

Overview

Models

HP MSM430 Dual Radio 802.11n Access Point (AM)	J9650A
HP MSM430 Dual Radio 802.11n Access Point (WW)	J9651A
HP MSM430 Dual Radio 802.11n Access Point (JP)	J9652A
HP MSM430 Dual Radio 802.11n Access Point (IL)	J9653A
HP MSM460 Dual Radio 802.11n Access Point (AM)	J9590A
HP MSM460 Dual Radio 802.11n Access Point (WW)	J9591A
HP MSM460 Dual Radio 802.11n Access Point (JP)	J9589A
HP MSM460 Dual Radio 802.11n Access Point (IL)	J9618A
HP MSM466 Dual Radio 802.11n Access Point (AM)	J9621A
HP MSM466 Dual Radio 802.11n Access Point (WW)	J9622A
HP MSM466 Dual Radio 802.11n Access Point (JP)	J9620A
HP MSM466 Dual Radio 802.11n Access Point (IL)	J9619A
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-R Dual Radio Outdoor 802.11n Access Point (IL)	J9718A

Key features

- First three spatial stream MIMO AP in the industry
- Up to 450 Mbps per radio on MSM460, MSM466/466-R
- Support for range of antennas on MSM466/466-R AP
- MSM430 AP is two stream, price/performance leader
- All APs use standard IEEE 802.3af PoE power

Product overview

This highest-performance family of access points improves productivity. HP is the first in the industry to offer three spatial stream MIMO technology to enterprise businesses. This brings IEEE 802.11n near Gigabit Ethernet performance to 900 Mbps and enhances coverage areas with beamforming technology. These APs deliver the highest performance in 802.11n AP technology with outstanding price and performance. Each dual radio 802.11n access point operates in the 2.4 GHz and 5 GHz bands, providing backward compatibility for IEEE 802.11a/b/g legacy client devices. These APs can operate with or without a wireless controller and support all the same enterprise features as the prior HP MSM wireless products, in addition to new features, such as beamforming, bandsteering, and concurrent 5 GHz operation. The MSM466 and MSM466-R access points also support a range of MIMO antennas, while the MSM466-R access point is in an outdoor enclosure and is designed to work under adverse conditions.

Features and benefits

Quality of Service (QoS)

- **IEEE 802.1p prioritization:** delivers data to devices based on the priority and type of traffic
- **Wireless:** has the L2/L3/L4 classifications of IEEE 802.1p VLAN priority, SpectraLink SVP, and DiffServ; Wi-Fi MultiMedia (WMM), IEEE 802.11e EDCA, and Service-Aware priority are assigned by VSC; has a maximum VoIP call capacity of 12 active calls on IEEE 802.11 a/b/g/n
- **SpectraLink voice priority (SVP) support:** prioritizes SpectraLink voice IP packets sent from a SpectraLink NetLink SVP server to



Overview

SpectralLink wireless voice handsets to help ensure excellent voice quality

- **Network management:** is fully manageable using HP Manager and HP Mobility Manager; has SNMP v2c, SNMP v3, MIB-II with Traps, and RADIUS Authentication Client MIB (RFC 2618); has embedded HTML management tool with secure access (SSL and VPN); provides scheduled configuration and firmware upgrades from central server
- **Diagnostic:**
 - Client event log records association, authentication, and DHCP events
 - 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 RF Manager and 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
- **24 x 7 detection, classification, and prevention capabilities:** HP RF Manager and MSM415 RF Security Sensors continuously protect your wireless network from security threats

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
- **Auto-MDIX:** automatically adjusts 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 450 Mbps of signaling per radio; delivers a more than 50 percent increase in performance over any two spatial stream product
- **Beamforming:** provides better coverage area and better performance at distances from the AP
- **Bandsteering:** steers wireless clients to the 5 GHz band for outstanding performance
- **Concurrent operation in the 5 GHz band:** provides ability to run both radios in the 5 GHz band for outstanding performance (MSM466 and MSM466-R access points only)
- **MSM430/460 antenna:** high-gain embedded antennas (4 dBi antenna at 2.4 GHz and 7 dBi antenna at 5 GHz) provide excellent coverage without the added cost of external antennas; two indoor ceiling-mountable antennas and two pole-/wall-mountable indoor/outdoor antennas fit specific needs
- **MSM460 and MSM466-R access points:**
 - Optional external antennas options: MSM466 access point includes six indoor RP-SMA connectors; MSM466-R access point includes six outdoor standard N connectors
 - Two indoor ceiling mount antennas: provide good coverage when embedded antennas are not an option
 - Outdoor antennas: supply options for point-to-point, multipoint, and outdoor coverage
 - Outdoor IP67 rated: omnidirectional and directional MIMO antennas are weather proof and tested to meet the IP67 rating
- **Anywhere, anytime wireless coverage:**
 - Dual-radio IEEE 802.11a/b/g/n and 802.11a/n 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
- **Medical standards:** meets the European EN60601-1-2 standard for healthcare
- **Virtual Service Communities (VSCs):**
 - Includes up to 16 SSIDs, each with unique MAC address and configurable SSID broadcasts
 - Individual security and QoS profiles per VSC
 - Configurable DTIM and minimum data rate per VSC



