Overview

Models

HP MSM410 Access Point (US)	J9426B
HP MSM410 Access Point (WW)	J9427B
HP MSM410 Access Point (JP)	J9529B
HP MSM410 Single Radio 802.11n AP (IL)	J9616A
HP MSM422 Access Point (US)	J9358B
HP MSM422 Access Point (WW)	J9359B
HP MSM422 Access Point (JP)	J9530B
HP MSM422 Dual Radio 802.11n Access Point (IL)	J9617A

Key features

- Single and dual radio
- IEEE 802.11 a/b/g/n access points
- Increased network speed and capacity
- Protection against rogue 802.11a/b/g/n AP/client
- Indoor enclosure

Product overview

HP offers intelligent IEEE 802.11n wireless access points, ranging from our single-radio IEEE 802.11a/b/g/n to our dual 802.11 a/b/g/n access points. The MSM access points are advanced wireless devices that provide consistent, easy-to-manage connectivity that expands your existing network. The access points maintain your network without interruption and reduce bottlenecks and network complexity by determining where data needs to go throughout the network. The MSM access points provide complete wireless coverage for greater reliability and connectivity. The HP IEEE 802.11n-capable RF Security sensor brings security to the network edge by providing scalable 24 x 7 IDS/IPS capabilities that prevent security breaches on IEEE 802.11a/b/g and 802.11n wireless networks. The MSM access points and RF Security sensor require a single Power over Ethernet (PoE)-cable drop, and are IEEE 802.3af compliant and support a plug-and-play automatic configuration.

Features and benefits

Quality of Service (QoS)

- **IEEE 802.1p prioritization**: delivers data to devices based on the priority and type of traffic
- **SpectraLink voice priority** (SVP) **support**: prioritizes SpectraLink voice IP packets sent from a SpectraLink NetLink SVP server to SpectraLink wireless voice handsets to help ensure excellent voice quality
- **Wireless**:
    - L2/L3/L4 classification: IEEE 802.1p VLAN priority, SpectraLink SVP and DiffServ
    - Wi-Fi MultiMedia (WMM), IEEE 802.11e EDCF, and Service-Aware priority assigned by VSC
    - Maximum VoIP call capacity: 12 active calls on IEEE 802.11 a/b/g/n
- **Network management**:
    - Fully manageable using HP Manager and HP Mobility Manager
    - SNMP v2c, SNMP v3, MIB-II with Traps, and RADIUS Authentication Client MIB (RFC 2618)
    - Embedded HTML management tool with secure access (SSL and VPN)
    - Scheduled configuration and firmware upgrades from central server
- **Diagnostic**:
    - Client event log records association, authentication, and DHCP events

Overview

    ○ Packet capture tool for Ethernet and IEEE 802.11 interfaces (PCAP format)
    ○ Data rate matrix

Intrusion detection/prevention system (IDS/IPS)

- **Protection against rogue IEEE 802.11a/b/g/n access points and wireless clients**: HP MSM415 RF Security Sensors continuously scan for detection, classification, and prevention of wireless threats on IEEE 802.11a/b/g and 802.11n wireless networks
- **Provides 24 x 7 detection, classification, and prevention capabilities**: HP MSM415 RF Security Sensors are able to continuously provide detection, classification, and prevention capabilities, even when the connectivity to the HP RF Manager IDS/IPS Controller is lost. The HP MSM415 Security Sensor supports all HP and third party WLAN deployments.
- **Signature-based detection**: detects attacks that have known attack patterns; IPS maintains a signature database that contains the pattern definitions for known attacks that can be automatically updated using a subscription service
- **Protocol anomaly-based detection**: detects attacks that use anomalies in application protocol payloads

Connectivity

- **Auto-MDIX**: automatically adjusts for straight-through or crossover cables on all 10/100 ports
- **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

