Overview

### Models

HP MSM313 Access Point (US)	J9346B
HP MSM313 Access Point (WW)	J9350B
HP MSM313 Access Point (JP)	J9525B

#### Key features

- Hotspot in a box
- Zero-configuration service interface
- Advanced bandwidth management capabilities
- Complete IP routing and networking services
- Integrated IEEE 802.11a/b/g MSM Access Point

### Product overview

HP MSM313 and MSM323 Access Points integrate a full-featured MultiService Mobility Access Point and MultiService Mobility Controller in a single turnkey unit. They are used to create easy-to-use public/guest Internet access (hotspot) services. The zero-configuration service interface adapts to client device configuration settings. Bandwidth management creates multiple service tiers and provides users with fair access to bandwidth. The access points provide secure user authentication, authorization, and accounting (AAA), enabling a wide range of free or fee-based service models. They support HTML and IEEE 802.1X login, and provide interfaces for centralized AAA, captive portal, and billing functions, allowing large multilocation networks.

### 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:
  - O L2/L3/L4 classification: IEEE 802.1p VLAN priority, SpectraLink SVP, DiffServ, VTP/TCP, and Post
  - O Wi-Fi MultiMedia (WMM), IEEE 802.11e EDCF, and Service-Aware priority assigned by VSC
  - O Maximum VoIP call capacity: 12 active calls on IEEE 802.11a/b/g
- Network management:
  - O Fully manageable using HP PCM 3.0 AU1 and HP Mobility Manager 3.0 AU2
  - O SNMP v2c, SNMP v3, MIB-II with Traps, and RADIUS Authentication Client MIB (RFC 2618)
  - O Embedded HTML management tool with secure access (SSL and VPN)
  - O Scheduled configuration and firmware upgrades from central server
- Diagnostic:
  - O Client event log records association, authentication, and DHCP events
  - O Packet capture tool for Ethernet and IEEE 802.11 interfaces (PCAP format)
  - O Data rate matrix
- RF management:
  - O Automatically selects channel on power-up and continuously improves channel selection based on background interference scan
  - O Configurable background rogue scanning
  - O Automatically adjusts transmit power to reduce interference



#### Overview

#### 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

- All-in-one simplicity: The HP MSM313 and MSM323 Access Points combine a full-featured access point and Guest Access control feature in a single easy-to-deploy enclosure that is ideally suited for public hotspot networks and small enterprise deployments.
- Award-winning public/guest Internet access service: The MSM313 and MSM323 Access Points provide high-speed guest Internet access for up to 25 patrons, guests, and partners. Guest access can be segmented from corporate applications. Easy, Web-based login via a captive, customized portal and zero-configuration service adapts to any client device's IP address and Web proxy settings.
- Rock-solid security: Security policies based on user credentials (IEEE 802.1X/EAP), hardware identifiers (MAC address and WEP key), or HTML login are enforced at the network edge to safeguard network integrity. A Standards-based RADIUS interface provides remote authentication, authorization, and accounting (AAA) system integration and hardware-assisted encryption using WPA2/AES (IEEE 802.11i), WPA/RC4, and/or WEP. There is a built-in firewall for secure connection to the Internet.
- High-performance, multiservice networking: The MSM313 and MSM323 Access Points can deliver multiple services simultaneously: networking policies tailored for Quality of Service (QoS), authentication, encryption, bandwidth allocation, and VLANs based on user, device, or application identity. End-to-end QoS based on TOS/DiffServ, IEEE 802.1p, and TCP/UDP port. IEEE 802.11e Wireless MultiMedia (WMM) and SpectraLink Voice Priority (SVP) provide voice performance.
- Rich management features: Activity statistics support per-user billing by data volume and elapsed session time. There is also integrated support for leading third-party hotspot billing services. The self-healing configuration automatically adjusts to changes in the RF environment. The series provides advanced IP networking capabilities, including Adaptive NAT, SMTP redirect, and DHCP services for transparent application support.
- Interoperability: Wi-Fi Alliance certifications, including IEEE 802.11g Wi-Fi and WPA2 to help ensure multivendor interoperability
- Virtual Service Communities (VSCs):
  - O Up to 16 SSIDs, each with unique MAC address, configurable SSID broadcasts
  - O Individual security and QoS profiles per VSC
  - O Configurable DTIM and minimum data rate per VSC
  - O Each VSC mapped to separate IEEE 802.1Q VLANs
  - o WMM and/or WMM-PS
  - O Security filter
  - O IP filter
- AP client access control functions:
  - O IEEE 802.1X authentication using EAP-SIM, EAP-FAST, EAP-TLS, EAP-TTLS, and PEAP
  - O MAC address authentication using local or RADIUS access lists
  - o RADIUS AAA using EAP-MD5, PAP, CHAP, and MS-CHAPv2
  - O RADIUS Client (RFC 2865 and 2866) with location-aware support
  - O Layer 2 wireless client isolation
- Location flexibility: The series features a plenum-rated enclosure and is powered by IEEE 802.3af Power over Ethernet (PoE) or a power supply accessory (sold separately).

