

Overview

HPE R100 Wireless VPN Router Series

Models

HPE R110 Wireless 802.11n VPN WW Router	J9975A
HPE R110 Wireless 802.11n VPN AM Router	J9974A
HPE R120 Wireless 802.11ac VPN AM Router	J9976A
HPE R120 Wireless 802.11ac VPN WW Router	J9977A

Key features

- High-speed connectivity with 4-port gigabit switch and 11n single radio/11ac dual radio access point
- Advanced security features like SPI firewall, URL/MAC/IP/Content filters, and DoS attack protection
- VPN initiation and termination (IPsec,L2TP,PPTP) for secure data transfers
- USB port for storage applications
- Intuitive graphical interface with easy setup wizard for simple management

Product overview

The all-in-one HPE R100 Wireless VPN Router Series delivers secure high-performance Internet access and wired/wireless connectivity for offices and remote/mobile employees. Part of the HPE OfficeConnect portfolio, the routers feature the next-generation Hewlett Packard Enterprise Networking user interface and Easy Setup Wizard that are designed for simplicity and reliability to get your business connected quickly.

The router includes a Stateful Packet Inspection (SPI) firewall, and enterprise grade VPN technology, combined with wireless encryption features like WPA/WPA2 encryption for secure data transfer. Advanced security features like IEEE 802.1X, URL filters, Content filters, MAC filters and Trusted Users Management keep your network safe from outside threats and unwanted access. Time based rules that enable scheduling rules for radios and security filters combined with email alerts simplify management tasks for users.

With a compact executive design featuring internal antennas, the routers are ideal for unobtrusive use in office environments.

Features and benefits

Wireless features

- **IEEE 802.11 a/b/g/n/ac compliance**
Superior wireless performance with WiFi-certified built-in access points. R110 model has built in single radio dual band IEEE 802.11a/b/g/n compliant access point. R120 model has built-in dual radio 802.11 a/b/g/n/ac complaint access point.
- **Multiple-input Multiple-output (MIMO)**
Both models support 3x3 MIMO antennas to ensure wider wireless coverage and superior throughput.
- **Multiple SSIDs**
Each radio supports up to 4 SSIDs to help segregate wireless clients and apply granular policies.
- **Multiple-input Multiple-output (MIMO)**
Both models support 3x3 MIMO antennas to ensure wider wireless coverage and superior throughput.

Overview

- **Multiple SSIDs**
Each radio supports up to 4 SSIDs to help segregate wireless clients and apply granular policies.
- **WMM (IEEE 802.11e)**
Provides Quality of Service to wireless clients based on access categories like voice, video, best effort, and background.
- **WMM - Power Save**
WMM -power save mode helps reduce power consumption on wireless network.
- **Wireless Distribution System (WDS)**
Allows users to expand wireless coverage without the requirement for a wired connection. R100 series routers can be linked together via the wireless medium (using SSIDs), while at the same time servicing clients in the vicinity of each router.
- **Wi-Fi Protected Setup (WPS v2)**
WPS v2 protocol allows customers to easily create secure wireless link between wireless client devices that support WPSv2 and the router.
- **SSID to VLAN mapping**
Allows user to segregate wireless traffic

Security

- **Stateful Firewall**
enforces firewall policies to control traffic and filter access to network services; maintains session information for every connection passing through it, enabling the firewall to control packets based on existing sessions
- **URL Filtering**
Blocks unsafe websites and protects network based on URL information
- **Content Filtering**
Blocks websites and protects network based on keyword match done on the content in the webpage.
- **Network Access Control**
Mac address and IP address based network access control. IP/MAC binding.
- **IEEE 802.1X authentication and Radius login**
Authenticate wireless clients based on 802.1X protocol using Radius Server.
- **Denial of Service (DOS) prevention**
Detects and blocks commonly used DOS attacks that can be initiated on the devices. Common attack signatures are stored in the device.
- **Application Level Gateway (SIP/ H323)**
discovers the IP address and service port information embedded in the application data using deep packet inspection in the firewall; firewall then dynamically opens appropriate connections for specific applications
- **Secure Management**
Mac/IP based administrator authentication, Secure WAN/LAN access to Management interface, encrypt management traffic using https.
- **HTTPS management**
provides secure Web management
- **Management password**
provides security so that only authorized access to the Web browser interface is allowed

Virtual private network (VPN)

- **IPSec**
provides secure tunneling over an untrusted network such as the Internet or a wireless network; offers data confidentiality, authenticity, and integrity between two network endpoints

