HP E-802.11a/b/g Access Point Series

Data sheet

Product overview

HP offers intelligent single, dual and tri radio Access Points designed to provide reliable, easy-to-use wireless connectivity across the network. HP also offers integrated RF Security Sensors in some of their APs. All the HP E-series MSM Access Points and integrated RF Security Sensors operating are managed by any of the HP E-series MSM Controllers and the HP RF Manager for the RF Security Sensors. All the HP E-series Access Points can also work in autonomous mode. The HP E-series MSM Access Points require a single Power over Ethernet (PoE) cable drop and are IEEE802.3af compliant or can be powered directly via a power adaptor. HP has a full range of both indoor and outdoor E-series Access Points.

Key features

- Single, dual and tri radio
- Intelligent traffic forwarding, Built-in security
- Self-healing, Advanced mesh capabilities
- Client Access
- Indoor and Outdoor enclosures

Features and benefits

Quality of Service (QoS)

- **IEEE 802.1p prioritization:** delivers data to devices based on the priority and type of traffic

- **SpectraLink voice priority (SVP) support:** prioritizes SpectraLink voice IP packets sent from a SpectraLink NetLink SVP server to SpectraLink wireless voice handsets to help ensure excellent voice quality

- **Wireless:**
  - L2/L3/L4 classification: IEEE 802.1p VLAN priority, SpectraLink SVP and DiffServ
  - Wi-Fi MultiMedia (WMM), IEEE 802.11e EDCF, and Service-Aware priority assigned by VSC
  - Maximum VoIP call capacity: 12 active calls on IEEE 802.11a/b/g/n

- **Network management:**
  - Fully manageable using HP PCM 3.0 AU1 and HP Mobility Manager 3.0 AU2
  - SNMP v2c, SNMP v3, MIB-II with Traps, and RADIUS Authentication Client MIB (RFC 2618)
  - Embedded HTML management tool with secure access (SSL and VPN)
  - Scheduled configuration and firmware upgrades from central server

- **Diagnostic:**
  - Client event log records association, authentication, and DHCP events
  - Packet capture tool for Ethernet and IEEE 802.11 interfaces (PCAP format)
  - Data rate matrix

- **RF management:**
  - Automatically selects channel on power-up and continuously improves channel selection based on background interference scan
  - Configurable background rogue scanning
  - Automatically adjusts transmit power to reduce interference

Connectivity

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

- **IEEE 802.3af Power over Ethernet (PoE) support:** simplifies deployment and dramatically reduces installation costs by helping to eliminate the time and cost involved in supplying local power at each access point location

Mobility

- **Anywhere, anytime wireless coverage:**
  - Single, dual, and tri-radio IEEE 802.11a/b/g 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 802.11a/b/g client devices
  - IEEE 802.3af PoE or external power cord on selected models

- **Interoperability:** Wi-Fi Alliance certifications, including IEEE 802.11g Wi-Fi and WPA2 to help ensure multivendor interoperability

- **Virtual Service Communities (VSCs):**
  - Up to 16 SSIDs, each with unique MAC address, configurable SSID broadcasts
  - Individual security and QoS profiles per VSC
  - Configurable DTIM and minimum data rate per VSC
  - Each VSC can be mapped to separate IEEE 802.1Q VLANs
  - WMM and/or WMM-PS
  - Security filter
  - IP filter

- **AP client access control functions:**
  - IEEE 802.1X authentication using EAP-SIM, EAP-FAST, EAP-TLS, EAP-TTLS, and PEAP
  - MAC address authentication using local or RADIUS access lists
  - RADIUS AAA using EAP-MD5, PAP, CHAP, and MS-CHAPv2
  - RADIUS Client (RFC 2865 and 2866) with location-aware support
  - Layer 2 wireless client isolation

- **Auto Channel Select (ACS):** helps reduce radio co-channel interference by automatically selecting the radio channel with the least interference

- **E-MSM325 and E-MSM335 with HP RF sensor license Included:** ready, out of the box, to function as an RF monitor for the HP RF Manager IDS/IPS system