#### 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 the HP Web site at: www.hp.com/networking/support for details on the support provided and the period during which support is available.
- Software releases: refer to the HP Web site at: www.hp.com/networking/support for details on the software releases provided and the period during which software releases are available.



Technical Specifications

Ψ₽

HP MSM313 Access Poin			
Ports	2 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-T) half or full		
	1 RJ-11 serial console po	rt	
AP characteristics	Radios	Single (a/b/g)	
	Radio operation modes	Client access	
	AP operation modes	Autonomous	
	Wi-Fi Alliance Certification*	a/b/g Wi-Fi Certified	
	that these products have r	ccess devices are Wi-Fi Certified, providing our customers with the assurance net and passed the rigorous interoperability testing preformed by the Wi-Fi e the Specifications section of this series for more information.	
Physical characteristics	Dimensions	6.52(d) x 6.4(w) x 1.88(h) in. (16.57 x 16.26 x 4.78 cm)	
	Weight	3.0 lb. (1.36 kg)	
	Enclosure	Indoor, plenum rated	
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 176°F (-40°C to 80°C)	
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing	
Electrical characteristics	Description	5 VDC connector (power supply sold separately), IEEE 802.3af PoE compliant	
	Maximum power rating	6.5 W	
	Antenna connector	(2) RP-SMA with diversity	
	Antenna	(2) 2dBi dual-band 2.4/5 GHz omnidirectional	
	Number of external antennas	2	
Frequency band and operating channels	FCC	2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.240 GHz (36 - 48 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)	
	RCR	2.412 - 2.472 GHz (1 - 13 channels) 5.170 - 5.230 GHz (34 - 46 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 1950; UL 2043; IEC 60950; EN 60950; CSA 22.2 No. 950-95		
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		

#### Technical Specifications

RF Exposure Features	FCC Part 15.247; RSS-210; EN 300-328; ETS 301-398 Supported
	• 25 simultaneous Guest Access users
	Included Services
	<ul> <li>WLAN Management</li> <li>Guest Access</li> <li>Captive Portal</li> <li>PCI - DSS compliant for wireless PoS traffic</li> </ul>
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
Notes	Maximum transmit power varies by country.
Services	<ul> <li>3-year, 4-hour onsite, 13x5 coverage for hardware (UN675E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware (UN676E)</li> <li>3-year, 4-hour onsite, 24x7 coverage for hardware (24x7 software phone support (UN678E)</li> <li>3-year, 24x7 SW phone support, software updates (UN677E)</li> <li>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR934E)</li> <li>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR935E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware (UR996E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware (UR997E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR998E)</li> <li>4-year, 4-hour onsite, 24x7 coverage for hardware (US001E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (US002E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (US002E)</li> <li>5-year, 4-hour onsite, 24x7 coverage for hardware (US003E)</li> <li>5-year, 24x7 SW phone support, software updates (US004E)</li> <li>3 Yr 6 hr Call-to-Repair Onsite (UW410E)</li> <li>4 Yr 6 hr Call-to-Repair Onsite (UW411E)</li> <li>5 Yr 6 hr Call-to-Repair Onsite (UW412E)</li> <li>1-year, 6 hour onsite, 24x7 coverage for hardware (HR938E)</li> <li>1-year, 4-hour onsite, 24x7 coverage for hardware (HR938E)</li> <li>1-year, 4-hour onsite, 24x7 coverage for hardware (HR938E)</li> <li>1-year, 4-kour onsite, 24x7 coverage for hardware (HR938E)</li> <li>1-year, 24x7 software phone support, software updates (HR937E)</li> <li>1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV134E)</li> </ul>
	<ul> <li>1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HV135E)</li> <li>3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV136E)</li> <li>3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV137E)</li> <li>4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV138E)</li> <li>4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV139E)</li> <li>5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV139E)</li> <li>5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HV149E)</li> </ul>
	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HV141E) 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