Overview

- 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, 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
- **Local wireless bridge client traffic filtering:** when enabled, prevents communication between wireless devices associated with the same access point
- **IEEE 802.1X Authentication:** provides port-based user authentication with support for Extensible Authentication Protocol (EAP) MD5, TLS, TTLS, and PEAP with the choice of AES and TKIP encryption to protect wireless traffic between authenticated clients and the access point

Warranty and support

- **Lifetime warranty:** for indoor access points, for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)*
- **1-year warranty:** for outdoor access points, with advance replacement and next-business-day delivery (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)

* Hardware warranties replacement for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP Alliance One Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Ext zl Mod w/Rvrbd Stlhd, HP E-MSM765zl Mobility Controller and HP Surv Brch Com zl Mod pwrby Msft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at: www.hp.com/networking/warranty.



Technical Specifications

HP MSM430 Dual Radio 802.11n Access Point (AM) (J9650A)	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
HP MSM430 Dual Radio 802.11n Access Point (WW) (J9651A)	AP characteristics	Radios Dual (a/n + b/g/n) 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 MSM430 Dual Radio 802.11n Access Point (JP) (J9652A)		<p>* 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 performed by the Wi-Fi Alliance Organization. See the Specifications section of this series for more information.</p>
HP MSM430 Dual Radio 802.11n Access Point (IL) (J9653A)	Physical characteristics	Dimensions 8(d) x 6.75(w) x 2.62(h) in. (20.32 x 17.15 x 6.65 cm)
	Weight 2.25 lb. (1.02 kg) mounting bracket	
	Enclosure Indoor, plenum rated	
Memory and processor	Dual core @ 800 MHz, 128 MB flash, 256 MB SDRAM	
Mounting	Includes two ceiling 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 12.9 W	
	Antenna (3) 4 dBi 2.4GHz and (3) 7 dBi 5 GHz omnidirectional antennas	
	Number of internal antennas 6	
Frequency band and operating channels	Americas 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, 128 & 132) channels)	
	5.745 - 5.825 GHz (149 - 165 channels)	
	European Union 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)	



Technical Specifications

	Rest of World (Actual channels designated by selecting country in UI)	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) 5.745 - 5.825 GHz (149 - 165 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; EN 60601-1-2; 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
Medical		EN60601-1-2
RF Exposure		FCC Bulletin OET-65C; RSS-102
Features		Dual radio: IEEE 802.11a/n for high-throughput applications and IEEE 802.11ab/g/n for legacy support and high-speed applications - Integrated antennas for both IEEE radios, supporting two spatial streams and 3x3 MIMO - Six embedded antennas - Both radios operate at full power and full performance on IEEE 802.3af PoE/Gigabit Ethernet
Notes		The MSM430 and MSM460 access point power information listed includes 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. The MSM466 and MSM466-R access point power information listed does not include an 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 Mbps per radio. Maximum transmit power varies by country.
Services		3-year, 4-hour onsite, 13x5 coverage for hardware (UN683E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UY966E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UY967E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN684E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UY968E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UN686E) 3-year, 24x7 SW phone support, software updates (UY969E) 3-year, 24x7 SW phone support, software updates (UN685E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR624E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR625E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR626E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US013E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UY976E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UY977E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US014E)



