

## Overview

## HP Cloud-Managed 802.11ac Dual Radio Access Point Series

## Models

HP 365 Cloud-Managed Dual Radio 802.11ac (WW) Access Point	JL015A
HP 365 Cloud-Managed Dual Radio 802.11ac (US) Access Point	JL016A
HP 365 Cloud-Managed 802.11ac Dual Radio (JP) Access Point	JL069A

## Key features

- Three-spatial stream 802.11ac MIMO AP
- Up to 1.3 Gbps on the 5 GHz radio and 600 Mbps on the 2.4 GHz 802.11n
- Built-in spectral analysis scans the 2.4GHz and 5 GHz bands to identify sources of RF interference
- Comprehensive WLAN security with intrusion detection offers threat protection
- Include HP lifetime hardware warranty 2.0 with 24x7 phone support for three years at no cost

## Introduction

HP Cloud-Managed 802.11ac Dual Radio Access Point Series deliver the latest in Wi-Fi technology, offering 1.3 Gbps in the 5 GHz frequency band and 600 Mbps in the 2.4 GHz band to support faster application performance in dense client environments and video applications. Built-in application awareness and Motion Aware roaming enhance the mobile user experience and help ensure peak application performance. HP Wi-Fi Clear Connect RF optimization and integrated wireless IDS/IPS provide automatic detection, classification, and mitigation of non-IEEE 802.11 interference and wireless threats. The access points can be powered by PoE and help ensure 100 percent uptime in case of WAN link failure. The access points work with HP Cloud Network Manager pay-as-you-use cloud service to provide a simple and easy-to-manage network solution for SMB, K-12, and remote offices. The solution provides enterprise-class reliability and performance and simplifies day-to-day operations by helping eliminate the need for onsite IT and brings users online faster.

## Features and benefits

## Management

- **Access point management**  
HP Cloud Network Manager is a cloud-based platform that enables you to manage your HP wireless network. Designed as a software-as-a-service (SAAS) subscription, Cloud Network Manager provides a standard webbased interface that allows you to configure and monitor multiple HP wireless networks from anywhere, provided you have an Internet connection.
- **HP Wi-Fi Clear Connect**  
provides a system-wide approach to improving WLAN reliability by proactively determining and adjusting to changing RF conditions; helps optimize WLAN performance by detecting interference from Wi-Fi and non-Wi-Fi sources using spectrum analysis capabilities built into the access points, identifying rogue activity, and making decisions at a system-wide level.
- **Advanced radio resource management**
  - **Automatic radio power adjustments**  
include real-time power adjustments based on changing environmental conditions and signal coverage adjustment
  - **Automatic radio channel**  
provides intelligent channel switching and real-time Interference detection
  - **Intelligent client load balancing**  
determines number of clients across neighboring APs and adjusts client allocation to balance the load
  - **Airtime fairness**  
provides equal RF transmission time for wireless clients
- **Spectrum analysis**
  - **Power/frequency spectrum analysis**  
measures noise from IEEE 802.11 remote sources
  - **Signal detection/classification**  
identifies source of RF interference, for example, Bluetooth®, cordless phones, and microwave ovens

### Overview

- **Evaluation of channel quality**  
helps detect severe channel degradation and improve the reporting of poor RF performance
- **AP and client troubleshooting**  
from the Cloud Network Manager dashboard, you see an overview of any access point or client that may need attention, flagged in an easy-to-read section. To check an alert on an individual AP or client, you can search by AP-name, MAC address or serial number or any other attribute – and then click on the device for more detailed information.
- **Enhanced AP survivability**  
your network stays available, since you have all the functionality you need locally, with no dependence on WAN links.

### Quality of Service (QoS)

- **Wireless**
  - **Voice network**  
when a client is associated to the Voice network, all data traffic is marked and placed into the high priority queue in QoS (Quality of Service).
  - **Wi-Fi Multimedia Traffic Management (WMM)**  
WMM supports voice, video, best effort, and background access categories.

### Connectivity

- **IEEE 802.3 Power over Ethernet (PoE)**
  - simplifies deployment and dramatically reduces installation costs by helping to eliminate the time and cost involved in supplying local power at each access point location
  - access point will operate with both radios at full performance when a 802.3at is used —3x3:3 MIMO mode.
- **Direct DC power**  
APs can be powered directly by 12 VDC
- **Auto-MDIX**  
adjusts automatically for straight-through or crossover cables on the Ethernet interface