Mobility

- **Anywhere, anytime wireless coverage**:
    ○ Single- and dual-radio IEEE 802.11a/b/g and 802.11n access points
    ○ Per-radio software-selectable configuration of frequency bands
    ○ Self-healing, self-optimizing local mesh extends network availability
    ○ Wi-Fi Alliance Certified for interoperability with all IEEE 802.11a/b/g/n client devices
    ○ IEEE 802.3af PoE or external power cord on selected models
- **Interoperability**: Wi-Fi Alliance certifications, including IEEE 802.11g Wi-Fi and WPA2 to help ensure multivendor interoperability
- **Virtual Service Communities** (VSCs):
    ○ Up to 16 SSIDs, each with unique MAC address, configurable SSID broadcasts
    ○ Individual security and QoS profiles per VSC
    ○ Configurable DTIM and minimum data rate per VSC
    ○ Each VSC can be mapped to separate IEEE 802.1Q VLANs
    ○ WMM and/or WMM-PS
    ○ Security filter
    ○ IP filter
- **AP client access control functions**:
    ○ IEEE 802.1X authentication using EAP-SIM, EAP-FAST, EAP-TLS, EAP-TTLS, and PEAP
    ○ MAC address authentication using local or RADIUS access lists
    ○ RADIUS AAA using EAP-MD5, PAP, CHAP, and MS-CHAPv2
    ○ RADIUS Client (RFC 2865 and 2866) with location-aware support
    ○ Layer 2 wireless client isolation
- **Auto Channel Select** (ACS): helps reduce radio co-channel interference by automatically selecting an unoccupied radio channel

Security

- **Choice of IEEE 802.11i, Wi-Fi Protected Access 2** (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 the wireless traffic

Overview

- **Local wireless bridge client traffic filtering**: when enabled, prevents communication between wireless devices associated with the same access point
- **IEEE 802.1X**: 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

Warranty and support

- **Lifetime Warranty**:
    - for as long as you own the product, with next-business-day advance replacement (available in most countries)
- **Electronic and telephone support**: limited electronic and telephone support is available from HP; refer to: www.hp.com/networking/warranty for details on the support provided and the period during which support is available
- **Software releases**: refer to: www.hp.com/networking/warranty for details on the software releases provided and the period during which software releases are available for your product(s)

QuickSpecs

HP MSM-802.11n Access Point Series

Technical Specifications

HP MSM410 Access Point (US) (J9426B)
HP MSM410 Access Point (WW) (J9427B)
HP MSM410 Access Point (JP) (J9529B)
HP MSM410 Single Radio 802.11n AP (IL) (J9616A)

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	Single (n/a/b/g)
	Radio operation modes	Client access, Local mesh, Packet capture
	AP operation modes	Autonomous and controlled
	Wi-Fi Alliance Certification*	a/b/g/n Wi-Fi Certified

* HP access points and access devices are Wi-Fi Certified, providing our customers with the assurance that these products have met and passed the rigorous interoperability testing preformed by the Wi-Fi Alliance Organization. See the Specifications section of this series for more information.

Physical characteristics	Dimensions	6.16(d) x 5.19(w) x 1.94(h) in. (15.64 x 13.17 x 4.94 cm)
	Weight	0.72 lb. (0.33 kg) mounting bracket
	Enclosure	Indoor, plenum rated
Memory and processor	Processor	Single Core @ 384 MHz, 128 MB flash, 256 MB SDRAM
Mounting	Includes two Mounting Clips	
Environment	Operating temperature	32°F to 122°F (0°C to 50°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Description	IEEE 802.3af PoE compliant for Gigabit Ethernet
	Maximum power rating	8 W
	Antenna	(3) Integrated, dual-band 2.4/5 GHz omnidirectional antennas
	Number of internal antennas	3
Frequency band and Operating channels	FCC	2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.240 GHz (36 - 48 channels) 5.260 - 5.320 GHz (52 - 64 channels) 5.500 - 5.700 GHz (100 - 140 (excluding 120, 124 and 128) channels) 5.745 - 5.825 GHz (149 - 165 channels)
	EN	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.240 GHz (36 - 48 channels) 5.260 - 5.320 GHz (52 - 64 channels) 5.500 - 5.700 GHz (100 - 140 (excluding 120, 124 and 128) channels)
	RCR	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.240 GHz (36 - 48 channels) 5.260 - 5.320 GHz (52 - 64 channels) 5.500 - 5.700 GHz (100 - 140 channels)