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

- **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

HP E-802.11a/b/g Access Point Series

Specifications

	HP E-MSM310 Access Point US (J9374B)	HP E-MSM310 Access Point WW (J9379B)	HP E-MSM310 Access Point JP (J9524B)
Ports	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full
AP characteristics			
Radios	Single (a/b/g)	Single (a/b/g)	Single (a/b/g)
Radio operation modes	Client access, Local mesh, Packet capture	Client access, Local mesh, Packet capture	Client access, Local mesh, Packet capture
AP operation modes	Autonomous and controlled	Autonomous and controlled	Autonomous and controlled
Wi-Fi Alliance Certification	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified
Physical characteristics			
Dimensions	6.52(d) x 6.4(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)	6.52(d) x 6.40(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)	6.52(d) x 6.4(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)
Weight	1.41 lb. (0.64 kg)	1.41 lb. (0.64 kg)	1.41 lb. (0.64 kg)
Enclosure	Indoor, plenum rated	Indoor, plenum rated	Indoor, plenum rated
Environment			
Operating temperature	32°F to 122°F (0°C to 50°C)	32°F to 113°F (0°C to 45°C)	32°F to 122°F (0°C to 50°C)
Operating relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Non-operating/Storage temperature	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)
Non-operating/Storage relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Electrical characteristics			
Description	IEEE 802.3af PoE compliant or 5 VDC from available AC power supply	IEEE 802.3af PoE compliant or 5 VDC form available AC power supply	IEEE 802.3af PoE compliant or 5 VDC from available AC power supply
Maximum power rating	6.5 W	6.5 W	6.5 W
Antenna Connector	(2) RP-SMA with diversity	(2) RP-SMA with diversity	(2) RP-SMA with diversity
Antenna	(2) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas;	(2) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas;	(2) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas;
Number of external antennas	2	2	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)	2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.240 GHz (36 - 48 channels) 5.745 - 5.825 GHz (149 - 165 channels)	2.412 - 2.462 GHz (11 channels) 5.180 - 5.240 GHz (4 channels) 5.745 - 5.825 GHz (5 channels)
EN	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.240 GHz (36 - 48 channels)	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.240 GHz (36 - 48 channels)	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)	2.412 - 2.472 GHz (1 - 13 channels) 5.170 - 5.230 GHz (34 - 46 channels)	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)	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)	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; IEC 60950-1; EN 60601-1-2	UL 2043; UL 60950; IEC 60950; EN 60950-1; CSA 22.2 No. 950-95; CAN/CSA-C22.2 No. 60950-1-03; EN 60601-1-2	UL 2043; IEC 60950-1; EN 60601-1-2
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	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	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
RF Exposure	FCC Bulletin OET-65C; RSS-102; EN 50385	FCC Bulletin OET-65C; RSS-102; EN 50385	FCC Bulletin OET-65C; RSS-102; EN 50385
Notes	Maximum transmit power varies by country.	Maximum transmit power varies by country.	Maximum transmit power varies by country.

Specifications (continued)

	HP E-MSM310 Access Point US (J9374B)	HP E-MSM310 Access Point WW (J9379B)	HP E-MSM310 Access Point JP (J9524B)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UN687E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN688E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN690E) 3-year, 24x7 SW phone support, software updates (UN689E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US021E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US022E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US023E) 4-year, 24x7 SW phone support, software updates (US024E) 5-year, 4-hour onsite, 13x5 coverage for hardware (US025E) 5-year, 4-hour onsite, 24x7 coverage for hardware (US026E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US027E) 5-year, 24x7 SW phone support, software updates (US028E) 3 Yr 6 hr Call-to-Repair Onsite (UW419E) 4 Yr 6 hr Call-to-Repair Onsite (UW420E) 5 Yr 6 hr Call-to-Repair Onsite (UW421E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UN687E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN688E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN690E) 3-year, 24x7 SW phone support, software updates (UN689E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US021E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US022E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US023E) 4-year, 24x7 SW phone support, software updates (US024E) 5-year, 4-hour onsite, 13x5 coverage for hardware (US025E) 5-year, 4-hour onsite, 24x7 coverage for hardware (US026E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US027E) 5-year, 24x7 SW phone support, software updates (US028E) 3 Yr 6 hr Call-to-Repair Onsite (UW419E) 4 Yr 6 hr Call-to-Repair Onsite (UW420E) 5 Yr 6 hr Call-to-Repair Onsite (UW421E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UN687E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN688E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN690E) 3-year, 24x7 SW phone support, software updates (UN689E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US021E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US022E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US023E) 4-year, 24x7 SW phone support, software updates (US024E) 5-year, 4-hour onsite, 13x5 coverage for hardware (US025E) 5-year, 4-hour onsite, 24x7 coverage for hardware (US026E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US027E) 5-year, 24x7 SW phone support, software updates (US028E) 3 Yr 6 hr Call-to-Repair Onsite (UW419E) 4 Yr 6 hr Call-to-Repair Onsite (UW420E) 5 Yr 6 hr Call-to-Repair Onsite (UW421E) 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.

