

Overview

HPE 425 802.11n Dual Radio Access Point Series

Models

HP 425 Wireless Dual Radio 802.11n (AM) Access Point	JG653A
HP 425 Wireless Dual Radio 802.11n (WW) Access Point	JG654A
HP 425 Wireless Dual Radio 802.11n (JP) Access Point	JG655A
HP 425 Wireless Dual Radio 802.11n (IL) Access Point	JG656A
HP 425 Wireless Dual Radio 802.11n (AM) 8 unit Eco-pack Access Points	JG687A
HP 425 Wireless Dual Radio 802.11n (WW) 8 unit Eco-pack Access Points	JG688A

Key features

- Dual radio—two spatial stream access supporting 300 Mb/s per radio
- Supports embedded antennas as well as an optional external antenna
- Powered via IEEE 802.3af PoE or local power supply
- Comprehensive WLAN security
- Limited Lifetime Warranty

Introduction

The HPE 425 802.11n Dual Radio Access Point Series, designed to work in sync with HPE controllers, delivers high-performance networking solutions. The enhanced controller architecture scales to IEEE 802.11n—without requiring a controller replacement. The controllers provide advanced radio resource management (RRM), including client load balancing and interference mitigation. And the wireless controllers support a fast-roaming capability—an important feature, especially for VoIP communications.

The 425 Access Points work in a managed mode with HPE wireless LAN controllers. The access points (APs) provide RF spectrum analysis with detection and classification of non-IEEE 802.11 interference; and they have the ability to automatically resist interference. Wireless security is comprehensive with integrated wireless IDS (Intrusion Detection System) and support for internal and external authentication, authorization, and accounting (AAA) servers; built-in stateful firewalls; per-user VLAN mapping; and authentication.

Features and benefits

Management

- **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

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- **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
 - **Evaluation of channel quality**
helps detect severe channel degradation and improves the reporting of poor RF performance
- **Integrated IDS**
detects and locates unknown and rogue devices (see controller data sheet for details)
- **Access point management**
provides secure Web browser (SSL and VPN), command-line interface, SNMP v2c, SNMP v3, MIB-II with traps, and RADIUS Authentication Client MIB (RFC 2618); offers embedded HTML management tool with secure access (SSL and VPN); implements scheduled configuration and firmware upgrades from a central controller
- **HPE Intelligent Management Center and Wireless Services Manager Software**
Provide centralized discovery, logging, status, and configuration management
- **Diagnostics**
records association, authentication, and DHCP events in client event log; packet capture tool for Ethernet and IEEE 802.11 interfaces (PCAP format); includes data rate matrix
- **Enhanced AP survivability**
continues to operate using the old IP address while the AP searches for a new controller
- **Compatible with HPE controllers and Unified switches and modules**
 - Refer to the HPE Access Point—Controller Compatibility Matrix at h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA5-0345ENW&cc=us&lc=en
 - Refer to the release notes for minimum version numbers

Quality of Service (QoS)

- **Rate limiting**
supports per-wireless client ingress-enforced maximums and per-wireless client, per-queue guaranteed minimums
- **Centralized traffic**
maintains Layer 2 and Layer 3 QoS settings when using centralized traffic or guest access
- **IEEE 802.1p prioritization**
delivers data to devices based on the priority and type of traffic
- **Wireless**
 - **L2/L3/L4 classification**
IEEE 802.1p VLAN priority, SpectraLink SVP, and DiffServ
 - **Virtual Service Community (VSC)**
assign Wi-Fi MultiMedia (WMM), IEEE 802.11e EDCF, and Service-Aware priority
 - **VoIP call capacity**
supports 12 active calls per radio, maximum
- **SpectraLink Voice Priority (SVP) support**
prioritizes SpectraLink voice IP packets sent from a SpectraLink NetLink SVP server to SpectraLink wireless voice

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handsets to help ensure excellent voice quality

Connectivity

- **IEEE 802.3af Power over Ethernet (PoE) support**
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
- **Local power option**
offers 48V DC power connector for use with an optional power supply when PoE is not available
- **Auto-MDIX**
adjusts automatically for straight-through or crossover cables on the Ethernet interface
- **Console port**
aids problem resolution