Technical Specifications

4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY978E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US015E)
4-year, 24x7 SW phone support, software updates (UY979E)
4-year, 24x7 SW phone support, software updates (US016E)
5-year, 4-hour onsite, 13x5 coverage for hardware (US017E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UY986E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UY987E)
5-year, 4-hour onsite, 24x7 coverage for hardware (US018E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY988E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US019E)
5-year, 24x7 SW phone support, software updates (UY989E)
5-year, 24x7 SW phone support, software updates (US020E)
3 Yr 6 hr Call-to-Repair Onsite (UW416E)
3 Yr 6 hr Call-to-Repair Onsite (UY970E)
4 Yr 6 hr Call-to-Repair Onsite (UW417E)
4 Yr 6 hr Call-to-Repair Onsite (UY980E)
5 Yr 6 hr Call-to-Repair Onsite (UW418E)
5 Yr 6 hr Call-to-Repair Onsite (UY990E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR628E)
1-year, 24x7 software phone support, software updates (HR627E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV110E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HV111E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV112E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV113E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV114E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV115E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV116E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV117E)

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.



Technical Specifications

NOTE: These radio characteristics apply to the MSM430 and MSM460 access points, including the embedded antenna.

Radio characteristics: IEEE 802.11n 5 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-97 dBm	-80 dBm
Transmit power	24 dBm	19 dBm

Radio characteristics: IEEE 802.11n 5 GHz @ 20 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 216.7 Mbps
Receiver sensitivity	-100 dBm	-84 dBm
Transmit power	24 dBm	19 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-97 dBm	-82 dBm
Transmit power	20 dBm	20 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 20 MHz channel

Data rate	MCS0/8/16 Mbps	MCS7/15/2 3 Mbps
Receiver sensitivity	-100 dBm	-84 dBm
Transmit power	20 dBm	20 dBm

Radio characteristics: IEEE 802.11a 5 GHz

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-100 dBm	-87 dBm
Transmit power	25 dBm	25 dBm



QuickSpecs

HP MSM-802.11n Dual Radio Access Point Series

Technical Specifications

Radio characteristics: IEEE 802.11b/g 2.4 GHz

Data rate	1 Mbps	11 Mbps	6 Mbps	54 Mbps
Receiver sensitivity	-100 dBm	-95 dBm	-99 dBm	-85 dBm
Transmit power	20 dBm	20 dBm	20 dBm	20 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	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 MSM460 Dual Radio 802.11n Access Point (AM) (J9590A)	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
HP MSM460 Dual Radio 802.11n Access Point (WW) (J9591A)	AP characteristics	Radios Dual (a/n + b/g/n) 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 MSM460 Dual Radio 802.11n Access Point (JP) (J9589A)		
HP MSM460 Dual Radio 802.11n Access Point (IL) (J9618A)	Physical characteristics	Dimensions 8(d) x 6.75(w) x 2.62(h) in. (20.32 x 17.15 x 6.65 cm) Weight 2.25 lb. (1.02 kg) mounting bracket Enclosure Indoor, plenum rated
	Memory and processor	Dual core @ 800 MHz, 128 MB flash, 256 MB SDRAM



Technical Specifications

Mounting	Includes two ceiling 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	12.9 W
	Antenna	(3) 4 dBi 2.4GHz and (3) 7 dBi 5 GHz
	Number of internal antennas	6
Frequency band and operating channels	Americas	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, 128 & 132) channels) 5.745 - 5.825 GHz (149 - 165 channels)
	European Union	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)
	Rest of World (Actual channels designated by selecting country in UI)	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) 5.745 - 5.825 GHz (149 - 165 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; EN 60601-1-2; 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	
Medical	EN60601-1-2	
RF Exposure	FCC Bulletin OET-65C; RSS-102	
Features	Dual radio: IEEE 802.11a/n for high-throughput applications and IEEE 802.11ab/g/n for legacy support and high-speed applications - Integrated antennas for both IEEE radios supporting three spatial streams and 3x3 MIMO reaching 450 Mb/s per radio. - Six embedded antennas - Both radios operate at full power and full performance on IEEE 802.3af PoE/Gigabit Ethernet	
Notes	The MSM430 and MSM460 access point power information listed includes the embedded antenna. Review the HP documentation for your AP to understand the maximum output setting for your AP based on your country's	



Technical Specifications

Services

regulations.

The MSM466 and MSM466-R access point power information listed does not include an antenna. Review the HP documentation for your AP to understand the maximum output setting for your AP based on your country's regulations.

Three spatial stream AP, supporting 450 Mbps per radio.

Maximum transmit power varies by country.

