- 3x3 MIMO with three spatial streams and up to 450 Mbps wireless data rate in 5 GHz
- 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 the 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 (2.4 GHz): OFDM, 2x2 MIMO with two spatial streams
  - 802.11n (5 GHz): OFDM, 3x3 MIMO with 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 (conducted) transmit power (per radio transmit chain):
  - 2.4-GHz band: +18 dBm
  - 5-GHz bands: +18 dBm
- Transmit power will be limited as needed to comply with local regulatory requirements

- Advanced Cellular Coexistence (ACC) feature to effectively deal with interference from cellular systems
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity (CDD) for improved downlink RF performance
- Short guard interval (SGI) for 20-MHz and 40-MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n (2.4 GHz): 6.5 to 300 (MCS0 to MCS15)
  - 802.11n (5 GHz): 6.5 to 450 (MCS0 to MCS23)
- 802.11n high-throughput (HT) support: HT20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

ENCRYPTED THROUGHPUT

- Max IPsec encrypted wired throughput = 100 Mbps

ANTENNAS

- 2.4 GHz: Two internal omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.0 dBi
- 5 GHz: Three internal omni-directional antennas for 3x3 MIMO with maximum antenna gain of 3.0 dBi
- Antennas are optimized for vertical orientation of the device

NON-RF INTERFACES

- Network:
  - ENET0 (uplink): One 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
  - ENET1-4 (local): Four 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
    - > ENET1 and ENET2 capable of sourcing PoE power (RAP-155P only)
- DC power interface:
  - RAP-155:
    - > 12 Vdc +/- 5%
    - > Connector: Circular plug, 1.7/4.0 mm center-positive, 9.5 mm length
  - RAP-155P:
    - > 54 Vdc +/- 5%
    - > Connector: Circular plug, 1.35/3.8 mm center-positive, 11.0 mm length

- One USB 2.0 port (Type A connector)
- Serial console interface (proprietary; optional adapter cable available)
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (2x)
  - WLAN radio status (2x)
  - PoE status (2x)
- Kensington security slot
- Reset button

POWER

- DC power source (adapter ships with unit, AC power cord ordered separately)
  - RAP-155: 12 Vdc from external AC-to-DC power adapter
  - RAP-155P: 54 Vdc from external AC-to-DC power adapter
- Maximum power consumption:
  - Without USB device connected: 15.5 watts
  - With USB device: 18 watts
  - When sourcing PoE power (RAP-155P only), total power consumption may increase by up to 34 watts
- PoE power sourcing capabilities (RAP-155P only):
  - 802.3af or 802.3at power sourcing support (PSE) provided on two local Ethernet ports (ENET1, 2)
  - Device capable of supplying 1x full 802.3at power or 2x full 802.3af power

MECHANICAL

- Dimensions (unit, including desk mount):
  - 185 mm (W) x 245 mm (H) x 65 mm (D)
  - 7.28" (W) x 9.65" (H) x .07" (D)
  - Depth of unit excluding desk mount is 35 mm (1.38")
- Weight (unit): 700 g (1.54 lbs)
- Dimensions (shipping):
  - 340 mm (W) x 100 mm (H) x 280 mm (D)
  - 13.39" (W) x 3.94" (H) x 11.02" (D)
- Weight (shipping): 1,300 g (2.87 lbs)

MOUNTING

- Desktop: Using stand supplied with product
- Wall: Using built-in wall mount features

ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 93% non-condensing
- Storage and transportation:
  - 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