Mobility

- **Bandsteering**
redirects 5 GHz-capable clients automatically to the less-congested 5 GHz spectrum
- **HPE 425 Antenna**
 - **Embedded antenna**
provides excellent coverage through use of embedded high-gain antennas (4 dBi antenna at 2.4 GHz and 5 dBi antenna at 5 GHz); no need for the added cost of external antennas
 - **Optional external antenna**
includes four indoor RP-SMA connectors for use with optional external antennas
- **Anywhere, anytime wireless coverage**
dual-radio IEEE 802.11b/g/n and 802.11a/n 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 client devices; and IEEE 802.3af PoE
- **Medical standards**
meets the European EN60601-1-2 standard for healthcare
- **Virtual Service Communities (VSCs)**
includes up to 16 SSIDs per radio, each with unique MAC address and configurable SSID broadcasts; individual security and QoS profiles per VSC; configurable DTIM and minimum data rate per VSC; VSCs that can be mapped to separate IEEE 802.1Q VLANs; WMM and/or WMM-PS; a security filter; and an IP filter
- **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
 - supports RADIUS Client (RFC 2865 and 2866) with location-aware support
 - provides Layer 2 wireless client isolation

Security

- **Integrated IDS support**
 - **Automated AP and client classification**
reduces manual effort (administrator can override AP classification)
 - **Comprehensive detection capabilities**
detects a wide range of attacks
 - **Flexible event reporting**

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- o enables configuration of which events will result in notifications
- o **Location tracking capabilities**
helps identify the rogue device location
- o **Flexible deployment models**
supports time slicing or dedicating a radio to detect full-time (see the controller datasheet for details)
- **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 standard
- **Local wireless bridge client traffic filtering**
prevents communication between wireless devices associated with the same access point

Additional information

- **RFC support**
refer to the "Mobility Specification Sheet" for a list of RFCs and other industry standards supported by the MSM solution at <http://h17007.www1.hp.com/docs/mobility/4AA3-3883ENW.pdf>

Warranty and support

- **Limited Lifetime Warranty v2.0**
See <http://www.hpe.com/networking/warrantysummary> for warranty and support information included with your product purchase.
- **Software releases**
to find software for your product, refer to <http://www.hpe.com/networking/support>; for details on the software releases available with your product purchase, refer to <http://www.hpe.com/networking/warrantysummary>

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 425 Wireless Dual Radio 802.11n (AM) Access Point	JG653A
<ul style="list-style-type: none"> 1 RJ-45 autosensing 10/100/1000 port 	
HP 425 Wireless Dual Radio 802.11n (AM) 8 unit Eco-pack Access Points	JG687A
<ul style="list-style-type: none"> 1 RJ-45 autosensing 10/100/1000 port (Each) 	
HP 425 Wireless Dual Radio 802.11n (WW) Access Point	JG654A
<ul style="list-style-type: none"> 1 RJ-45 autosensing 10/100/1000 port 	See Configuration NOTE: 2
HP 425 Wireless Dual Radio 802.11n (WW) 8 unit Eco-pack Access Points	JG688A
<ul style="list-style-type: none"> 1 RJ-45 autosensing 10/100/1000 port (Each) 	See Configuration NOTE: 2
HP 425 Wireless Dual Radio 802.11n (JP) Access Point	JG655A
<ul style="list-style-type: none"> 1 RJ-45 autosensing 10/100/1000 port 	
HP 425 Wireless Dual Radio 802.11n (IL) Access Point	JG656A
<ul style="list-style-type: none"> 1 RJ-45 autosensing 10/100/1000 port 	See Configuration NOTE: 3

Configuration Rules:

Note 2 Not available Israel. (Warning in Clic only)

Note 3 Only available in Israel. (Warning in Clic only)

Access Point Options

External Power Supplies

HP 1-port Power Injector	J9407B
	See Configuration NOTE: 1, 2
HPE Gigabit Intellijack 48V Power Supply	JD055B

Configuration

		See Configuration NOTE: 1, 2
HP Single-Port 802.3at Gigabit PoE In-Line Power Supply		J9867A See Configuration NOTE: 2, 3
Configuration Rules:		
Note 1	This power supply is supported on the following Access Points:	
	HP 425 Wireless Dual Radio 802.11n (AM) Access Point	JG653A
	HP 425 Wireless Dual Radio 802.11n (AM) 8 unit Eco-pack Access Points	JG687A
	HP 425 Wireless Dual Radio 802.11n (WW) Access Point	JG654A
	HP 425 Wireless Dual Radio 802.11n (WW) 8 unit Eco-pack Access Points	JG688A
	HP 425 Wireless Dual Radio 802.11n (JP) Access Point	JG655A
	HP 425 Wireless Dual Radio 802.11n (IL) Access Point	JG656A
Note 2	Localization required. (See Localization Menu)	
Note 3	This power supply is supported on the following Access Points:	
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (AM)	J9715A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (WW)	J9716A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (JP)	J9717A