Radio characteristics:

IEEE802.11a

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-67 dBm
Transmit power	18 dBm	12 dBm

IEEE802.11b

Data rate	1 Mbps	11 Mbps
Receiver sensitivity	-94 dBm	-87 dBm
Transmit power	18.5 dBm	18.5 dBm

IEEE802.11g

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-70 dBm
Transmit power	18 dBm	13 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

IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band
IEEE 802.11i Medium Access Control (MAC) Security Enhancements

Specifications (continued)

	HP E-MSM310-R Access Point US (J9380B)	HP E-MSM310-R Access Point WW (J9383B)	HP E-MSM320 Access Point US (J9360B)
Ports	1 RJ-45 auto-sensing 10/100 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	1 RJ-45 auto-sensing 10/100 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full
AP characteristics			
Radios	Single (a/b/g)	Single (a/b/g)	Dual (a/b/g)
Radio operation modes	Client access, Local mesh, Packet capture	Client access, Local mesh, Packet capture	Client access, Local mesh, Packet capture, Optional RF security
AP operation modes	Autonomous and controlled	Autonomous and controlled	Autonomous and controlled
Wi-Fi Alliance Certification	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified
Physical characteristics			
Dimensions	8.44(d) x 7.25(w) x 2.14(h) in. (21.44 x 18.42 x 5.44 cm)	8.44(d) x 7.25(w) x 2.14(h) in. (21.44 x 18.42 x 5.44 cm)	6.52(d) x 6.4(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)
Weight	2.54 lb. (1.15 kg) mounting bracket	2.54 lb. (1.15 kg) mounting bracket	1.5 lb. (0.68 kg)
Enclosure	Die cast aluminum with 3-point silicone rubber gasket; compliant with IP65 and EN61373	Die cast aluminum with 3-point silicone rubber gasket; compliant with IP65 and EN61373	Indoor, plenum rated
Mounting	Outdoor Access Point, includes pole top U-bolts and wall mounting brackets	Outdoor Access Point, includes pole top U-bolts and wall mounting brackets	
Environment			
Operating temperature	-4°F to 122°F (-20°C to 50°C)	-4°F to 122°F (-20°C to 50°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Non-operating/Storage temperature	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)
Non-operating/Storage relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Electrical characteristics			
Description	IEEE 802.3af PoE compliant	IEEE 802.3af PoE compliant	IEEE 802.3af PoE compliant or 5 VDC from available AC power supply
Maximum power rating	6.5 W	6.5 W	8.6 W
Antenna Connector	(2) Waterproof N-type female with diversity	(2) Waterproof N-type female with diversity	(4) RP-SMA with diversity
Antenna	(2) 5.5 dBi 2.4 GHz omnidirectional	(2) 5.5 dBi 2.4 GHz omnidirectional;	(4) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas
Number of external antennas	2	2	4
Frequency band and Operating channels			
FCC	2.412 - 2.462 GHz (1 - 11 channels) 5.745 - 5.825 GHz (149 - 165 channels)	2.412 - 2.462 GHz (1 - 11 channels) 5.745 - 5.825 GHz (149 - 165 channels)	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)	2.412 - 2.472 GHz (1 - 13 channels)	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)	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)	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 60950-1	UL 60950-1; EN 60950-1	UL 2043; IEC 60950-1; EN 60950-1; CSA 22.2 No. 950-95; CAN/CSA-C22.2 No. 60950-1-03; EN 60601-1-2
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	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	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
RF Exposure	FCC Bulletin OET-65C; RSS-102; EN 50385	RSS-102; EN 50385	FCC Bulletin OET-65C; RSS-102
Features	Outdoor Access Point	Outdoor Access Point	Optional - Security sensor software upgrade for use with the HP ProCurve RF Manager IDS/IPS system
Notes	Maximum transmit power varies by country. The HP ProCurve MSM310-R Access Point WW J9383A is no longer shipping into Japan	Maximum transmit power varies by country. The HP ProCurve MSM310-R WW J9383A is no longer shipping into Japan	Maximum transmit power varies by country.