#### Radio characteristics:

	IEEE80	)2.11a	IEEE80	02.11g	IEEE80	)2.11b
Data rate	6 Mbps	54 Mbps	6 Mbps	54 Mbps	1 Mbps	11 Mbps
Receiver sensitivity	-87 dBm	-67 dBm	-87 dBm	-70 dBm	-94 dBm	-87 dBm
Transmit power	18 dBm	12 dBm	18 dBm	13 dBm	18.5 dBm	18.5 dBm



#### Accessories

HP Mobility Integrated Services Access Point series accessories	Mounting Kit HP MSM310/MSM320 Access Point Mounting Bracket External Antenna	J9403A
	HP 5 dBi Indoor/Outdoor Omnidir Antenna	J8441A
	HP 8 dBi Outdoor Omnidirectional Antenna	J8444A
	HP 3 dBi Dual Band Diversity Antenna	J8997A
	HP 7 dBi Dual Band Directional Antenna	J8999A
	Power cords	
	HP MSM31x/MSM32x Power Supply	J9405B



### Accessory Product Details

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

Head in the proof of the indicational indicatindindicational indindicational indicational i	HP 5 dBi Indoor/Outdoor	Electrical characteristics	Frequency range 1	2400 - 2500
HP 8 dBi @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         HP 8 dBi @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         HP 8 dBi @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         HP 8 dBi @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Physical characteristics       Frequency range 1       2400 - 2500         Committing Reserved       Gain 1 dBi (with antenno 8       coble)         VSWR max       1.5:1       Enclosure         Physical characteristics       Frequency range 1       2400 - 2500         Committing Reserved       Gain 1 dBi (with antenno 8       coble)         VSWR max       1.5:1       EPhone (3 dB beamwidth)         Physical characteristics       Frequency range 1       2400 - 2500         Committing Reserved       Gain 1 dBi (with antenno 8       coble)         VSWR max       1.5:1       EPhone (3 dB beamwidth)       Onnidirectional         Polyarization       Linear (vertical)       Linear (vertical)       Linear (vertical)         Modulaterial db actional db (with antenno 8       Coble)       Services       Refer to the HP website at the reservice-10 (reservertical)         Refore to th	Omnidir		Gain 1 dBi (with antenna	
HP 8 dBi @ Outdoor       Electrical characteristics       Frequency ronge 1       2400 - 2500         HP 8 dBi @ Outdoor       Electrical characteristics       Frequency ronge 1       2400 - 2500         HP 8 dBi @ Outdoor       Electrical characteristics       Frequency ronge 1       2400 - 2500         HP 8 dBi @ Outdoor       Biomensions       1.5:1         Environment       Dimensions       1.5:1         Environment       Operating Hermony display       25:1         Monoting 30 Biomovietion       0.25:0       Nonoperating Attacher         Monoting 30 Biomovietion       0.30 Biomovietion       0.30 Biomovietion         Mounting 31 Biomovietion       0.30 Biomovietion       0.30 Biomovietion         Biomovietion       Polycarbonate       0.30 Biomovietion       0.30 Biomovietion         Monoperating/Storage       -00°F to 149°F (-40°C to 65°C)       0.30 Biomovietion       0.30 Biomovietion         Momodirectional       Phologiomiceconea       0.30 Bio	(		,	1 7.1
H-Plane (3 dB beamwidth)       Omnidirectional         Polarization       Linear (vertical)         Impedance (Ohms)       50         RE connector       Reverse SMA (male)         Cable length       2.75 ft (0.84 m)         Physical characteristics       Dimensions       11.5(h) in. (29.21 cm)         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         Environment       Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 55°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 @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Omnidirectional Antenna (J8444A)       Electrical characteristics       Frequency range 1       2400 - 2500         VSWR max       1.5:1       EPlane (3 dB beamwidth)       Intear				
HP 8 dBi @ Ourdoor       Electrical characteristics       Frequency range 1       2400 - 2500         HP 8 dBi @ Ourdoor       Electrical characteristics       Frequency range 1       2400 - 2500         HP 8 dBi @ Ourdoor       Electrical characteristics       Frequency range 1       2400 - 2500         HP 8 dBi @ Ourdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Physical characteristics       Frequency range 2       2400 - 2500 </th <th></th> <th></th> <th>· · · · · · · · · · · · · · · · · · ·</th> <th></th>			· · · · · · · · · · · · · · · · · · ·	
Hipedance (Ohms)       50         RF connector       Reverse SMA (mole)         Cable length       2.75 fr. (0.84 m)         Dimensions       11.5(h) in. (29.21 cm)         Wind surface area       0.08 sq. fr. (0.01 sq. m)         Wind survival       125.1 mph (201.13 km/hr)         Weight       0.30 lb. (0.14 kg)         Mounting style       Ceiling T-barn, I-beam, or mast         Enclosure       Polycarbonate         Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         temperature       Services         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 @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Omnidirectional Antenna (JB444A)       Electrical characteristics       Frequency range 1       2400 - 2500         VSWR max       1.5:1       E-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       13 degrees       H-Plane (3 dB beamwidth)       0midirectional         Polarization       Linear (0.thms)       50       RF connector       N (				