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Technical Specifications

Radio	FCC Part 15.247; FCC Part 15.407 (US); RSS-210 (Canada); EN 300 328; ARIB STD-T66; IDA Registration (Singapore); MIC approval (Korea); RCR STD-33; ARIB STD-T71 (Japan); EN 301 893 (EU)
Safety	UL 2043; UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
Emissions	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
RF Exposure	FCC Bulletin OET-65C; RSS-102
Features	Single radio: IEEE 802.11n for high-throughput applications and IEEE 802.11a/b/g for legacy support - Integrated antennas for both IEEE 802.11a/b/g (diversity) and 802.11n (3x3 MIMO) - Will operate the radio; full power on IEEE 802.3af PoE for Gigabit Ethernet
Notes	Maximum transmit power varies by country.
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UN683E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN684E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN686E) 3-year, 24x7 SW phone support, software updates (UN685E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR939E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR940E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR941E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US013E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US014E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US015E) 4-year, 24x7 SW phone support, software updates (US016E) 5-year, 4-hour onsite, 13x5 coverage for hardware (US017E) 5-year, 4-hour onsite, 24x7 coverage for hardware (US018E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US019E) 5-year, 24x7 SW phone support, software updates (US020E) 3 Yr 6 hr Call-to-Repair Onsite (UW416E) 4 Yr 6 hr Call-to-Repair Onsite (UW417E) 5 Yr 6 hr Call-to-Repair Onsite (UW418E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR943E) 1-year, 24x7 software phone support, software updates (HR942E) 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS830E) 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS831E) 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS832E) 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS832E) 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS833E) 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS834E) 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS835E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS836E) 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS837E) Refer to the HP website at: www.hp.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 HP sales office.

QuickSpecs

HP MSM-802.11n Access Point Series

Technical Specifications

NOTE: These Radio Characteristics apply to all the products in this series.

Radio characteristics: IEEE 802.11n 5 GHz @ 20 MHz

	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Data rate	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Receiver sensitivity	-95 dBm	-77 dBm
Transmit power	18 dBm	10 dBm

IEEE 802.11n 5 GHz @ 40 MHz

	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Data rate	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Receiver sensitivity	-92 dBm	-74 dBm
Transmit power	17 dBm	10 dBm

IEEE 802.11n 2.4 GHz @ 20 MHz

	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Data rate	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Receiver sensitivity	-96 dBm	-79 dBm
Transmit power	19 dBm	10 dBm

IEEE 802.11n 2.4 GHz @ 40 MHz

	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Data rate	MCS0/MCS8 Mbps	MCS7/MCS1 5 Mbps
Receiver sensitivity	-91 dBm	-75 dBm
Transmit power	17 dBm	10 dBm

IEEE 802.11a

	6 Mbps	54 Mbps
Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-95 dBm	-82 dBm
Transmit power	18 dBm	12 dBm

IEEE 802.11b

	1 Mbps	11 Mbps
Data rate	1 Mbps	11 Mbps
Receiver sensitivity	-96 dBm	-92 dBm
Transmit power	18.5 dBm	18.5 dBm

IEEE 802.11g

	6 Mbps	54 Mbps
Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-96 dBm	-83 dBm
Transmit power	18 dBm	13 dBm

Technical Specifications

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	157.5
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

HP MSM422 Access Point (US) (J9358B)
HP MSM422 Access Point (WW) (J9359B)
HP MSM422 Access Point (JP) (J9530B)
HP MSM422 Dual Radio 802.11n Access Point (IL) (J9617A)

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); Media Type: Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only	
	1 RS-232C DB-9 console port	
AP characteristics	Radios	Dual (a/b/g + n/a/b/g)
	Radio operation modes	Client access, Local mesh, Packet capture
	AP operation modes	Autonomous and controlled
	Wi-Fi Alliance Certification*	a/b/g/n Wi-Fi Certified

* HP access points and access devices are Wi-Fi Certified, providing our customers with the assurance that these products have met and passed the rigorous interoperability testing preformed by the Wi-Fi Alliance Organization. See the Specifications section of this series for more information.