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

REGULATORY MODEL NUMBERS

- RAP-155: APINR155
- RAP-155P: APINR15P

CERTIFICATIONS

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

WARRANTY
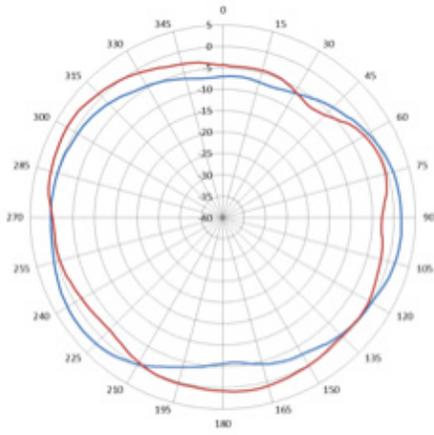
- Limited lifetime warranty

MINIMUM SOFTWARE VERSIONS

- ArubaOS 6.3.0.0
- Aruba Instant 3.3.0.1

RF PERFORMANCE TABLE

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
1 Mbps	18.0	-92.0
2 Mbps	18.0	-92.0
5.5 Mbps	18.0	-90.0
11 Mbps	18.0	-88.0
802.11g 2.4 GHz and 802.11a 5 GHz		
6 Mbps	18.0	-88.0
54 Mbps	16.0	-75.0
802.11n HT20 2.4 GHz and 5 GHz		
MCS0/8/16	18.0	-88.0
MCS7/15/23	14.0	-71.0
802.11n HT40 2.4 GHz and 5 GHz		
MCS0/8/16	18.0	-85.0
MCS7/15/23	14.0	-68.0

Note: Table shows maximum capability of the hardware. Maximum transmit power may be reduced to comply with local regulatory requirements.

ANTENNA PATTERNS

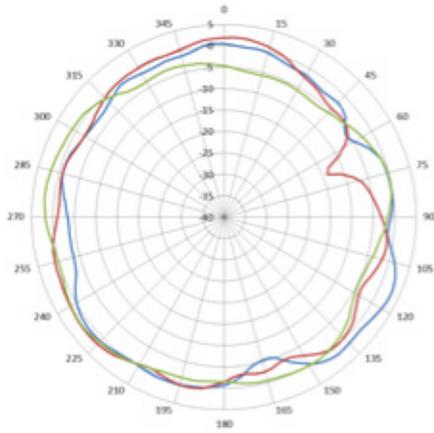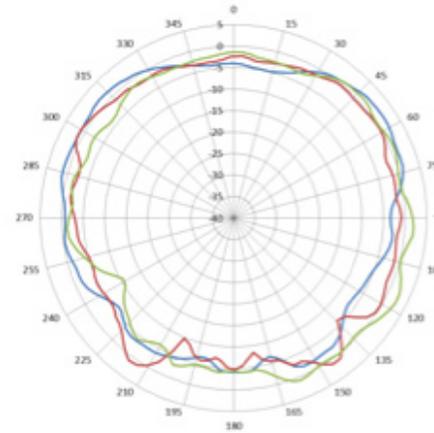2.450 GHz (antenna elements 1 and 2)

Azimuth plane (top view)

Elevation plane (side view)
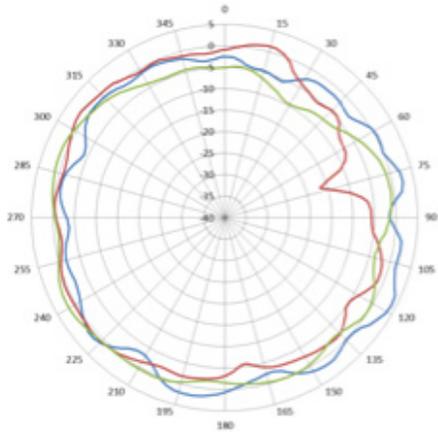
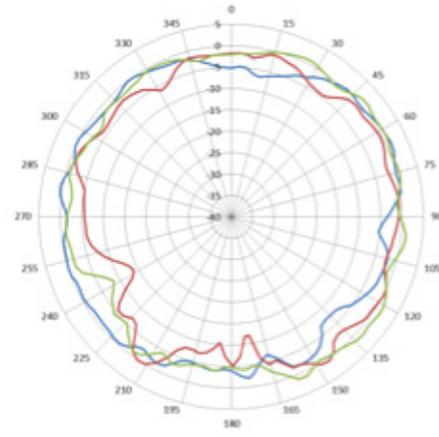5.150 GHz (antenna elements 3, 4 and 5)

Azimuth plane (top view)

Elevation plane (side view)