Physical characteristics       RF connector       Reverse SMA (male)         Cable length       2.75 ft. (0.84 m)         Dimensions       11.5(h) (.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       Polycorbonate         Nonoperating/Storage       -40°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 14°°F (-40°C to 65°C)         temperature       Services         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 scale.         HP 8 dBi @ Outdoor       Electrical characteristic       Frequency range 1       2400 - 2500         Omnidirectional       Gain 1 dBi (with antenna 8       Cable)       VSWR max       1.5:1         E-Plane (3 dB beamwidth)       13 degrees       H-Plane (3 dB				
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 surval       125.1 mph (201.13 km/hr)         Weight       0.30 lb. (0.14 kg)         Mounting style       Celling T-bar, I-beam, or most         Environment       Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         temperature       -22°F to 131°F (-30°C to 55°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 @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Omnidirectional Antenna (J8444A)       Electrical characteristics       Frequency range 1       2400 - 2500         VSWR max       1.5:1       E-Plane (3 dB beamwidth)       Omidirectional         Polarizati				
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 b (0.14 kg)         Mounting style       Ceiling T-bar, I-beam, or mast         Enclosure       Polycarbonate         Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         temperature       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 @ Outdoor Omnidirectional Antenna (J8444A)       Electrical characteristics       Frequency range 1       2400 - 2500         Gain 1 dBi (with antenna       8       cable)       VSWR max       1.5:1         E-Plane (3 dB beamwidth)       13 degrees       H-Plane (3 dB beamwidth)       Onnidirectional         Polorization       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 survival       125 mph (201.13 km/hr)				
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         Environment       Operating temperature         Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         temperature       -80°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 @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Gain 1 dBi (with antenna       8       cable)       VSWR max       1.5:1         E-Plane (3 dB beamwidth)       13 degrees       H-Plane (3 dB beamwidth)       Omidirectional         Polarization       Linear (vertical)       Impedance (Ohms)       50         RF connector       N (male)       Cable length       2.75 ft (0.84 m)         Dimensions       25.25(h) in. (64.14 cm)       Wind survival       125 mph (201.13 km/hr)         Wind survival       125 mph (201.13 km/hr)       Wind survival       125 mph (201.13 km/hr)		Physical characteristics	U	
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         Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         Itemperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         Itemperature       -22°F to 131°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 @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Gain 1 dBi (with antenna (J8444A)       Electrical characteristics       Frequency range 1       2400 - 2500         Gain 1 dBi (with antenna (J8 degrees       H-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       13 degrees       H-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       13 degrees       140°       120°       120°         Physical characteristics       Coble length       2.75 fn (0.84 m)       110°       120°				
Weight       0.30 lb. (0.14 kg)         Mounting style       Ceiling T-bar, I-beam, or mast         Environment       Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 14°P°F (-40°C to 65°C)         temperature       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 @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Omnidirectional       Gain 1 dBi (with antenna 8       8         Antenna (J8444A)       SWR max       1.5:1         E-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       50         RF connector       N (male)         Cable length       2.75 fn (0.84 m)         Physical characteristics       Dimensions       25.25(b) in. (64.14 cm)         Wind survical       125 mph (201.13 km/hr)       Wind survical         Wind survical       125 mph (201.13 km/hr)       Wind survical				
Mounting style       Ceiling T-bar, I-beam, or mast         Environment       Operating temperature       -22°F to 131°F (-30°C to 55°C)         Nonoperating/Storage       -40°F to 149°F (-40°C to 65°C)         temperature       -22°F to 131°F (-30°C to 55°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 @ Outdoor       Electrical characteristics       Frequency range 1       2400 - 2500         Omnidirectional       Gain 1 dBi (with antenna 8       acable)         VSWR max       1.5:1       E-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       0midirectional       Polarization       Linear (vertical)         Impedance (Ohms)       50       RF connector       N (male)         Cable length       2.75 fn (0.84 m)       Dimensions       25.25(b) 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)       125 mph (201.13 km/hr)       125 mph (201.13 km/hr)				