HP E-802.11a/b/g Access Point Series

Specifications (continued)

	HP E-MSM310-R Access Point US (J9380B)	HP E-MSM310-R Access Point WW (J9383B)	HP E-MSM320 Access Point US (J9360B)
Services	3-year, parts only, global next-day advance exchange (UN647E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UN648E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN649E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN650E) 1-year, post-warranty, parts only, global next-day advance exchange (UN651PE) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (UN652PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (UN653PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN654PE) 3 Yr 6 hr Call-to-Repair Onsite (UW332E) 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.	3-year, parts only, global next-day advance exchange (UN647E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UN648E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN649E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN650E) 1-year, post-warranty, parts only, global next-day advance exchange (UN651PE) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (UN652PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (UN653PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN654PE) 3 Yr 6 hr Call-to-Repair Onsite (UW332E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UN683E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN684E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN686E) 3-year, 24x7 SW phone support, software updates (UN685E) 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) 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.

Radio characteristics:
IEEE802.11a

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-67 dBm
Transmit power	18 dBm	12 dBm

IEEE802.11b

Data rate	1 Mbps	11 Mbps
Receiver sensitivity	-94 dBm	-87 dBm
Transmit power	18.5 dBm	18.5 dBm

IEEE802.11g

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-70 dBm
Transmit power	18 dBm	13 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

IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band
IEEE 802.11i Medium Access Control (MAC) Security Enhancements

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Specifications (continued)

	HP E-MSM320 Access Point WW (J9364B)	HP E-MSM320 Access Point JP (J9527B)	HP E-MSM320-R Access Point US (J9365B)
Ports	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	1 RJ-45 auto-sensing 10/100 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full
AP characteristics			
Radios	Dual (a/b/g)	Dual (a/b/g)	Dual (a/b/g)
Radio operation modes	Client access, Local mesh, Packet capture, Optional RF security	Client access, Local mesh, Packet capture, Optional RF security	Client access, Local mesh, Packet capture
AP operation modes	Autonomous and controlled	Autonomous and controlled	Autonomous and controlled
Wi-Fi Alliance Certification	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified
Physical characteristics			
Dimensions	6.52(d) x 6.40(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)	6.52(d) x 6.4(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)	8.44(d) x 7.25(w) x 2.14(h) in. (21.44 x 18.42 x 5.44 cm)
Weight	1.5 lb. (0.68 kg)	1.5 lb. (0.68 kg)	2.91 lb. (1.32 kg) mounting bracket
Enclosure	Indoor, plenum rated	Indoor, plenum rated	Die cast aluminum with 3-point silicone rubber gasket; compliant with IP65 and EN61373
Mounting			Includes pole top U-bolts and wall mounting brackets
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	-4°F to 122°F (-20°C to 50°C)
Operating relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Non-operating/Storage temperature	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)
Non-operating/Storage relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Electrical characteristics			
Description	IEEE 802.3af PoE compliant or 5 VDC from available AC power supply	IEEE 802.3af PoE compliant or 5 VDC from available AC power supply	IEEE 802.3af PoE compliant
Maximum power rating	8.6 W	8.6 W	8.6 W
Antenna Connector	(4) RP-SMA with diversity	(4) RP-SMA with diversity	(2) Waterproof N-type female (one per radio)
Antenna	(4) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas	(4) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas	(2) 5.5 dBi 2.4 GHz omnidirectional
Number of external antennas	4	4	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)	2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.240 GHz (36 - 48 channels) 5.745 - 5.825 GHz (149 - 165 channels)	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)	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.240 GHz (36 - 48 channels)	2.412 - 2.472 GHz (1 - 13 channels)
RCR	2.412 - 2.472 GHz (1 - 13 channels) 5.170 - 5.230 GHz (34 - 46 channels)	2.412 - 2.472 GHz (1 - 13 channels) 5.170 - 5.230 GHz (34 - 46 channels)	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)	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)	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; IEC 60950; EN 60950-1; CSA 22.2 No. 950-95; CAN/CSA-C22.2 No. 60950-1-03; EN 60601-1-2	UL 2043; IEC 60950-1; EN 60950-1; CSA 22.2 No. 950-95; CAN/CSA-C22.2 No. 60950-1-03; EN 60601-1-2	UL 60950-1; EN 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	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	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
RF Exposure	FCC Bulletin OET-65C; RSS-102; EN 50385	FCC Bulletin OET-65C; RSS-102	FCC Bulletin OET-65C; RSS-102; EN 50385
Features	Optional - Security sensor software upgrade for use with the HP ProCurve RF Manager IDS/IPS system	Optional - Security sensor software upgrade for use with the HP ProCurve RF Manager IDS/IPS system	Optional - Security sensor software upgrade for use with the HP ProCurve RF Manager IDS/IPS system
Notes	Maximum transmit power varies by country.	Maximum transmit power varies by country.	Maximum transmit power varies by country.