3-year, 4-hour onsite, 13x5 coverage for hardware (UN683E)

3-year, 4-hour onsite, 13x5 coverage for hardware (UY961E)

3-year, 4-hour onsite, 24x7 coverage for hardware (UY962E)

3-year, 4-hour onsite, 24x7 coverage for hardware (UN684E)

3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UY963E)

3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UN686E)

3-year, 24x7 SW phone support, software updates (UY964E)

3-year, 24x7 SW phone support, software updates (UN685E)

1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR619E)

1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR620E)

1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR621E)

4-year, 4-hour onsite, 13x5 coverage for hardware (US013E)

4-year, 4-hour onsite, 13x5 coverage for hardware (UY971E)

4-year, 4-hour onsite, 24x7 coverage for hardware (UY972E)

4-year, 4-hour onsite, 24x7 coverage for hardware (US014E)

4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY973E)

4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US015E)

4-year, 24x7 SW phone support, software updates (UY974E)

4-year, 24x7 SW phone support, software updates (US016E)

5-year, 4-hour onsite, 13x5 coverage for hardware (US017E)

5-year, 4-hour onsite, 13x5 coverage for hardware (UY981E)

5-year, 4-hour onsite, 24x7 coverage for hardware (UY982E)

5-year, 4-hour onsite, 24x7 coverage for hardware (US018E)

5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY983E)

5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US019E)

5-year, 24x7 SW phone support, software updates (UY984E)

5-year, 24x7 SW phone support, software updates (US020E)

3 Yr 6 hr Call-to-Repair Onsite (UW416E)

3 Yr 6 hr Call-to-Repair Onsite (UY965E)

4 Yr 6 hr Call-to-Repair Onsite (UW417E)

4 Yr 6 hr Call-to-Repair Onsite (UY975E)

5 Yr 6 hr Call-to-Repair Onsite (UW418E)

5 Yr 6 hr Call-to-Repair Onsite (UY985E)

1-year, 6 hour Call-To-Repair Onsite for hardware (HR623E)

1-year, 24x7 software phone support, software updates (HR622E)

1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV118E)



Technical Specifications

- 1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HV119E)
- 3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV120E)
- 3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV121E)
- 4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV122E)
- 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV123E)
- 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV124E)
- 5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV125E)

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.

NOTE: These radio characteristics apply to the MSM430 and MSM460 access points, including the embedded antenna.

Radio characteristics: IEEE 802.11n 5 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-97 dBm	-80 dBm
Transmit power	24 dBm	19 dBm

Radio characteristics: IEEE 802.11n 5 GHz @ 20 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 216.7 Mbps
Receiver sensitivity	-100 dBm	-84 dBm
Transmit power	24 dBm	19 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-97 dBm	-82 dBm
Transmit power	20 dBm	20 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 20 MHz channel

Data rate	MCS0/8/16 Mbps	MCS7/15/2 3 Mbps
Receiver sensitivity	-100 dBm	-84 dBm
Transmit power	20 dBm	20 dBm

Radio characteristics: IEEE 802.11a 5 GHz



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Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-100 dBm	-87 dBm
Transmit power	25 dBm	25 dBm

Radio characteristics: IEEE 802.11b/g 2.4 GHz

Data rate	1 Mbps	11 Mbps	6 Mbps	54 Mbps
Receiver sensitivity	-100 dBm	-95 dBm	-99 dBm	-85 dBm
Transmit power	20 dBm	20 dBm	20 dBm	20 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	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
16	19.5	40.5	21.7	45
17	39	81	43.4	90
18	58.5	121.5	65	135
19	78	162	86.7	180
20	117	243	130	270
21	156	324	173.3	360
22	178.5	364	195	405
23	195	405	216.7	450

HP MSM466 Dual Radio
802.11n Access Point
(AM) (J9621A)

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

HP MSM466 Dual Radio
802.11n Access Point
(MW) (J9622A)

AP characteristics

Radios

Dual (a/b/g/n)

Radio operation modes

Client access, Local mesh, Packet capture



Technical Specifications

HP MSM466 Dual Radio
802.11n Access Point (JP)
(J9620A)

HP MSM466 Dual Radio
802.11n Access Point (IL)
(J9619A)

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 performed by the Wi-Fi Alliance Organization. See the Specifications section of this series for more information.