### Mobility

- **Three spatial stream MIMO technology**  
provides the latest in Wi-Fi technology, which allows for 1.3 Gb/s in the 5 GHz frequency band and 600 Mb/s in the 2.4 GHz band of signaling.
- **Beam Forming**  
provides better coverage area and better performance at distances
- **Bandsteering**  
redirects 5 GHz-capable clients automatically to the less-congested 5 GHz spectrum
- **Embedded antennas**  
provides excellent coverage through use of embedded high-gain antennas 3.5 dBi antenna at 2.4 GHz and 4.5 dBi antenna at 5 GHz); no need for the added cost of external antennas
- **Anywhere, anytime wireless coverage**  
dual-radio IEEE 802.11b/g/n and 802.11a/n/ac access point; per-radio software-selectable configuration of frequency bands;  
self-healing, self-optimizing local mesh that extends network availability; Wi-Fi Alliance Certifications for interoperability with all IEEE 802.11a/b/g/n/ac client devices
- **WLAN SSID**  
includes up to 16 SSIDs per radio, each with unique MAC address and configurable SSID broadcasts; individual security and QoS profiles per SSID
- **AP client access control functions**
  - offers IEEE 802.1X authentication using EAP-SIM, EAP-FAST, EAP-TLS, EAP-TTLS, and PEAP
  - delivers MAC address authentication using local or RADIUS access lists
  - provides RADIUS AAA using EAP-MD5, PAP, CHAP, and MS-CHAPv2

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- supports RADIUS Client (RFC 2865 and 2866) with location-aware support

### Security

- **Integrated IDS / IPS support**  
the Intrusion Detection System (IDS) is a feature that monitors the network for the presence of unauthorized APs and clients. It also logs information about the unauthorized APs and clients, and generates reports based on the logged information. The Intrusion Protection System offers a wide selection of intrusion detection and protection features to protect the network against wireless threats.
- **IEEE 802.1X support**  
provides port-based user authentication with support for Extensible Authentication Protocol (EAP) MD5, TLS, TTLS, and PEAP with choice of AES, TKIP, and static or dynamic WEP encryption for protecting wireless traffic between authenticated clients and the access point
- **Choice of IEEE 802.11i, WPA2, or WPA**  
locks out unauthorized wireless access by authenticating users prior to granting network access; robust Advanced Encryption Standard (AES) or Temporal Key Integrity Protocol (TKIP) encryption secures the data integrity of wireless traffic
- **TKIP/WEP encryption**  
is supported only on legacy IEEE 802.11a/b/g clients as it has been deprecated from the IEEE 802.11n and 802.11ac standards
- **Physical security**  
kensington security slot

### Warranty and support

- **HP Lifetime Warranty 2.0**  
advance hardware replacement for as long as you own the product with next-business-day delivery (available in most countries). †
- **Electronic and telephone support (for Lifetime Warranty 2.0)**  
limited 24x7 telephone support is available from HP for the first 3 years; limited electronic and business hours telephone support is available from HP for the entire warranty period; to reach our support centers, refer to [www.hp.com/networking/contact-support](http://www.hp.com/networking/contact-support); for details on the duration of support provided with your product purchase, refer to [www.hp.com/networking/warrantysummary](http://www.hp.com/networking/warrantysummary)
- **Software releases**  
to find software for your product, refer to [www.hp.com/networking/support](http://www.hp.com/networking/support); for details on the software releases available with your product purchase, refer to [www.hp.com/networking/warrantysummary](http://www.hp.com/networking/warrantysummary)

†HP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zL Modules, HP Threat Management Services zL Module, HP AllianceOne Extended zL Module with Riverbed Steelhead, HP MSM765 zL Mobility Controller and HP Survivable Branch Communication zL Module powered by Microsoft® Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at [www.hp.com/networking/warranty](http://www.hp.com/networking/warranty).

## Configuration

### Build To Order:

BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

### BTO Models

HP 365 Cloud-Managed 802.11ac (WW) AP	JL015A
<ul style="list-style-type: none"><li>2 RJ-45 autosensing 10/100/1000 port</li></ul>	See Configuration Note:2
HP 365 Cloud-Managed 802.11ac (US) AP	JL016A
<ul style="list-style-type: none"><li>2 RJ-45 autosensing 10/100/1000 port</li></ul>	See Configuration Note:1

### Configuration Rules:

Note 1	Only available in US. (Warning in Clic only)
Note 2	Not available US. (Warning in Clic only)

## Access Point Options

### External Power Supplies

HP 3xx AP Universal Power Supply	JL017A
	See Configuration Note:1

### Configuration Rules:

Note 1	This power supply is supported on the following Access Points:	
	HP 365 Cloud-Managed 802.11ac (WW) AP	J9845A
	HP 365 Cloud-Managed 802.11ac (US) AP	J9846A

### Mounting Kit

HP 355/365 AP Wall Mount Kit	JL019A
	See Configuration Note:1

### Configuration Rules:

Note 1	This Wall Mount Kit is supported on the following Access Points:	
	HP 365 Cloud-Managed 802.11ac (WW) AP	JL015A
	HP 365 Cloud-Managed 802.11ac (US) AP	JL016A