Specifications (continued)

	HP E-MSM320 Access Point WW (J9364B)	HP E-MSM320 Access Point JP (J9527B)	HP E-MSM320-R Access Point US (J9365B)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UN683E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN684E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN686E) 3-year, 24x7 SW phone support, software updates (UN685E) 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) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UN683E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN684E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN686E) 3-year, 24x7 SW phone support, software updates (UN685E) 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) 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.	3-year, parts only, global next-day advance exchange (UN551E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UN552E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN553E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN554E) 1-year, post-warranty, parts only, global next-day advance exchange (UN635PE) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (UN636PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (UN637PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN638PE) 3 Yr 6 hr Call-to-Repair Onsite (UW330E) 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.

Radio characteristics:
IEEE802.11a

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-67 dBm
Transmit power	18 dBm	12 dBm

IEEE802.11b

Data rate	1 Mbps	11 Mbps
Receiver sensitivity	-94 dBm	-87 dBm
Transmit power	18.5 dBm	18.5 dBm

IEEE802.11g

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-70 dBm
Transmit power	18 dBm	13 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

IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band
IEEE 802.11i Medium Access Control (MAC) Security Enhancements

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Specifications (continued)

	HP E-MSM320-R Access Point WW (J9368B)	HP E-MSM320-R Access Point JP (J9528B)	HP E-MSM325 Access Point US (J9369B)
Ports	1 RJ-45 auto-sensing 10/100 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	1 RJ-45 auto-sensing 10/100 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full
AP characteristics			
Radios	Dual (a/b/g)	Dual (a/b/g)	Dual (a/b/g)
Radio operation modes	Client access, Local mesh, Packet capture	Client access, Local mesh, Packet capture	Client access, Local mesh, Packet capture, RF security
AP operation modes	Autonomous and controlled	Autonomous and controlled	Autonomous and controlled
Wi-Fi Alliance Certification	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified
Physical characteristics			
Dimensions	8.44(d) x 7.25(w) x 2.14(h) in. (21.44 x 18.42 x 5.44 cm)	8.44(d) x 7.25(w) x 2.14(h) in. (21.44 x 18.42 x 5.44 cm)	6.52(d) x 6.40(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)
Weight	2.91 lb. (1.32 kg) mounting bracket	2.91 lb. (1.32 kg) mounting bracket	1.5 lb. (0.68 kg)
Enclosure	Die cast aluminum with 3-point silicone rubber gasket; compliant with IP65 and EN61373	Die cast aluminum with 3-point silicone rubber gasket; compliant with IP65 and EN61373	Indoor, plenum rated
Mounting	Includes pole top U-bolts and wall mounting brackets	Includes pole top U-bolts and wall mounting brackets	
Environment			
Operating temperature	-4°F to 122°F (-20°C to 50°C)	-4°F to 122°F (-20°C to 50°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Non-operating/Storage temperature	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)
Non-operating/Storage relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Electrical characteristics			
Description	IEEE 802.3af PoE compliant	IEEE 802.3af PoE compliant	IEEE 802.3af PoE compliant or 5 VDC from available AC power supply