Physical characteristics	Dimensions	6.7(d) x 8.8(w) x 2.6(h) in. (17.02 x 22.35 x 6.6 cm)
	Weight	3.97 lb. (1.8 kg) mounting bracket
	Enclosure	Indoor, plenum rated
Memory and processor	Processor	Single Core @ 384 MHz, 128 MB flash, 128 MB SDRAM
Mounting	Includes two Mounting Clips	
Environment	Operating temperature	32°F to 122°F (0°C to 50°C)
	Operating relative humidity	5% to 95%, noncondensing

Technical Specifications

	Nonoperating/Storage temperature	-40°F to 176°F (-40°C to 80°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Description	IEEE 802.3af PoE compliant; IEEE 802.3af PoE for Gigabit Ethernet or external power supply available as accessory.
	Maximum power rating	12 W
	Antenna connector	(3) IEEE 802.11n RP-SMA, 1 IEEE 802.11a/b/g RP-SMA
	Antenna	Integrated, dual-band, omnidirectional, 3 x IEEE 802.11n fixed 3x3 MIMO, 2 x 802.11a/b/g (diversity)
	Number of internal antennas	6
	Number of external antennas	4
Frequency band and Operating channels	FCC	2.412 - 2.462 GHz (1 - 11 (for both the n radio and the a/b/g radio) channels) 5.180 - 5.240 GHz (36 - 48 (for both the n radio and the a/b/g radio) channels) 5.260 - 5.320 GHz (52 - 64 (for the n radio only) channels) 5.500 - 5.700 GHz (100- 140 (excluding 120, 124 and 128 for the n radio only) channels) 5.745 - 5.825 GHz (149 - 165 (for both the n radio and the a/b/g radio) channels)
	EN	2.412 - 2.472 GHz (1 - 13 (for both the n radio and the a/b/g radio) channels) 5.180 - 5.240 GHz (36 - 48 (for both the n radio and the a/b/g radio) channels) 5.260 - 5.320 GHz (52 - 64 (for the n radio only) channels) 5.500 - 5.700 GHz (100 - 140 (excluding 120, 124 and 128 for the n radio only) channels)
	RCR	2.412 - 2.472 GHz (1 - 13 (for both the n radio and the a/b/g radio) channels) 5.170 - 5.230 GHz (34 - 46 (for the a/b/g radio only) channels) 5.180 - 5.240 GHz (36 - 48 (for the n radio only) channels) 5.260 - 5.320 GHz (52 - 64 (for the n radio only) channels) 5.500 - 5.700 GHz (100 - 140 (for the n radio only) channels)
Radio		FCC Part 15.247; FCC Part 15.407 (US); RSS-210 (Canada); EN 300 328; ARIB STD-T66; IDA Registration (Singapore); MIC approval (Korea); RCR STD-33; ARIB STD-T71 (Japan); EN 301 893 (EU)
Safety		UL 2043; UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
Emissions		EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
RF Exposure		FCC Bulletin OET-65C; RSS-102
Features		Dual radio: IEEE 802.11n for high-throughput applications and IEEE 802.11a/b/g for legacy support Integrated antennas for both IEEE 802.11a/b/g (diversity) and 802.11n (3x3 MIMO) Accepts external IEEE 802.11a/b/g (non-diversity) and 802.11n (3) antennas Will operate both radios; full power on IEEE 802.3af PoE for Gigabit Ethernet
Notes		Maximum transmit power varies by country.