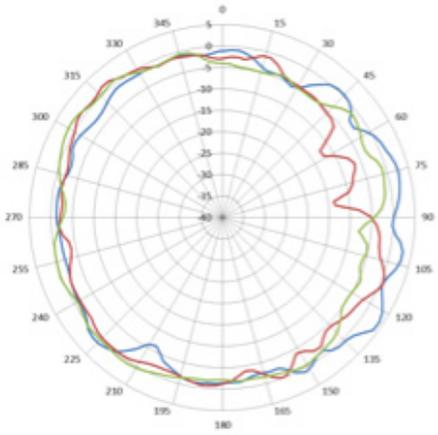## ANTENNA PATTERNS

5.500 GHz (antenna elements 3, 4 and 5)
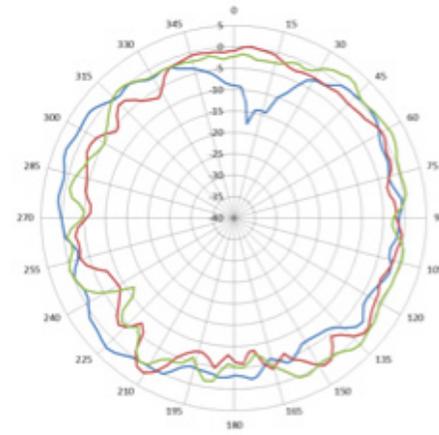
Azimuth plane (top view)

Elevation plane (side view)

5.850 GHz (antenna elements 3, 4 and 5)

Azimuth plane (top view)

Elevation plane (side view)

ORDERING INFORMATION

Part Number	Description
RAP-155 Remote Access Points	
RAP-155	Aruba RAP-155 Remote Access Point (wireless, 5x10/100/1000BASE-T, USB) – Restricted regulatory domain: rest of world
RAP-155-US	Aruba RAP-155 Remote Access Point (wireless, 5x10/100/1000BASE-T, USB) – Restricted regulatory domain: United States
RAP-155-IL	Aruba RAP-155 Remote Access Point (wireless, 5x10/100/1000BASE-T, USB) – Restricted regulatory domain: Israel
RAP-155-JP	Aruba RAP-155 Remote Access Point (wireless, 5x10/100/1000BASE-T, USB) – Restricted regulatory domain: Japan
RAP-155P	Aruba RAP-155P Remote Access Point (wireless, 5x10/100/1000BASE-T, USB, PoE out) Note: Ships without country-specific AC power cord (order separately) - Restricted regulatory domain: rest of world
RAP-155P-US	Aruba RAP-155P Remote Access Point (wireless, 5x10/100/1000BASE-T, USB, PoE out) – Restricted regulatory domain: United States Note: Ships without country-specific AC power cord (order separately)
RAP-155P-IL	Aruba RAP-155P Remote Access Point (wireless, 5x10/100/1000BASE-T, USB, PoE out) – Restricted regulatory domain: Israel Note: Ships without country-specific AC power cord (order separately)
RAP-155P-JP	Aruba RAP-155P Remote Access Point (wireless, 5x10/100/1000BASE-T, USB, PoE out) – Restricted regulatory domain: Japan Note: Ships without country-specific AC power cord (order separately)
RAP-155 Remote Access Points (FIPS/TAA)	
RAP-155-F1	Aruba RAP-155 Remote Access Point (wireless, 5x10/100/1000BASE-T, USB) – Restricted regulatory domain: Rest of World (FIPS/TAA)
RAP-155-USF1	Aruba RAP-155 Remote Access Point (wireless, 5x10/100/1000BASE-T, USB) – Restricted regulatory domain: United States (FIPS/TAA)
RAP-155P-F1	Aruba RAP-155P Remote Access Point (wireless, 5x10/100/1000BASE-T, USB, PoE out) – Restricted regulatory domain: Rest of World (FIPS/TAA) Note: Ships without country-specific AC power cord (order separately)
RAP-155P-USF1	Aruba RAP-155P Remote Access Point (wireless, 5x10/100/1000BASE-T, USB, PoE out) – Restricted regulatory domain: United States (FIPS/TAA) Note: Ships without country-specific AC power cord (order separately)
Accessories and Spares	
AP-AC-12V30A	12V/30W AC-to-DC Desktop Style Power Adapter with Type A DC plug (1.7/4.0/9.5mm circular, 90-degree angled). Spare for RAP-155(-xx)
AP-AC-12V24UN	12V/24W indoor Access Point AC power adapter. Universal, ships with 8 country-specific plug inserts (US, EU, UK, Australia, China, Korea, Argentina, Brazil), covering all Aruba core countries. Spare for RAP-155(-xx)
AP-AC-54V54	54V/54W indoor Access Point AC power adapter. Does not include country-specific power cord (order separately). Spare for RAP-155P(-xx)
AP-CBL-SER	Serial adapter cable for AP console port (proprietary header to DB9 female)

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