Physical characteristics	Dimensions	8(d) x 6.75(w) x 2.62(h) in. (20.32 x 17.15 x 6.65 cm)
	Weight	2.25 lb. (1.02 kg) mounting bracket
	Enclosure	Indoor, plenum rated
Memory and processor	Dual core @ 800 MHz, 128 MB flash, 256 MB SDRAM	
Mounting	Includes two ceiling 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	12.9 W
	Antenna	External antennas only; six RP-SMA connectors
	Number of external antennas	6
	Notes	Antenna is purchased separately.
Frequency band and operating channels	Americas	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, 128 & 132) channels) 5.745 - 5.825 GHz (149 - 165 channels)
	European Union	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)
	Rest of World (Actual channels designated by selecting country in UI)	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) 5.745 - 5.825 GHz (149 - 165 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)	



Technical Specifications

Safety	UL 2043; UL 60950-1; IEC 60950-1; EN 60950-1; EN 60601-1-2; 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
Medical	EN60601-1-2
RF Exposure	FCC Bulletin OET-65C; RSS-102
Features	Dual radio: IEEE 802.11a/n for high-throughput applications and IEEE 802.11ab/g/n for legacy support and high-speed applications - Both IEEE radios, supporting three spatial streams and 3x3 MIMO reaching 450 Mb/s per radio. - Six RP-SMA connectors for external MIMO antennas - Both radios operate at full power and full performance on IEEE 802.3af PoE/Gigabit Ethernet - Both radios can operate in the 5 GHz band for the highest performance
Notes	The MSM430 and MSM460 access point power information listed includes 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. The MSM466 and MSM466-R access point power information listed does not include an antenna. Review the HP documentation for your AP to understand the maximum output setting for your AP based on your country's regulations. Three spatial stream AP, supporting 450 Mbps per radio. Maximum transmit power varies by country. When used with an HP MIMO outdoor antenna, the AP requires a RP-SMA to N Type adapter/cable (available separately). Outdoor antennas should be installed by a professional installer with proper grounding and lightning protection.
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UN683E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UY961E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UY962E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN684E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UY963E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UN686E) 3-year, 24x7 SW phone support, software updates (UY964E) 3-year, 24x7 SW phone support, software updates (UN685E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR619E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR620E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR621E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US013E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UY971E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UY972E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US014E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY973E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US015E)



Technical Specifications

4-year, 24x7 SW phone support, software updates (UY974E)
4-year, 24x7 SW phone support, software updates (US016E)
5-year, 4-hour onsite, 13x5 coverage for hardware (US017E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UY981E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UY982E)
5-year, 4-hour onsite, 24x7 coverage for hardware (US018E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UY983E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US019E)
5-year, 24x7 SW phone support, software updates (UY984E)
5-year, 24x7 SW phone support, software updates (US020E)
3 Yr 6 hr Call-to-Repair Onsite (UW416E)
3 Yr 6 hr Call-to-Repair Onsite (UY965E)
4 Yr 6 hr Call-to-Repair Onsite (UW417E)
4 Yr 6 hr Call-to-Repair Onsite (UY975E)
5 Yr 6 hr Call-to-Repair Onsite (UW418E)
5 Yr 6 hr Call-to-Repair Onsite (UY985E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR623E)
1-year, 24x7 software phone support, software updates (HR622E)
1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV118E)
1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HV119E)
3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV120E)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV121E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV122E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV123E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV124E)
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV125E)

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.



Technical Specifications

NOTE: These radio characteristics apply to the MSM466 and MSM466-R access points and exclude any external antenna.

Radio characteristics: IEEE 802.11n 5 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-90 dBm	-73 dBm
Transmit power	17 dBm	12 dBm

Radio characteristics: IEEE 802.11n 5 GHz @ 20 MHz channel

Data rate	MCS0, MCS8, MCS16 21.7 Mbps	MCS7, MCS15, MCS23 216.7 Mbps
Receiver sensitivity	-93 dBm	-77 dBm
Transmit power	17 dBm	12 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-90 dBm	-75 dBm
Transmit power	20 dBm	16 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 20 MHz channel

Data rate	MCS0, MCS8, MCS16 21.7 Mbps	MCS7, MCS15, MCS23 216.7 Mbps
Receiver sensitivity	-93 dBm	-77 dBm
Transmit power	20 dBm	17 dBm

Radio characteristics: IEEE 802.11a 5 GHz

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-93 dBm	-80 dBm
Transmit power	20 dBm	18 dBm

Radio characteristics: IEEE 802.11a 2.4 GHz

Data rate	1 Mbps	54 Mbps
Receiver sensitivity	-100 dBm	-80 dBm
Transmit power	20 dBm	18 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
16	19.5	40.5	21.7	45
17	39	81	43.4	90
18	58.5	121.5	65	135
19	78	162	86.7	180
20	117	243	130	270
21	156	324	173.3	360
22	178.5	364	195	405
23	195	405	216.7	450