Overview

- **Layer 2 Tunneling Protocol (L2TP)**
an industry standard-based traffic encapsulation mechanism supported by many common operating systems; will tunnel the Point-to-Point Protocol (PPP) traffic over the IP and non-IP networks; may use the IP/UDP transport mechanism in IP networks
- **Network Address Translation-Traversal (NAT-T)**
enables IPSec-protected IP datagrams to pass through a network address translator (NAT)
- **Point-to-Point Tunneling Protocol**
an industry standard-based traffic encapsulation mechanism for VPN tunnels supported by many common operating systems; PPTP uses a control channel over TCP and a GRE tunnel operating to encapsulate PPP packets.
- **Site-to-Site VPN Tunnel**
configures VPN gateways on routers to provide secure site-to-site communication between offices, partners, or remote workers; tunnels can be set using IPSec, PPTP or L2TP over IPSec protocols
- **Client Mode VPN Tunnel**
Supports native VPN client based of Windows and MAC OS.
- **VPN pass through**
Supports VPN pass through of PPTP, L2TP and IPsec tunnels.

Management

- **Network Time Protocol (NTP)**
synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time
- **Secure Web GUI**
provides a secure, easy-to-use graphical interface for configuring the module via HTTPS
- **Event logging**
Supports local logging as well as remote Syslog server
- **Email alerts**
Device can be configured to send email alerts to preconfigured email address.
- **USB Support**
Supports file transfer from compatible USB devices. Supports Samba and FTP server.
- **SNMP v1, v2c**
Supports limited SNMP management capability.
- **Firmware upgrade**
Supports firmware upgrade via http/https. Also supports configuration file import/export through web interface.
- **Traffic statistics**
Monitor traffic statistics on device interfaces, SSID and client level.
- **Tools**
Troubleshooting tools, such as tech file generation, ping, trace-route, NSlookup, etc.
- **Time based Rules**
Simplifies network management by setting time based rules on device features, such as wireless radio, security filters, etc.

Layer 2 switching

- **Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping**
controls and manages the flooding of multicast packets in a Layer 2 network
- **IEEE 802.1D Spanning Tree Protocol (IEEE 802.1D)**
provides redundant links while preventing network loops
- **IEEE 802.1w Rapid Convergence Spanning Tree Protocol**

Overview

increases network uptime through faster recovery from failed links

- **Auto MDI/MDI-X**
provides automatic adjustments for straight-through or crossover cables on all 10/100/1000 ports
- **Vlan (IEEE 802.1Q)**
Supports one tagged VLAN per LAN port. Helps segregate traffic on LAN ports to virtual groups.

Layer 3 services

- **Address Resolution Protocol (ARP)**
determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- **Dynamic Host Configuration Protocol (DHCP)**
simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- **IPv6**
 - **Dual stack (IPv4/IPv6)**
transitions from IPv4 to IPv6, supporting connectivity for both protocols
 - **MLD snooping**
forwards IPv6 multicast traffic to the appropriate interface, preventing traffic flooding
 - **IPv6 ready**
switch hardware can support IPv6 routing.
- **Network Address Translation (NAT) and Port Address Translation (PAT)**
preserves a network's IP address pool or conceals the private address of network resources such as Web servers, which are made accessible to users of a guest or public wireless LAN; provides choice of dynamic or static translation
- **DHCP Server**
Multi-scope DHCP server hands out IPv4 and/or IPv6 addresses to client devices.
- **DMZ support**
Allows users to open a local client for unrestricted two way access, especially if that client cannot run an Internet application properly from behind the NAT firewall.
- **Dynamic DNS**
Supports DDNS feature that allows customers to access a dynamic address with a fixed domain name.

Layer 3 routing

- **Static Routes**
Ability to manually configure IPv4 and IPv6 routes.
- **RIP v1, v2 ng**
Dynamically routes IPv4 and IPv6 packet between different subnets using RIP protocol.

Quality of Service (QoS)

- **Traffic Prioritization (DSCP)**
prioritizes traffic based on layer 3 header in IP packets. Helps prioritize time sensitive traffic like voice and video.
- **Traffic Prioritization (IEEE 802.1p)**
Traffic prioritization based on layer 2 packet headers. Allows real time traffic like voice and video to be prioritized.
- **IEEE 802.11e**
IEEE 802.11e Wi-Fi Multimedia (WMM) wireless QoS standard—when combined with wired QoS policies—provides end-to-

Overview

end QoS, delivering different wireless channel competitiveness for different services

- **Queue**
Device capable of segregating traffic into 4 priority queue to enable more granular traffic prioritization. This ensure consistent performance for high priority traffic, even during periods of network congestion.
- **Traffic Shaping**
enable configuration of bandwidth limit to traffic per queue
- **Traffic Remarking**
Allows remarking of 802.1p and DSCP traffic priority
- **Queue Mapping**
Allows mapping of traffic to queue based on MAC address, IP address, Traffic type and certain commonly used services.