Maximum power rating	8.6 W	8.6 W	8.6 W
Antenna Connector	(2) Waterproof N-type female (one per radio)	(2) Waterproof N-type female (one per radio)	(4) RP-SMA with diversity
Antenna	(2) 5.5 dBi 2.4 GHz omnidirectional	(2) 5.5 dBi 2.4 GHz omnidirectional	(4) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas
Number of external antennas	2	2	4
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)	2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.240 GHz (36 - 48 channels) 5.745 - 5.825 GHz (149 - 165 channels)	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)	2.412 - 2.472 GHz (1 - 13 channels)	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)	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)	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)	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 60950-1; EN 60950-1	UL 60950-1; EN 60950-1	UL 2043; UL 60950; IEC 60950; IEC 60950-1; EN 60950-1; CSA 22.2 No. 950-95; CAN/CSA-C22.2 No. 60950-1-03; EN 60601-1-2
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	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	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
RF Exposure	RSS-102; EN 50385	FCC Bulletin OET-65C; RSS-102; EN 50385	FCC Bulletin OET-65C; RSS-102; EN 50385
Features		Optional - Integrated security sensor for use with the HP ProCurve RF Manager IDS/IPS system	Integrated security sensor for use with the HP RF Manager system.
Notes	Maximum transmit power varies by country.	Maximum transmit power varies by country.	Maximum transmit power varies by country. The HP MSM325 Access Point WW J9373A is no longer shipping into Japan

Specifications (continued)

	HP E-MSM320-R Access Point WW (J9368B)	HP E-MSM320-R Access Point JP (J9528B)	HP E-MSM325 Access Point US (J9369B)
Services	3-year, parts only, global next-day advance exchange (UN551E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UN552E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN553E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN554E) 1-year, post-warranty, parts only, global next-day advance exchange (UN635PE) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (UN636PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (UN637PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN638PE) 3 Yr 6 hr Call-to-Repair Onsite (UW330E) 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.	3-year, parts only, global next-day advance exchange (UN551E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UN552E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN553E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN554E) 1-year, post-warranty, parts only, global next-day advance exchange (UN635PE) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (UN636PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (UN637PE) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN638PE) 3 Yr 6 hr Call-to-Repair Onsite (UW330E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UN679E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN680E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN682E) 3-year, 24x7 SW phone support, software updates (UN681E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US005E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US006E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US007E) 4-year, 24x7 SW phone support, software updates (US008E) 5-year, 4-hour onsite, 13x5 coverage for hardware (US009E) 5-year, 4-hour onsite, 24x7 coverage for hardware (US010E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US011E) 5-year, 24x7 SW phone support, software updates (US012E) 3 Yr 6 hr Call-to-Repair Onsite (UW413E) 4 Yr 6 hr Call-to-Repair Onsite (UW414E) 5 Yr 6 hr Call-to-Repair Onsite (UW415E) 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.