### Licenses

System (std 0 // max 1) User Selection (min 0 // max 1) per Access Point

### Configuration

HP Cloud Network Manager 1 Year E-LTU	JL020AAE
HP Cloud Network Manager 3 Year E-LTU	JL021AAE

### Technical Specifications

#### HP 365 Cloud-Managed Dual Radio 802.11ac (WW) Access Point (JL015A)

#### HP 365 Cloud-Managed Dual Radio 802.11ac (US) Access Point (JL016A)

#### HP 365 Cloud-Managed Dual Radio 802.11ac (JP) Access Point (JL069A)

<b>I/O ports and slots</b>	2 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	
<b>Additional ports and slots</b>	1 RJ-45 serial console port	
<b>AP characteristics</b>	Radios (built-in)	802.11b/g/n, a/n/ac
	Radio operation modes	Client access, RF security
	AP operation modes	Controlled
	Wi-Fi Alliance Certification	a/b/g/n/ac Wi-Fi Certified
	Antenna	(6) Omni-directional antennas with gain 3.5dBi in 2.4GHz and 4.5 dBi in 5GHz
	Number of internal antennas	6
<b>Physical characteristics</b>	Dimensions	8(w) x 8(d) x 2.1(h) in (20.32 x 20.32 x 5.33 cm)
	Weight	1.65 lb (.75 kg) shipping weight
<b>Mounting and enclosure</b>	Indoor, plenum rated; Includes and 9/16" and 15/16" ceiling mounting clips	
<b>Environment</b>	Operating temperature	32°F to 122°F (0°C to 50°C)
	Operating relative humidity	5% to 95%, noncondensing
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
<b>Electrical characteristics</b>	Country/Region	WW
	Description	IEEE 802.3af/802.3at PoE compliant for Gigabit Ethernet; Direct DC source: 12Vdc nominal, +/- 5%
	Maximum power rating	15 W
	PoE power	15 W PoE+
	Notes	With 802.3af PoE: 2nd Ethernet port disable; 2.4GHz 802.11n radio in 1x3:1 spatial-stream mode; 5GHz 802.11ac radio operates without restrictions.
<b>Frequency band and Operating channels</b>	Americas	2.412 - 2.462 GHz (1 - 11 channels)
		5.180 - 5.320 GHz (36 - 64 channels)
		5.500 - 5.700 GHz (100 - 144 (excluding 5600-5670 MHz) channels)
		5.745 - 5.825 GHz (149 - 165 channels)
	European Union	2.412 - 2.472 GHz (1 - 13 channels)
		5.180 - 5.320 GHz (36 - 64 channels)
		5.500 - 5.700 GHz (100 - 140 (excluding 5600-5650 MHz) channels)
	Rest of World (Actual channels designated by selecting country in UI)	2.412 - 2.472 GHz (1 - 13 channels)
		5.180 - 5.320 GHz (36 - 64 channels)
		5.500 - 5.700 GHz (100 - 144 channels)
		5.745 - 5.825 GHz (149 - 165 channels)
	Japan	2.412 - 2.472 GHz (1 - 13 channels)
		5.180 - 5.320 GHz (36 - 64 channels)
		5.500 - 5.700 GHz (100 - 140 channels)
<b>Radio</b>	FCC Part 15.247; FCC Part 15.407 (US); IC RSS 210; RSS-210 (Canada); EN 300 328; EN 301-489-1; EN 301-489-17; EN 301 893 (Europe); EU 1999/519/EC; RSS-Gen (Canada); ETS 301 893; TELEC 33B (Japan); OFTA (Hong Kong); MIC (Korea); DSPR (Japan); EN 300 328 (EU); OFTA approval (Hong Kong);	