Technical Specifications

Services
3-year, 4-hour onsite, 13x5 coverage for hardware (UN667E)
3-year, 4-hour onsite, 24x7 coverage for hardware (UN668E)
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN670E)
3-year, 24x7 SW phone support, software updates (UN669E)
1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR954E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR955E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR956E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UR980E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UR981E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR982E)
4-year, 24x7 SW phone support, software updates (UR983E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UR984E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UR985E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR986E)
5-year, 24x7 SW phone support, software updates (UR987E)
3 Yr 6 hr Call-to-Repair Onsite (UW404E)
4 Yr 6 hr Call-to-Repair Onsite (UW405E)
5 Yr 6 hr Call-to-Repair Onsite (UW406E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR958E)
1-year, 24x7 software phone support, software updates (HR957E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV102E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HV103E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV104E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV105E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV106E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV107E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV108E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV109E)

Refer to the HP website at: www.hp.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 HP sales office.

Standards and protocols
(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 802.11d Global Harmonization
IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band
IEEE 802.11i Medium Access Control (MAC) Security Enhancements
IEEE 802.11n WLAN Enhancements for Higher Throughput

QuickSpecs

Technical Specifications

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	157.5
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

Accessories

HP MSM-802.11n Access Point Series accessories	Power Supply	
	HP 1-Port Power Injector	J9407A
	HP MSM422 Access Point (US) (J9358B)	
	HP MSM335/MSM422 Power Supply	J9406A
	HP 5 dBi @2.4GHz Indoor/Outdoor Omnidir Antenna	J8441A
	HP 8 dBi @ 2.4GHz Outdoor Omnidirectional Antenna	J8444A
	HP 3 dBi Dual-Band Diversity Antenna	J8997A
	HP 7 dBi Dual-Band Directional Antenna	J8999A
	HP Antenna Lightning Arrester	J8996A
	HP Dual Band Indoor Short Omnidirectional Antenna	J9401A
	HP MSM422 Access Point (WW) (J9359B)	
	HP MSM335/MSM422 Power Supply	J9406A
	HP 5 dBi @2.4GHz Indoor/Outdoor Omnidir Antenna	J8441A
	HP 8 dBi @ 2.4GHz Outdoor Omnidirectional Antenna	J8444A
	HP 3 dBi Dual-Band Diversity Antenna	J8997A
	HP 7 dBi Dual-Band Directional Antenna	J8999A
	HP Antenna Lightning Arrester	J8996A
	HP Dual Band Indoor Short Omnidirectional Antenna	J9401A
	HP MSM422 Access Point (JP) (J9530B)	
	HP MSM335/MSM422 Power Supply	J9406A
	HP 5 dBi @2.4GHz Indoor/Outdoor Omnidir Antenna	J8441A
	HP 8 dBi @ 2.4GHz Outdoor Omnidirectional Antenna	J8444A
	HP 3 dBi Dual-Band Diversity Antenna	J8997A
	HP 7 dBi Dual-Band Directional Antenna	J8999A
	HP Antenna Lightning Arrester	J8996A
	HP Dual Band Indoor Short Omnidirectional Antenna	J9401A
	HP MSM422 Dual Radio 802.11n Access Point (IL) (J9617A)	
	HP MSM335/MSM422 Power Supply	J9406A
	HP 5 dBi @2.4GHz Indoor/Outdoor Omnidir Antenna	J8441A
	HP 8 dBi @ 2.4GHz Outdoor Omnidirectional Antenna	J8444A
	HP 3 dBi Dual-Band Diversity Antenna	J8997A
	HP 7 dBi Dual-Band Directional Antenna	J8999A
	HP Antenna Lightning Arrester	J8996A
	HP Dual Band Indoor Short Omnidirectional Antenna	J9401A