External Antenna

HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A See Configuration NOTE: 1
HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A See Configuration NOTE: 1
HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A See Configuration NOTE: 1, 4
HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A See Configuration NOTE: 1, 4
HP Antenna Lightning Arrester	J8996A See Configuration NOTE: 1

Configuration

HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna	J9719A See Configuration NOTE: 2, 3
HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna	J9720A See Configuration NOTE: 2, 3
HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 4 Element Antenna	JG696A See Configuration NOTE: 5

Configuration Rules:

Note 1	This Antenna is supported on the following Access Points:	
	HP MSM466 Dual Radio 802.11n Access Point (JP)	J9620A
	HP MSM466 Dual Radio 802.11n Access Point (AM)	J9621A
	HP MSM466 Dual Radio 802.11n Access Point (WW)	J9622A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (AM)	J9715A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (WW)	J9716A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (JP)	J9717A
	HP MSM466 Dual Radio 802.11n Access Point (IL)	J9619A
Note 2	This Antenna is supported on the following Access Points:	
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (AM)	J9715A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (WW)	J9716A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (JP)	J9717A
Note 3	If this Antenna is selected, then THREE of the following Lightning Arresters per sku ordered is required:	
	HP Antenna Lightning Arrester	J8996A
Note 4	If this Antenna is selected, then THREE of the following Lightning Arresters per sku ordered is required for Outdoor use (Not required if the antenna is used indoors):	
	HP Antenna Lightning Arrester	J8996A
Note 5	This Antenna is supported on the following Access Points:	
	HP 425 Wireless Dual Radio 802.11n (AM) Access Point	JG653A
	HP 425 Wireless Dual Radio 802.11n (AM) 8 unit Eco-pack Access Points	JG687A
	HP 425 Wireless Dual Radio 802.11n (WW) Access Point	JG654A
	HP 425 Wireless Dual Radio 802.11n (WW) 8 unit Eco-pack Access Points	JG688A
	HP 425 Wireless Dual Radio 802.11n (JP) Access Point	JG655A
	HP 425 Wireless Dual Radio 802.11n (IL) Access Point	JG656A

Configuration

Remarks If you plan on connecting an outdoor antenna to the unit make sure that proper lightning surge protection and grounding precautions are taken according to local electrical code.

Technical Specifications

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Ports	1 RJ-45 autosensing 10/100/1000 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 1 RJ-45 serial console port	
AP characteristics	Radios (built-in)	802.11 a/n, b/g/n
	Radio operation modes	Client access, Local mesh, Packet capture
	AP operation modes	Controlled
	Wi-Fi Alliance Certification	a/b/g/n Wi-Fi Certified
	Antenna	(2) 4 dBi 2.4 GHz and (2) 5 dBi 5 GHz omnidirectional antennas
	Number of internal antennas	4
	Number of external antennas	4
Physical characteristics	Dimensions	7.43(w) x 7.43(d) x 2(h) in (18.86 x 18.86 x 5.08 cm)
	Weight	1.65 lb (.75 kg) mounting bracket
Memory and processor	Single core @ 560 MHz, 128 MB flash, 128 MB SDRAM	
Mounting and enclosure	Indoor, plenum rated; Includes ceiling/wall mount kei as well as two ceiling mounting	
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Non-operating/ Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/ Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Description	IEEE 802.3af PoE compliant for Gigabit Ethernet
	Maximum power rating	12.9 W
Frequency band and Operating channels	Americas	2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.320 GHz (36 - 64 channels) 5.500 - 5.700 GHz (100 - 140 (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)	2.412 - 2.472 GHz (1 - 13 channels)

Technical Specifications

channels designated by selecting country in UI)	5.180 - 5.320 GHz (36 - 64 channels)
	5.500 - 5.700 GHz (100 - 140 channels)
	5.745 - 5.825 GHz (149 - 165 channels)
Taiwan	2.412 - 2.462 GHz (1 - 11 channels)
	5.280 - 5.320 GHz (56 - 64 channels)
	5.500 - 5.700 GHz (100 - 140 (excluding 5600-5670 MHz) 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)
Israel	2.412 - 2.472 GHz (1 - 13 channels)
	5.180 - 5.320 GHz (36 - 64 channels)