Ease of use

- **Aesthetics**
embedded antennas expand installation options and increase aesthetics
- **Easy to use**
GUI-driven central management and configuration
- **Fanless Design**
enables quiet operation for deployment in open spaces
- **Flexible mounting**
Supports desktop as well as wall mount operation.

Warranty and support

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

Configuration

Build To Order:

BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

HPE R110 Wireless 802.11n VPN AM Router	J9974A
1 RJ-45 autosensing 10/100/1000 WAN port 4 RJ-45 autosensing 10/100/1000 LAN ports	See Configuration NOTE:1, 3
HPE R110 Wireless 802.11n VPN WW Router	J9975A
1 RJ-45 autosensing 10/100/1000 WAN port 4 RJ-45 autosensing 10/100/1000 LAN ports	See Configuration NOTE:2, 3
HPE R120 Wireless 802.11ac VPN AM Router	J9976A
1 RJ-45 autosensing 10/100/1000 WAN port 4 RJ-45 autosensing 10/100/1000 LAN ports	See Configuration NOTE:1, 3
HPE R120 Wireless 802.11ac VPN WW Router	J9977A
1 RJ-45 autosensing 10/100/1000 WAN port 4 RJ-45 autosensing 10/100/1000 LAN ports	See Configuration NOTE:2, 3

Configuration Rules:

- Note 1

Only available in AMS. (Warning in Clic only)
- Note 2

Not available in NA. (Warning in Clic only)
- Note 3

Localization required. (See Localization Menu)

Technical Specifications

HPE R110 Wireless 802.11n VPN WW Router (J9975A)

I/O ports and slots	1 RJ-45 autosensing 10/100/1000 WAN por	
	4 RJ-45 autosensing 10/100/1000 LAN ports	
AP characteristics	Radios (built-in)	802.11a/b/g/n
	Radio operation modes	Client access, Client bridge
	AP operation modes	Autonomous
	Wi-Fi Alliance Certification	a/b/g/n Wi-Fi Certified
Physical characteristics	Dimensions	8.5(w) x 5.5(d) x 1.5(h) in (21.59 x 13.97 x 3.81 cm)
	Weight	1 lb (0.45 kg)
Memory and processor	MIPS @ 700 MHz, 128 MB NAND flash	
Mounting and enclosure	Desktop/wall-mount	
Performance	MAC address table size	2048 entries
	VPN throughput	Up to 200Mbps
	Dedicated IPsec VPN tunnels	5
	Network throughput	920Mbps (NAT)
	Concurrent sessions	5
	Number of VLANs	4
	Operating temperature	32°F to 104°F (0°C to 40°C)
Environment	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Altitude	up to 10,000 ft (3 km)
	Notes	No Fan
Electrical characteristics	Voltage	100 - 240 VAC, rated
	Maximum power rating	9.5 W
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
		12 VDC power adaptor
Reliability	MTBF (years)	51.54
Safety	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1	
Emissions	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15	
Management	IMC - Intelligent Management Center; Web browser	
Notes	Radio : FCC Part 15.247; FCC Part 15.407; RSS-210; EN 300 328; EN 301 893	
	RF exposure : FCC Bulletin OET-65C; RSS-102; EN 62311	
	Frequency Bands and Operating Channels	

Technical Specifications

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)

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), excluding 5600-5650 MHz
- Rest of World (Actual channels designated by selecting country in UI)

- 2.412 - 2.472 GHz (1 - 13 channels)
- 5.180 - 5.320 GHz (36 - 64 channels)
- 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz
- 5.745 - 5.825 GHz (149 - 165 channels)

Taiwan

- 2.412 - 2.462 GHz (1 - 11 channels)
- 5.280 - 5.320 GHz (56 - 64 channels)
- 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz
- 5.745 - 5.825 GHz (149 - 165 channels)

Regulatory Model : MRLBB-1401

Transmit Power

- 2.4Ghz : 802.11b 19dbm +/-2dBm, 802.11g 22dBm +/-2dBm, 802.11n HT20 23dBm +/-2dBm, 802.11n HT40 19dBm +/-2dBm
- Maximum transmit power varies by country

Receiver Sensitivity

- 802.11b:-78dBm@11Mbps, 802.11g:-73dBm@54Mbps, 802.11n (2.4Ghz):-66dBm@450Mbps, 802.11a:-72dBm@54Mbps, 802.11n(5Ghz):-65dBm@450Mbps