Accessory Product Details

HP 1-port Power Injector (J9407A)	Physical characteristics	Dimensions	5.71(d) x 2.36(w) x 1.22(h) in. (14.5 x 6 x 3.1 cm)
		Weight	1 lb. (0.45 kg)
	Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
		Operating relative humidity	5% to 93%, noncondensing
		Nonoperating/Storage temperature	-4°F to 158°F (-20°C to 70°C)
		Nonoperating/Storage relative humidity	5% to 95%, noncondensing
		Altitude	up to 10,000 ft. (3 km)
	Electrical characteristics	Voltage	100-240 VAC
		Current	0.3/0.2 A
		Frequency	50/60 Hz
		Notes	IEEE 802.3af compliant
	Safety	UL 60950; EN 60950	
	Emissions	EN 55024; EN 55022 (CISPR 22) Class B with FTP Cabling; FCC Part 15, Class B with FTP cabling	
	Notes	The 1-port power converter has 1 AC power cord input, 1 RJ-45 10/100/1000 Mbps port for data coming from the network infrastructure, and 1 RJ-45 for data plus IEEE 802.3af-compliant PoE for Gigabit Ethernet to power the access point.	
	Services	Refer to the HP website at: www.hp.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 HP sales office.	

Accessory Product Details

HP MSM335/MSM422 Power Supply (J9406A)	Physical characteristics	Dimensions	2.64(d) x 4.17(w) x 1.5(h) in. (6.7 x 10.6 x 3.8 cm)
		Weight	0.73 lb. (0.33 kg)
	Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
		Operating relative humidity	5% to 95%, noncondensing
		Nonoperating/Storage temperature	-40°F to 185°F (-40°C to 85°C)
		Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Electrical characteristics	Voltage	100-240 VAC
		Current	0.3/0.2 A
		Maximum power rating	50 W
		Frequency	50/60 Hz
		Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
	Safety		UL 60950; EN 60950-1; CAN/CSA-C22.2 No. 60950-1-03
	Emissions		EN 55022 Class B; EN 55024; FCC Part 15, Class B
	Services		Refer to the HP website at: www.hp.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 HP sales office.

HP 5 dBi @2.4GHz Indoor/Outdoor Omnidir Antenna (J8441A)	Electrical characteristics	Frequency range 1	2400 - 2500
		Gain 1 dBi (with antenna cable)	4.4
		VSWR max	1.7:1
		E-Plane (3 dB beamwidth)	31 degrees
		H-Plane (3 dB beamwidth)	Omnidirectional
		Polarization	Linear (vertical)
		Impedance (Ohms)	50
		RF connector	Reverse SMA (male)
		Cable length	2.75 ft. (0.84 m)
	Physical characteristics	Dimensions	11.5(h) in. (29.21 cm)
		Wind surface area	0.08 sq. ft. (0.01 sq. m)
		Wind survival	125.1 mph (201.13 km/hr)
		Weight	0.30 lb. (0.14 kg)
		Mounting style	Ceiling T-bar, I-beam, or mast
		Enclosure	Polycarbonate

Accessory Product Details

	Environment	Operating temperature	-22°F to 131°F (-30°C to 55°C)
		Nonoperating/Storage temperature	-40°F to 149°F (-40°C to 65°C)
	Services		Refer to the HP website at: www.hp.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 HP sales office.

HP 8 dBi @ 2.4GHz Outdoor Omnidirectional Antenna (J8444A)	Electrical characteristics	Frequency range 1	2400 - 2500
		Gain 1 dBi (with antenna cable)	8
		VSWR max	1.5:1
		E-Plane (3 dB beamwidth)	13 degrees
		H-Plane (3 dB beamwidth)	Omnidirectional
		Polarization	Linear (vertical)
		Impedance (Ohms)	50
		RF connector	N (male)
		Cable length	2.75 ft. (0.84 m)
	Physical characteristics	Dimensions	25.25(h) in. (64.14 cm)
		Wind surface area	0.11 sq. ft. (0.01 sq. m)
		Wind survival	125 mph (201.13 km/hr)
		Weight	0.5 lb. (0.23 kg)
		Mounting style	Mast
		Enclosure	Polycarbonate
	Environment	Operating temperature	-22°F to 131°F (-30°C to 55°C)
		Nonoperating/Storage temperature	-40°F to 149°F (-40°C to 65°C)
	Services		Refer to the HP website at: www.hp.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 HP sales office.