Radio	FCC Part 15.247; FCC Part 15.407 (US); RSS-210 (Canada); EN 300 328; ARIB STD-T66; IDA Registration (Singapore); RCR STD-33; ARIB STD-T71 (Japan); EN 301 893 (EU); KCC approval (Korea)
Safety	UL 2043; UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
Medical	EN60601-1-2
RF Exposure	FCC Bulletin OET-65C; RSS-102; CFR 47, Part 2, Subpart J; ANSI/IEEE C95.1 (99); Ministry of Health Safety Code 6; Australian Radiation Protection Std.
Features	Dual radio: IEEE 802.11a/n for high-throughput applications and IEEE 802.11b/g/n for legacy support applications <ul style="list-style-type: none"> - Integrated antennas for both IEEE radios, supporting two spatial streams and 2x2 MIMO - Four embedded antennas - Both radios operate at full power and full performance on IEEE 802.3af PoE/Gigabit Ethernet - External antenna, optional
Emissions	EN 55022 Class B; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
Notes	The HPE 425 access point power information listed excludes the embedded antenna. Review the HP documentation for your AP to understand the maximum output setting for your AP based on your country's regulations. Two spatial stream AP, supporting 300 Mb/s per radio. Maximum transmit power varies by country. Regulatory model number: BJNGA-FB0002
Services	Refer to the Hewlett Packard Enterprise website at http://www.hpe.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

Radio characteristics

NOTE: These radio characteristics apply to the HPE 425 access points, including the embedded antenna. Power is limited based on country of operation.

IEEE 802.11n 5 GHz @ 40 MHz channel	Data rate	MCS0, MCS8	MCS7, MCS15
		30 Mbps	300 Mbps
	Receiver sensitivity	-92 dBm	-70 dBm
	Transmit power	25 dBm	20 dBm
IEEE 802.11n 5 GHz @ 20 MHz channel	Data rate	MCS0, MCS8	MCS7, MCS15
		14.4 Mbps	144.4 Mbps

Technical Specifications

	Receiver sensitivity	-95 dBm	-73 dBm		
	Transmit power	25 dBm	20 dBm		
IEEE 802.11n 2.4 GHz @ 40 MHz channel	Data rate	MCS0, MCS8	MCS7, MCS15		
		30 Mbps	300 Mbps		
	Receiver sensitivity	-93 dBm	-73 dBm		
	Transmit power	24 dBm	22 dBm		
IEEE 802.11n 2.4 GHz @ 20 MHz channel	Data rate	MCS0, MCS8	MCS7, MCS15		
		14.4 Mbps	144.4 Mbps		
	Receiver sensitivity	-96 dBm	-76 dBm		
	Transmit power	24 dBm	22 dBm		
IEEE 802.11a 5 GHz	Data rate	6 Mbps	54 Mbps		
	Receiver sensitivity	-95 dBm	-76 dBm		
	Transmit power	25 dBm	22 dBm		
IEEE 802.11b/g 2.4 GHz	Data rate	1 Mbps	11 Mbps	6 Mbps	54 Mbps
	Receiver sensitivity	-99 dBm	-93 dBm	-96 dBm	-79 dBm
	Transmit power	25 dBm	25 dBm	25 dBm	23 dBm

MCS Index	800 nS Guard Interval		400 nS Guard Interval	
	20 MHz Rate (Mbps)	40 MHz Rate (Mbps)	20 MHz Rate (Mbps)	40 MHz Rate (Mbps)
0	6.5	13.5	7.2	15
1	13	27	14.4	30
2	19.5	40.5	21.7	45
3	26	54	28.9	60
4	39	81	43.3	90
5	52	108	57.8	120
6	58.5	121.5	65	135
7	65	135	72.2	150
8	13	27	14.4	30
9	26	54	28.9	60
10	39	81	43.3	90
11	52	108	57.8	120
12	78	162	86.7	180
13	104	216	115.6	240
14	117	243	130	270
15	130	270	144.4	300

Standards and Protocols

Technical Specifications

(applies to all products in series)

Mobility

IEEE 802.11a High Speed Physical Layer in the 5 GHz Band

IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band

IEEE 802.11h Dynamic Frequency Selection

IEEE 802.11d Global Harmonization

IEEE 802.11i Medium Access Control (MAC) Security Enhancements

IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band

Accessories

HPE 425 802.11n Dual Radio Access Point Series accessories

Power Supply

HP 1-port Power Injector

J9407B

HPE Gigabit Intellijack 48V Power Supply

JD055B

Summary of Changes

Date	Version History	Action	Description of Change:
08-Apr-2016	From Version 7 to 8	Changed	Configuration section fixed, SKUs descriptions updated.
01-Dec-2015	From Version 6 to 7	Changed	Overview and Technical Specifications updated
01-Dec-2014	From Version 5 to 6	Changed	Warranty and support updated
31-Mar-2014	From Version 4 to 5	Changed	Transceivers were revised.
20-Dec-2013	From Version 2 to 4	Changed	External Power Supplies was revised.
25-Oct-2013	From Version 1 to 2	Changed	Configuration was added Accessories were removed



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