Services

Refer to the Hewlett Packard Enterprise website at <http://www.hpe.com/networking/services> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

HPE R110 Wireless 802.11n VPN AM Router (J9974A)

I/O ports and slots	1 RJ-45 autosensing 10/100/1000 WAN port 4 RJ-45 autosensing 10/100/1000 LAN ports	
AP characteristics	Radios (built-in)	802.11a/b/g/n
	Radio operation modes	Client access, Client bridge
	AP operation modes	Autonomous
	Wi-Fi Alliance Certification	a/b/g/n Wi-Fi Certified
Physical characteristics	Dimensions	8.5(w) x 5.5(d) x 1.5(h) in (21.59 x 13.97 x 3.81 cm)
	Weight	1 lb (0.45 kg)
Memory and processor	MIPS @ 700 MHz, 128 MB NAND flash	
Mounting and enclosure	Desktop/wall-mount	
Performance	MAC address table size	2048 entries

Technical Specifications

	VPN throughput	Up to 200Mbps
	Dedicated IPsec VPN tunnels	5
	Network throughput	920Mbps (NAT)
	Concurrent sessions	5
	Number of VLANs	4
Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Altitude	up to 10,000 ft (3 km)
Electrical characteristics	Notes	No Fan
	Voltage	100 - 240 VAC, rated
	Maximum power rating	9.5 W
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
		12 VDC power adaptor
Reliability	MTBF (years)	51.54
Safety	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1	
Emissions	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15	
Management	IMC - Intelligent Management Center; Web browser	
Notes	Radio : FCC Part 15.247; FCC Part 15.407; RSS-210; EN 300 328; EN 301 893	
	RF exposure : FCC Bulletin OET-65C; RSS-102; EN 62311	
	Frequency Bands 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)	
	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), excluding 5600-5650 MHz	
	Rest of World (Actual channels designated by selecting country in UI)	
	• 2.412 - 2.472 GHz (1 - 13 channels)	
	• 5.180 - 5.320 GHz (36 - 64 channels)	
	• 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz	
	• 5.745 - 5.825 GHz (149 - 165 channels)	
	Taiwan	
	• 2.412 - 2.462 GHz (1 - 11 channels)	
	• 5.280 - 5.320 GHz (56 - 64 channels)	
	• 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz	
	• 5.745 - 5.825 GHz (149 - 165 channels)	
	Regulatory Model : MRLBB-1401	

Technical Specifications

Transmit Power

- 2.4Ghz : 802.11b 19dbm +/-2dBm, 802.11g 22dBm +/-2dBm, 802.11n HT20 23dBm +/-2dBm, 802.11n HT40 19dBm +/-2dBm
- Maximum transmit power varies by country

Receiver Sensitivity

- 802.11b:-78dBm@11Mbps, 802.11g:-73dBm@54Mbps, 802.11n (2.4Ghz):-66dBm@450Mbps, 802.11a:-72dBm@54Mbps, 802.11n(5Ghz):-65dBm@450Mbps

Services

Refer to the Hewlett Packard Enterprise website at <http://www.hpe.com/networking/services> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

HPE R120 Wireless 802.11ac VPN AM Router (J9976A)

I/O ports and slots

1 RJ-45 autosensing 10/100/1000 WAN port
4 RJ-45 autosensing 10/100/1000 LAN ports

AP characteristics

Radios (built-in) 802.11a/b/g/n/ac
Radio operation modes Client access, Client bridge
AP operation modes Autonomous
Wi-Fi Alliance Certification a/b/g/n/ac Wi-Fi Certified

Physical characteristics

Dimensions 8.5(w) x 5.5(d) x 1.5(h) in (21.59 x 13.97 x 3.81 cm)
Weight 1.28 lb (0.58 kg)

Memory and processor

MIPS @ 1 GHz, 128 MB NAND flash

Mounting and enclosure

Desktop/wall-mount

Performance

MAC address table size 2048 entries
VPN throughput Up to 200Mbps
Dedicated IPsec VPN tunnels 5
Network throughput 920Mbps (NAT)
Concurrent sessions 5
Number of VLANs 4

Environment

Operating temperature 32°F to 104°F (0°C to 40°C)
Operating relative humidity 5% to 95%, noncondensing
Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C)
Altitude up to 10,000 ft (3 km)
Notes No Fan

Electrical characteristics

Voltage 100 - 240 VAC, rated
Maximum power rating 15 W
Notes Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
12 VDC Power adaptor