Accessory Product Details

HP 3 dBi Dual-Band Diversity Antenna (J8997A)	Electrical characteristics	Frequency range 1	2400 - 2500
		Gain 1 dBi (with antenna cable)	3
		Frequency range 2	4900 - 5990
		Gain 2 dBi (with antenna cable)	4
		VSWR max	2.0:1
		E-Plane (3 dB beamwidth)	60 degrees
		E-plane radiation plots	2.45 GHz, E Plane
		H-Plane (3 dB beamwidth)	Omnidirectional
		H-plane radiation plots	2.45 GHz, H Plane
		Impedance (Ohms)	50
		Grounding	DC
		RF connector	Reverse SMA (male)
		Cable length	2.75 ft. (0.84 m)
	Physical characteristics	Dimensions	6.16(d) x 3.66(w) x 0.89(h) in. (15.65 x 9.3 x 2.26 cm)
		Weight	0.5 lb. (0.23 kg)
		Mounting style	Ceiling grid
		Enclosure	PVC/Acrylic
	Environment	Operating temperature	-22°F to 131°F (-30°C to 55°C)
		Nonoperating/Storage temperature	-40°F to 149°F (-40°C to 65°C)
	Services		Refer to the HP website at: www.hp.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 HP sales office.

HP 7 dBi Dual-Band Directional Antenna (J8999A)	Electrical characteristics	Frequency range 1	2400 - 2500
		Gain 1 dBi (with antenna cable)	6.9
		Frequency range 2	4900 - 5990
		Gain 2 dBi (with antenna cable)	7.7
		VSWR max	2.0:1
		E-Plane (3 dB beamwidth)	66 degrees
		E-plane radiation plots	E Plane 2.45 GHz
		H-Plane (3 dB beamwidth)	68 degrees
		H-plane radiation plots	H Plane 2.45 GHz
		Polarization	Linear (vertical)
		Impedance (Ohms)	50
		RF connector	Reverse SMA (male)
		Cable length	2.75 ft. (0.84 m)

Accessory Product Details

	Physical characteristics	Dimensions	5.16(d) x 5.16(w) x 1.37(h) in. (13.11 x 13.11 x 3.48 cm)
		Wind surface area	0.12 sq. ft. (0.01 sq. m)
		Wind survival	120 mph (193.08 km/hr)
		Weight	0.5 lb. (0.23 kg)
		Mounting style	Flush wall mount, articulating wall, or mast
		Enclosure	PVC/Acrylic
		Front-to-back ratio (dB)	10
	Environment	Operating temperature	-22°F to 131°F (-30°C to 55°C)
		Nonoperating/Storage temperature	-40°F to 149°F (-40°C to 65°C)
	Services		Refer to the HP website at: www.hp.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 HP sales office.

HP Antenna Lightning Arrester (J8996A)	Electrical characteristics	VSWR max	1.4:1
	Physical characteristics	Dimensions	2.4(d) x 0.9(w) x 1.2(h) in. (6.1 x 2.29 x 3.05 cm)
	Notes		Input RF power, 100 MHz/6000 MHz: 250 W/10 W 50 Meg Ohm insulation resistance Maximum insertion loss of 0.4 dB
	Services		Refer to the HP website at: www.hp.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 HP sales office.

HP Dual Band Indoor Short Omnidirectional Antenna (J9401A)	Physical characteristics	Dimensions	3.78(h) in. (9.59 cm)
		Base diameter	0.37 in. (0.93 cm)
	Notes		2.1 dBi (2.45 GHz), 2.4 dBi (4.9 GHz), 2.6 dBi (5.25 GHz), 3.4 dBi (5.875 GHz) Polarization: vertical, omnidirectional VSWR 2:1 max. across all bands
	Electrical characteristics	Connector	RP-SMA
	Services		Refer to the HP website at: www.hp.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 HP sales office.

Accessory Product Details

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