Radio characteristics:
IEEE802.11a

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-67 dBm
Transmit power	18 dBm	12 dBm

IEEE802.11b

Data rate	1 Mbps	11 Mbps
Receiver sensitivity	-94 dBm	-87 dBm
Transmit power	18.5 dBm	18.5 dBm

IEEE802.11g

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-70 dBm
Transmit power	18 dBm	13 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

IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band
IEEE 802.11i Medium Access Control (MAC) Security Enhancements

Specifications (continued)

	HP E-MSM325 Access Point WW (J9373B)	HP E-MSM335 Access Point US (J9356B)	HP E-MSM335 Access Point WW (J9357B)
Ports	2 RJ-45 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Duplex: half or full	1 RJ-45 auto-sensing 10/100/1000 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Media Type: Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only	1 RJ-45 auto-sensing 10/100/1000 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Media Type: Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only
		1 RS-232C DB-9 console port	1 RS-232C DB-9 console port
AP characteristics			
Radios	Dual (a/b/g)	Triple (a/b/g)	Triple (a/b/g)
Radio operation modes	Client access, Local mesh, Packet capture, RF security	Client access, Local mesh, Packet capture, RF security	Client access, Local mesh, Packet capture, RF security
AP operation modes	Autonomous and controlled	Autonomous and controlled	Autonomous and controlled
Wi-Fi Alliance Certification	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified	a/b/g Wi-Fi Certified
Physical characteristics			
Dimensions	6.52(d) x 6.40(w) x 1.88(h) in. (16.56 x 16.26 x 4.78 cm)	6.7(d) x 8.8(w) x 2.6(h) in. (17.02 x 22.35 x 6.6 cm)	6.7(d) x 8.8(w) x 2.6(h) in. (17.02 x 22.35 x 6.6 cm)
Weight	1.5 lb. (0.68 kg)	3.97 lb. (1.8 kg) mounting bracket	3.97 lb. (1.8 kg) mounting bracket
Enclosure	Indoor, plenum rated	Indoor, plenum rated	Indoor, plenum rated
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 122°F (0°C to 50°C)	32°F to 122°F (0°C to 50°C)
Operating relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Non-operating/Storage temperature	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)	-40°F to 176°F (-40°C to 80°C)
Non-operating/Storage relative humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Electrical characteristics			
Description	IEEE 802.3af PoE compliant or 5 VDC from available AC power supply	IEEE 802.3af PoE compliant; IEEE 802.3af PoE for Gigabit Ethernet or External power supply available as accessory	IEEE 802.3af PoE compliant; IEEE 802.3af PoE injector for Gigabit Ethernet or external power supply available as accessory.
Maximum power rating	8.6 W	12 W	12 W
Antenna Connector	(4) RP-SMA with diversity	(3) RP-SMA	(3) RP-SMA
Antenna	(4) 2 dBi dual-band 2.4/5 GHz omnidirectional antennas	(3) Integrated, dual-band 2.4/5 GHz omnidirectional or directional patch antennas (per flap)	(3) Integrated, dual-band 2.4/5 GHz omnidirectional or directional patch antennas (per flap)
Number of internal antennas		6	6
Number of external antennas	4	3	3
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)	2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.240 GHz (36 - 48 channels) 5.745 - 5.825 GHz (149 - 165 channels)	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)	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.240 GHz (36 - 48 channels)	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.240 GHz (36 - 48 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)	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)	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; IEC 60950; EN 60950-1; CSA 22.2 No. 950-95; CAN/CSA-C22.2 No. 60950-1-03; EN 60601-1-2	UL 2043; UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1-03	UL 2043; UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1-03
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	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	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
RF Exposure	FCC Bulletin OET-65C; RSS-102; EN 50385	FCC Bulletin OET-65C; RSS-102	FCC Bulletin OET-65C; RSS-102
Features	Integrated security sensor for use with the HP RF Manager.	Accepts external IEEE 802.11a/b/g (non-diversity) Will operate all 3 radios; full power on IEEE 802.3af for Gigabit Ethernet Integrated security sensor for use with the HP RF Manager IDS/IPS system	Accepts external IEEE 802.11a/b/g (non-diversity) Will operate all 3 radios; full power on IEEE 802.3af for Gigabit Ethernet Integrated security sensor for use with the HP ProCurve RF Manager IDS/IPS system
Notes	Maximum transmit power varies by country. The HP MSM325 Access Point WW J9373A is no longer shipping into Japan	Maximum transmit power varies by country. The HP E-MSM335 Access Point WW J9357A is no longer shipping into Japan	Maximum transmit power varies by country. The HP ProCurve MSM335 Access Point WW J9357A is no longer shipping into Japan

Specifications (continued)