Enclosure       Polycarbonate         Environment       Operating temperature Nonoperating/Storage temperature       -22°F to 131°F (-30°C to 55°C) Nonoperating/Storage -40°F to 149°F (-40°C to 65°C) temperature         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 @ Outdoor Omnidirectional Antenna (J8444A)       Electrical characteristics       Frequency range 1 Cable)       2400 - 2500 Gain 1 dBi (with antenna cable)         VSWR max       1.5:1 E-Plane (3 dB beamwidth)       13 degrees H-Plane (3 dB beamwidth)       13 degrees H-Plane (3 dB beamwidth)         Polorization       Linear (vertical)       Impedance (Ohms)       50 RF connector         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)			-	
Environment       Operating temperature Nonoperating/Storage Services       -2 <sup>2</sup> F to 131°F (-30°C to 55°C) +40°F to 149°F (-40°C to 65°C) temperature         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 @ Outdoor Ommidirectional Antenna (J8444A)       Electrical characteristics       Frequency range 1 cable)       2400 - 2500         VSWR max       1.5:1         E-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       13 degrees         H-Plane (20 hms)       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)				
Nonoperating/Storage temperature-40°F to 149°F (-40°C to 65°C) temperatureServicesRefer 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 @ Outdoor Ormidirectional Antenna (J8444A)Electrical characteristicsFrequency range 1 Gain 1 dBi (with antenna cable)2400 - 2500 Gain 1 dBi (with antenna 8 cable)VSWR max1.5:1 E-Plane (3 dB beamwidth)13 degrees H-Plane (3 dB beamwidth)13 degrees H-Plane (0hms)Physical characteristicsFrequency compared Dimensions2.75 fr. (0.84 m) Dimensions2.75 fr. (0.84 m) Wind surface areaPhysical characteristicsDimensions25.25(h) in. (64.14 cm) Wind survival125 mph (201.13 km/hr) Weight0.5 lb. (0.23 kg)		Environment	Operating temperature	•
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 @ Outdoor Onnidirectional Antenna (J8444A)       Electrical characteristics       Frequency range 1       2400 - 2500         Gain 1 dBi (with antenna (J8444A)       Electrical characteristics       Frequency range 1       2400 - 2500         VSWR max       1.5:1       E-Plane (3 dB beamwidth)       13 degrees         H-Plane (3 dB beamwidth)       13 degrees       H-Plane (3 dB beamwidth)         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)			Nonoperating/Storage	
Omnidirectional Antenna (J8444A)Gain 1 dBi (with antenna cable)8Commidirectional cable)1.5:1VSWR max1.5:1E-Plane (3 dB beamwidth)13 degreesH-Plane (3 dB beamwidth)OmnidirectionalPolarizationLinear (vertical)Impedance (Ohms)50RF connectorN (male)Cable length2.75 ft. (0.84 m)Dimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)		Services	the service-level description services and response time	ns and product numbers. For details about
Omnidirectional Antenna (J8444A)Gain 1 dBi (with antenna cable)8Gain 1 dBi (with antenna cable)1.5:1VSWR max1.5:1E-Plane (3 dB beamwidth)13 degreesH-Plane (3 dB beamwidth)OmnidirectionalPolarizationLinear (vertical)Impedance (Ohms)50RF connectorN (male)Cable length2.75 ft. (0.84 m)Dimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)	HP 8 dBi @ Outdoor	Electrical characteristics	Frequency range 1	2400 - 2500
E-Plane (3 dB beamwidth)13 degreesH-Plane (3 dB beamwidth)OmnidirectionalPolarizationLinear (vertical)Impedance (Ohms)50RF connectorN (male)Cable length2.75 ft. (0.84 m)Dimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)	Omnidirectional		Gain 1 dBi (with antenna	
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)			VSWR max	1.5:1
PolarizationLinear (vertical)Impedance (Ohms)50RF connectorN (male)Cable length2.75 ft. (0.84 m)Dimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)			E-Plane (3 dB beamwidth)	13 degrees
Impedance (Ohms)50RF connectorN (male)Cable length2.75 ft. (0.84 m)Physical characteristicsDimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)			H-Plane (3 dB beamwidth)	Omnidirectional
RF connectorN (male)Cable length2.75 ft. (0.84 m)Physical characteristicsDimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)			Polarization	Linear (vertical)
Physical characteristicsCable length2.75 ft. (0.84 m)Physical characteristicsDimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)			Impedance (Ohms)	50
Physical characteristicsDimensions25.25(h) in. (64.14 cm)Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)			RF connector	N (male)
Wind surface area0.11 sq. ft. (0.01 sq. m)Wind survival125 mph (201.13 km/hr)Weight0.5 lb. (0.23 kg)			Cable length	2.75 ft. (0.84 m)
Wind survival         125 mph (201.13 km/hr)           Weight         0.5 lb. (0.23 kg)		Physical characteristics	Dimensions	25.25(h) in. (64.14 cm)
Weight 0.5 lb. (0.23 kg)			Wind surface area	0.11 sq. ft. (0.01 sq. m)
-			Wind survival	125 mph (201.13 km/hr)
Mounting style Mast			Weight	0.5 lb. (0.23 kg)
			Mounting style	Mast