<p>HP MSM466-R Dual Radio Outdoor 802.11n Access Point (AM) (J9715A)</p>	<p>Ports</p> <p>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</p> <p>1 RJ-45 serial console port</p>
<p>HP MSM466-R Dual Radio Outdoor 802.11n Access Point (WW) (J9716A)</p>	<p>AP characteristics</p> <p>Radios Dual (a/b/g/n)</p> <p>Radio operation modes Client access, Local mesh, Packet capture</p> <p>AP operation modes Autonomous and controlled</p> <p>Wi-Fi Alliance Certification* a/b/g/n Wi-Fi Certified</p>
<p>HP MSM466-R Dual Radio Outdoor 802.11n Access Point (JP) (J9717A)</p>	<p>Ports</p> <p>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</p> <p>1 RJ-45 serial console port</p>
<p>HP MSM466-R Dual Radio Outdoor 802.11n Access Point (WW) (J9716A)</p>	<p>AP characteristics</p> <p>Radios Dual (a/b/g/n)</p> <p>Radio operation modes Client access, Local mesh, Packet capture</p> <p>AP operation modes Autonomous and controlled</p> <p>Wi-Fi Alliance Certification* a/b/g/n Wi-Fi Certified</p>



Technical Specifications

Radio Outdoor 802.11n
Access Point (IL) (J9718A)

Physical characteristics	Dimensions	4.92(d) x 8.27(w) x 9.84(h) in. (12.5 x 21.01 x 25 cm)	
	Weight	6.06 lb. (2.75 kg) mounting bracket	
	Enclosure	Outdoor IP67 and NEMA 4X	
	Memory and processor	Dual core @ 800 MHz, 128 MB flash, 256 MB SDRAM	
	Mounting	Includes hardware for pole and wall mount applications	
	Environment	Operating temperature	-40°F to 131°F (-40°C to 55°C); Below -20°C requires 802.3at PoE power to run embedded heater
		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
Maximum power rating	12.9 W		
Antenna	External antennas only; six Type N connectors		
Number of external antennas	6		
Notes	Antenna is purchased separately. 802.3at power is required to run the embedded heater for temperatures below -20°C (max power draw is 25 W).		
Frequency band and operating channels	Americas	2.412 - 2.462 GHz (1 - 11 channels)	
		5.180 - 5.240 GHz (36 - 48 channels)	
		5.260 - 5.320 GHz (52 - 64 channels)	
	European Union	5.500 - 5.700 GHz (100 - 140 (excluding 120, 124, 128 & 132) channels)	
		5.745 - 5.825 GHz (149 - 165 channels)	
		Rest of World (Actual channels designated by selecting country in UI)	2.412 - 2.472 GHz (1 - 13 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)	5.180 - 5.240 GHz (36 - 48 channels)	
		5.260 - 5.320 GHz (52 - 64 channels)	
		5.500 - 5.700 GHz (100 - 140 channels)	
		5.745 - 5.825 GHz (149 - 165 channels)	
Safety	UL 60950-1; IEC 60950-1; EN 60950-1; EN 60601-1-2; CAN/CSA-C22.2 No. 60950-1		



Technical Specifications

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
Medical	EN60601-1-2
RF Exposure	FCC Bulletin OET-65C; RSS-102
Features	Dual radio: IEEE 802.11a/n for high-throughput applications and IEEE 802.11ab/g/n for legacy support and high-speed applications - Both IEEE radios, supporting three spatial streams and 3x3 MIMO reaching 450 Mb/s per radio - Six Type N connectors for external MIMO antennas - Both radios operate at full power and full performance on IEEE 802.3af PoE/Gigabit Ethernet - Run both radios at 5 GHz for outstanding performance Outdoor enclosure - IP67 rate - NEMA 4X rated - -40°C to +55°C
Notes	The MSM430 and MSM460 access point power information listed includes 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. The MSM466 and MSM466-R access point power information listed does not include an antenna. Review the HP documentation for your AP to understand the maximum output setting for your AP based on your country's regulations. Three spatial stream AP, supporting 450 Mbps per radio. Maximum transmit power varies by country. When used with an HP MIMO indoor antenna, the AP requires a RP-SMA to Type adapter/cable (available separately). Outdoor antennas should be installed by a professional installer with proper grounding and lightning protection. Dimensions do not include the additional space required for cables.
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 SW phone support and SW updates (UN686E) 3-year, 24x7 SW phone support, software updates (UN685E) 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)



Technical Specifications

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.