	HP E-MSM325 Access Point WW (J9373B)	HP E-MSM335 Access Point US (J9356B)	HP E-MSM335 Access Point WW (J9357B)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (UN679E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN680E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN682E) 3-year, 24x7 SW phone support, software updates (UN681E) 4-year, 4-hour onsite, 13x5 coverage for hardware (US005E) 4-year, 4-hour onsite, 24x7 coverage for hardware (US006E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US007E) 4-year, 24x7 SW phone support, software updates (US008E) 5-year, 4-hour onsite, 13x5 coverage for hardware (US009E) 5-year, 4-hour onsite, 24x7 coverage for hardware (US010E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (US011E) 5-year, 24x7 SW phone support, software updates (US012E) 3 Yr 6 hr Call-to-Repair Onsite (UW413E) 4 Yr 6 hr Call-to-Repair Onsite (UW414E) 5 Yr 6 hr Call-to-Repair Onsite (UW415E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UN671E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN672E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN674E) 3-year, 24x7 SW phone support, software updates (UN673E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR988E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR989E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR990E) 4-year, 24x7 SW phone support, software updates (UR991E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR992E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR993E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR994E) 5-year, 24x7 SW phone support, software updates (UR995E) 3 Yr 6 hr Call-to-Repair Onsite (UW407E) 4 Yr 6 hr Call-to-Repair Onsite (UW408E) 4 Yr 6 hr Call-to-Repair Onsite (UW408E) 5 Yr 6 hr Call-to-Repair Onsite (UW409E) 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.	3-year, 4-hour onsite, 13x5 coverage for hardware (UN671E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UN672E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UN674E) 3-year, 24x7 SW phone support, software updates (UN673E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR988E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR989E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR990E) 4-year, 24x7 SW phone support, software updates (UR991E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR992E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR993E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR994E) 5-year, 24x7 SW phone support, software updates (UR995E) 3 Yr 6 hr Call-to-Repair Onsite (UW407E) 4 Yr 6 hr Call-to-Repair Onsite (UW408E) 4 Yr 6 hr Call-to-Repair Onsite (UW408E) 5 Yr 6 hr Call-to-Repair Onsite (UW409E) 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.

Radio characteristics:
IEEE802.11a

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-67 dBm
Transmit power	18 dBm	12 dBm

IEEE802.11b

Data rate	1 Mbps	11 Mbps
Receiver sensitivity	-94 dBm	-87 dBm
Transmit power	18.5 dBm	18.5 dBm

IEEE802.11g

Data rate	6 Mbps	54 Mbps
Receiver sensitivity	-87 dBm	-70 dBm
Transmit power	18 dBm	13 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

IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band
IEEE 802.11i Medium Access Control (MAC) Security Enhancements

HP E-802.11a/b/g Access Point Series accessories

Power Supply

HP E-MSM31x and E-MSM32x Power Supply (J9405A)
HP E-MSM335 and E-MSM422 Power Supply (J9406A)
HP 1-Port Power Injector (J9407A)

Mounting Kit

HP E-MSM310/MSM320 AP Mounting Bracket (J9403A)

External Antenna

HP 5 dBi @2.4GHz Indoor/Outdoor Omnidir Antenna (J8441A)
HP 8 dBi @ 2.4GHz Outdoor Omnidirectional Antenna (J8444A)
HP 3 dBi Dual-Band Diversity Antenna (J8997A)
HP 7 dBi Dual-Band Directional Antenna (J8999A)

HP E-MSM320 Access Point US (J9360B)

HP E-MSM320 RF sensor license (J9384A)

HP E-MSM320 Access Point WW (J9364B)

HP E-MSM320 RF sensor license (J9384A)

HP E-MSM320 Access Point JP (J9527B)

HP E-MSM320 RF sensor license (J9384A)

HP E-MSM320-R Access Point US (J9365B)

HP E-MSM320 RF sensor license (J9384A)

HP E-MSM320-R Access Point WW (J9368B)

HP E-MSM320 RF sensor license (J9384A)

HP E-MSM320-R Access Point JP (J9528B)

HP E-MSM320 RF sensor license (J9384A)

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