### Technical Specifications

	MIC approval (Korea); EN 301 893 (EU); ETSI 301 893; ETSI 300 328; FCC Part 15.247 (no DFS); RSS-210, Issue 7; RSS-Gen, Issue 2; NCCLP0002 (Taiwan); FCC Part 15.407; RSS-210, Issue 8; RSS-Gen, Issue 3; EN 301 893; RSS-210
<b>Safety</b>	CE Labeled; CAN/CSA-C22.2 No.60950-00/UL 60950 - Third Edition, Safety Information for Technology Equipment; EN 301 489-17; EN 301 489-1; FCC Part 15, Subpart B; EN 300 328; EN 301 893; FCC Part 15.247, 15.209, 15.207; EU RoHS Compliant; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; AS/NZS 60950:2000 Australia, Russian GOST Safety Approval; EN 60950-1:2006+A11:2009+A1:2010+A12:2011; IEC 60950-1:2005, Amd 1: 2009
<b>RF Exposure</b>	FFCC Part 15.247; EN 300-328; ETS 301-398; ETS 301 893; To ensure compliance with various national and international Electromagnetic Field (EMF) standards, this device should only be operated with HP-approved antennas and accessories.; EN 62311
<b>Features</b>	Dual radio: IEEE 802.11a/n/ac for very high-throughput applications and IEEE 802.11b/g/n for legacy support and high-speed applications <ul style="list-style-type: none"> <li>- Integrated antennas for both IEEE radios, supporting three spatial streams and 3x3 MIMO</li> <li>- Six embedded antennas</li> <li>- Both radios operate at full functionality with IEEE 802.3at PoE+ power</li> <li>- The 2.4GHz 802.11b/g/n radio operates at 1x3:1 mode with 802.3af power, while the 5GHz 802.11ac radio operates at full functionality</li> </ul>
<b>Emissions</b>	EN 55022 Class B; EN 301 489-1; EN 301 489-17; FCC Part 15, Subpart B; FCC Part 15.247, 15.209, 15.207; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; AS/NZS 60950:2000 Australia, Russian GOST Safety Approval; EN 60950-1:2006+A11:2009+A1:2010+A12:2011
<b>Notes</b>	Supported data rates <ul style="list-style-type: none"> <li>• 802.11b: 1, 2, 5.5, 11 Mbps</li> <li>• 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>• 802.11n: 6.5 to 450 Mbps (MCS0 to MCS23, 1 to 3 spatial streams)</li> <li>• 802.11ac: 6.5 Mbps to 1.3Gbps (MCS0 to MCS9, 1 to 3 spatial streams)</li> <li>• 802.11n high-throughput (HT) 20/40</li> <li>• 802.11ac very high throughput (VHT) 20/40/80</li> <li>• 802.11n/ac packet aggregation A-MPDU and A-MSDU</li> </ul> Three spatial stream AP, supporting 600 Mbps on the 2.4GHz band and 1.3Mbps on the 5GHz band. Maximum transmit power varies by country.
<b>Services</b>	Refer to the HP website at <a href="http://www.hp.com/networking/services">www.hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

#### Radio characteristics

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Note: This transmit power data is EIRP and includes the embedded antennas.

<b>IEEE 802.11ac 5GHz @ 80MHz channel</b>	Data rate	MCS0 - 97.5 Mbps	MCS9 - 1300 Mbps
	Receiver sensitivity	-82 dBm	-59 dBm
	Transmit power	27 dBm	21 dBm
<b>IEEE 802.11n 5GHz @ 40MHz channel</b>	Data rate	MCS16 - 45 Mbps	MCS23 - 450 Mbps
	Receiver sensitivity	-85 dBm	-62 dBm
	Transmit power	27 dBm	21 dBm
<b>IEEE 802.11n 5GHz @</b>	Data rate	MCS16 - 14.4	MCS23 - 144

### Technical Specifications

<b>20MHz channel</b>		Mbps	Mbps
	Receiver sensitivity	-85 dBm	-62 dBm
	Transmit power	27 dBm	21 dBm
<b>IEEE 802.11n 2.4GHz / 5GHz @ 40MHz channel</b>	Data rate	MCS16 - 45 Mbps	MCS23 - 450 Mbps
	Receiver sensitivity	-85 dBm	-65 dBm
	Transmit power	26 dBm	22 dBm
<b>IEEE 802.11n 2.4GHz / 5GHz @ 20MHz channel</b>	Data rate	MCS16 - 14.4 Mbps	MCS23 - 144 Mbps
	Receiver sensitivity	-85 dBm	-68 dBm
	Transmit power	26 dBm	22 dBm
<b>IEEE 802.2.4GHz / 5GHz</b>	Data rate	6 Mbps Mbps	54 Mbps Mbps
	Receiver sensitivity	-88 dBm	-75 dBm
	Transmit power	26 dBm	24 dBm

### Standards and Protocols

(applies to all products in series)

### Mobility

IEEE 802.11a High Speed Physical Layer in the 5 GHz Band  
 IEEE 802.11ac WLAN Enhancements for Very High Throughput  
 IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band  
 IEEE 802.11d Global Harmonization  
 IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band  
 IEEE 802.11h Dynamic Frequency Selection  
 IEEE 802.11i Medium Access Control (MAC) Security Enhancements  
 IEEE 802.11n WLAN Enhancements for Higher Throughput

### Accessories

#### HP 560 802.11ac Dual Radio Access Point Series accessories

##### Power Supply

HP 1-port Power Injector	J9407B
HP Single-Port 802.3at Gigabit PoE In-Line Power Supply	J9867A
HP 3xx Cloud-Managed Access Point Universal Power Supply	JL017A

##### Mounting Kit

HP 355/365 Cloud-Managed Access Point Wall Mount Kit	JL019A
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