## HP Mobility Integrated Services Access Point series

## Accessory Product Details

	Environment	Enclosure Operating temperature Nonoperating/Storage temperature	Polycarbonate -22°F to 131°F (-30°C to 55°C) -40°F to 149°F (-40°C to 65°C)	
	Services	Refer to the HP website at: the service-level description	: www.hp.com/networking/services for details on ons and product numbers. For details about es in your area, please contact your local HP sales	
HP 3 dBi Dual Band	Electrical characteristics	Frequency range 1	2400 - 2500	
<b>Diversity Antenna</b> (J8997A)		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.		



### Accessory Product Details

Electrical characteristics	Frequency range 1	2400 - 2500	
	<b>Gain 1 dBi</b> (with antenna cable)	6.9	
	Frequency range 2	4900 - 5990	
	<b>Gain 2 dBi</b> (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)	
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 d the service-level descriptions and product numbers. For details ab services and response times in your area, please contact your loce office.		
	Physical characteristics Environment	Gain 1 dBi (with antenna cable)Frequency range 2 Gain 2 dBi (with antenna cable)VSWR max E-Plane (3 dB beamwidth) E-plane radiation plots H-Plane (3 dB beamwidth) H-plane radiation plots Polarization Impedance (Ohms) RF connector Cable lengthPhysical characteristicsWind surface area Wind survival Weight Mounting style Enclosure 	



Accessory Product Details

Physical characteristics	Dimensions	3.7(d) x 1.5(w) x 1.18(h) in. (9.4 x 3.8 x 3 cm)
	Weight	0.88 lb. (0.4 kg)
Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-4°F to 176°F (-20°C to 80°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Voltage	100-240 VAC
	Current	0.5/0.3 A
	Frequency	50/60 Hz
	Notes	Output voltage: 5 VDC
Services	the service-level description	: www.hp.com/networking/services for details on ons and product numbers. For details about es in your area, please contact your local HP sales
	Environment Electrical characteristics	EnvironmentWeightEnvironmentOperating temperature Operating relative humidity Nonoperating/Storage temperature Nonoperating/Storage relative humidityElectrical characteristicsVoltage Current Frequency NotesServicesRefer to the HP website at the service-level description services and response time

To learn more, visit: www.hp.com/networking

© Copyright 2011 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