NOTE: These radio characteristics apply to the MSM466 and MSM466-R access points and exclude any external antenna.

Radio characteristics: IEEE 802.11n 5 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-90 dBm	-73 dBm
Transmit power	17 dBm	12 dBm

Radio characteristics: IEEE 802.11n 5 GHz @ 20 MHz channel

Data rate	MCS0, MCS8, MCS16 21.7 Mbps	MCS7, MCS15, MCS23 216.7 Mbps
Receiver sensitivity	-93 dBm	-77 dBm
Transmit power	17 dBm	12 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 40 MHz channel

Data rate	MCS0, MCS8, MCS16 45 Mbps	MCS7, MCS15, MCS23 450 Mbps
Receiver sensitivity	-90 dBm	-75 dBm
Transmit power	20 dBm	16 dBm

Radio characteristics: IEEE 802.11n 2.4 GHz @ 20 MHz channel

Data rate	MCS0, MCS8, MCS16 21.7 Mbps	MCS7, MCS15, MCS23 216.7 Mbps
Receiver sensitivity	-93 dBm	-77 dBm
Transmit power	20 dBm	17 dBm

Radio characteristics: IEEE 802.11a 5 GHz

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-93 dBm	-80 dBm
Transmit power	20 dBm	18 dBm

Radio characteristics: IEEE 802.11a 2.4 GHz

Data rate	1 Mbps	54 Mbps
Receiver sensitivity	-100 dBm	-80 dBm
Transmit power	20 dBm	18 dBm

Standards and protocols
(applies to all products in series)

Mobility

IEEE 802.11a High Speed Physical Layer in the 5 GHz Band
IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band
IEEE 802.11d Global Harmonization



Technical Specifications

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

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
16	19.5	40.5	21.7	45
17	39	81	43.4	90
18	58.5	121.5	65	135
19	78	162	86.7	180
20	117	243	130	270
21	156	324	173.3	360
22	178.5	364	195	405
23	195	405	216.7	450



Accessories

HP MSM-802.11n Dual Radio Access Point Series accessories	Power Supply	
	HP 1-port Power Injector	J9407B
	HP MSM466 Dual Radio 802.11n Access Point (AM) (J9621A)	
	HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
	HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
	HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A
	HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
	HP Antenna Lightning Arrester	J8996A
	HP MSM466 Dual Radio 802.11n Access Point (WW) (J9622A)	
	HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A
	HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
	HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
	HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
	HP Antenna Lightning Arrester	J8996A
	HP MSM466 Dual Radio 802.11n Access Point (JP) (J9620A)	
	HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A
	HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
	HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
	HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
	HP Antenna Lightning Arrester	J8996A
	HP MSM466 Dual Radio 802.11n Access Point (IL) (J9619A)	
	HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A
	HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
	HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
	HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
	HP Antenna Lightning Arrester	J8996A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (AM) (J9715A)	
	HP Antenna Lightning Arrester	J8996A
	HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A
	HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
	HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
	HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
	HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna	J9719A
	HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna	J9720A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (WW) (J9716A)	
	HP Antenna Lightning Arrester	J8996A
	HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A
	HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
	HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
	HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
	HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna	J9719A
	HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna	J9720A
	HP MSM466-R Dual Radio Outdoor 802.11n Access Point (JP) (J9717A)	
	HP Antenna Lightning Arrester	J8996A
	HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A



Accessories

HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna	J9719A
HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna	J9720A
HP MSM466-R Dual Radio Outdoor 802.11n Access Point (IL) (J9718A)	
HP Antenna Lightning Arrester	J8996A
HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna	J9169A
HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna	J9170A
HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna	J9171A
HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna	J9659A
HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna	J9719A
HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna	J9720A



Accessory Product Details

NOTE: Details are not available for all accessories. The following specifications were available at the time of publication.

HP 1-port Power Injector (J9407B)	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	
	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 Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna (J9659A)

Electrical characteristics	Frequency range 1	2400 - 2500	
	Gain 1 dBi (with antenna cable)	2.5	
	Frequency range 2	5150 - 5850	
	Gain 2 dBi (with antenna cable)	5.9	
	VSWR max	2:0	
	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	8.58(d) x 1.69(h) in. (21.79 x 4.29 cm)
		Weight	1.5 lb. (0.68 kg)
		Mounting style	Single 1 inch diameter hole
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.		

HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna (J9171A)

Electrical characteristics	Frequency range 1	2400 - 2500
	Gain 1 dBi (with antenna cable)	3
	Frequency range 2	4900 - 5900
	Gain 2 dBi (with antenna cable)	4
	VSWR max	2:1
	E-Plane (3 dB beamwidth)	60 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)	



Accessory Product Details

Physical characteristics	Dimensions	3.6(d) x 12.14(w) x 0.87(h) in. (9.14 x 30.84 x 2.21 cm)
	Weight	0.86 lb. (0.39 kg)
	Mounting style	Ceiling
	Enclosure	White ASA IP-67 rated
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 Indoor-Outdoor Sector Dual Band 8/10dBi MIMO 3 Element Antenna (J9169A)

Electrical characteristics	Frequency range 1	2400 - 2500
	Gain 1 dBi (with antenna cable)	8
	Frequency range 2	5100 - 5900
	Gain 2 dBi (with antenna cable)	10.7
	VSWR max	2:1
	E-Plane (3 dB beamwidth)	75/55
	H-Plane (3 dB beamwidth)	70/60
	Polarization	Linear (vertical)
	Impedance (Ohms)	50
	RF connector	N (male)
Cable length	2.75 ft. (0.84 m)	
Physical characteristics	Dimensions	3.6(d) x 12.14(w) x 0.87(h) in. (9.14 x 30.84 x 2.21 cm)
	Weight	0.86 lb. (0.39 kg)
	Mounting style	Ceiling
	Enclosure	White ASA IP-67 rated
Environment	Operating temperature	-22°F to 149°F (-30°C to 65°C); IP-67 rated for outdoor use
	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 Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna (J9170A)

Electrical characteristics	Frequency range 1	2400 - 2500	
	Gain 1 dBi (with antenna cable)	10.9	
	Frequency range 2	5100 - 5900	
	Gain 2 dBi (with antenna cable)	13.5	
	VSWR max	2:1	
	E-Plane (3 dB beamwidth)	45/20 degrees	
	H-Plane (3 dB beamwidth)	45/20 degrees	
	Polarization	Linear (vertical)	
	Impedance (Ohms)	50	
	RF connector	N (male)	
	Cable length	2.75 ft. (0.84 m)	
	Physical characteristics	Dimensions	1.4(d) x 16.2(w) x 14.7(h) in. (3.56 x 41.15 x 37.34 cm)
		Weight	2.43 lb. (1.1 kg)
Mounting style		Pole Mount	
Environment	Enclosure	White ASA IP-67 rated	
	Operating temperature	-22°F to 149°F (-30°C to 65°C); IP-67 rated for outdoor use	
Services	Nonoperating/Storage temperature	-40°F to 149°F (-40°C to 65°C)	
	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 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.	

Accessory Product Details

HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna (J9719A)

Electrical characteristics	Frequency range 1	2400 - 2500
	Gain 1 dBi (with antenna cable)	6
	Impedance (Ohms)	50
	RF connector	N Type (Male) x 3
	Cable length	3 ft. (.9 m)
Physical characteristics	Dimensions	8.25(d) x 10(h) in. (20.96 x 25.4 cm)
	Wind surface area	.32 sq. ft. (0.03 sq. m)
	Wind survival	125 mph (201.13 km/hr)
	Wind gust survival	165 mph (266 km/h)
	Mounting style	Pole or Wall
Environment	Operating temperature	-40°F to 158°F (-40°C to +70°C) (Cable Install Low Temp -20°C)
	Nonoperating/Storage temperature	-40°F to 185°F (-40°C to 85°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 Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna (J9720A)

Electrical characteristics	Frequency range 1	5150 - 5875
	Gain 1 dBi (with antenna cable)	8
	Impedance (Ohms)	50
	RF connector	N Type (Male) x 3
	Cable length	3 ft. (.9 m)
Physical characteristics	Dimensions	8.25(d) x 10(h) in. (20.96 x 25.4 cm)
	Wind surface area	.32 sq. ft. (0.03 sq. m)
	Wind survival	125 mph (201.13 km/hr)
	Wind gust survival	165 mph (266 km/h)
	Mounting style	Pole or Wall
Environment	Operating temperature	-40°F to 158°F (-40°C to +70°C) (Cable Install Low Temp -20°C)
	Nonoperating/Storage temperature	-40°F to 185°F (-40°C to 85°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

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