Technical Specifications

Reliability	MTBF (years) 41.84
Safety	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
Emissions	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15
Management	IMC - Intelligent Management Center; Web browser
Notes	Radio : FCC Part 15.247; FCC Part 15.407; RSS-210; EN 300 328; EN 301 893 RF exposure : FCC Bulletin OET-65C; RSS-102; EN 62311 Frequency Bands 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) 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), excluding 5600-5650 MHz Rest of World (Actual channels designated by selecting country in UI) • 2.412 - 2.472 GHz (1 - 13 channels) • 5.180 - 5.320 GHz (36 - 64 channels) • 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz • 5.745 - 5.825 GHz (149 - 165 channels) Taiwan • 2.412 - 2.462 GHz (1 - 11 channels) • 5.280 - 5.320 GHz (56 - 64 channels) • 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz • 5.745 - 5.825 GHz (149 - 165 channels) Regulatory Model : MRLBB-1404 Radio Module Model number : • MRLBB-1403 • MRLBB-1404 Transmit Power: • 2.4Ghz : 802.11b 23dbm +/-2dBm, 802.11g 22dBm +/-2dBm, 802.11n HT20 22dBm +/-2dBm, 802.11n HT40 17dBm +/-2dBm • 5Ghz : 802.11a 21dBm +/-2dBm, 802.11n/802.11ac HT20/VHT20 21dBm +/-2dBm, 802.11n/802.11ac HT40/VHT40 17dBm +/-2dBm, 802.11ac VHT80 15dBm +/-2dBm • Maximum Transmit power varies by country Receiver Sensitivity • 802.11b:-88dBm@11Mbps, 802.11g:-72dBm@54Mbps, 802.11n (2.4Ghz):-69dBm@450Mbps, 802.11a:-76dBm@54Mbps, 802.11n(5Ghz):-71dBm@450Mbps, 802.11ac:-61dBm@1300Mbps
Services	Refer to the Hewlett Packard Enterprise website at http://www.hpe.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

HPE R120 Wireless 802.11ac VPN WW Router (J9977A)

I/O ports and slots	1 RJ-45 autosensing 10/100/1000 WAN port
	4 RJ-45 autosensing 10/100/1000 LAN ports

Technical Specifications

AP characteristics	Radios (built-in)	802.11a/b/g/n/ac
	Radio operation modes	Client access, Client bridge
	AP operation modes	Autonomous
	Wi-Fi Alliance Certification	a/b/g/n/ac Wi-Fi Certified
Physical characteristics	Dimensions	8.5(w) x 5.5(d) x 1.5(h) in (21.59 x 13.97 x 3.81 cm)
	Weight	1.28 lb (0.58 kg)
Memory and processor	MIPS @ 1 GHz, 128 MB NAND flash	
Mounting and enclosure	Desktop/wall-mount	
Performance	MAC address table size	2048 entries
	VPN throughput	Up to 200Mbps
	Dedicated IPsec VPN tunnels	5
	Network throughput	920Mbps (NAT)
	Concurrent sessions	5
	Number of VLANs	4
Environment	Operating temperature	32°F to 104°F (0°C to 40°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Altitude	up to 10,000 ft (3 km)
Electrical characteristics	Notes	No Fan
	Voltage	100 - 240 VAC, rated
	Maximum power rating	15 W
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
		12 VDC power adaptor
Reliability	MTBF (years)	41.84
Safety	UL 2043; UL 60950-1; CAN/CSA 22.2 No. 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	
Management	IMC - Intelligent Management Center; Web browser	
Notes	Radio : FCC Part 15.247; FCC Part 15.407; RSS-210; EN 300 328; EN 301 893	
	RF exposure : FCC Bulletin OET-65C; RSS-102; EN 62311	
	Frequency Bands 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)	
	European Union	
	• 2.412 - 2.472 GHz (1 - 13 channels) • 5.180 - 5.240 GHz (36 - 48 channels)	

Technical Specifications

- 5.260 - 5.320 GHz (52 - 64 channels)
- 5.500 - 5.700 GHz (100 - 140 channels), excluding 5600-5650 MHz
Rest of World (Actual channels designated by selecting country in UI)
- 2.412 - 2.472 GHz (1 - 13 channels)
- 5.180 - 5.320 GHz (36 - 64 channels)
- 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz
- 5.745 - 5.825 GHz (149 - 165 channels)

Taiwan

- 2.412 - 2.462 GHz (1 - 11 channels)
- 5.280 - 5.320 GHz (56 - 64 channels)
- 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz
- 5.745 - 5.825 GHz (149 - 165 channels)

Regulatory Model : MRLBB-1404

Radio Module Model number:

- MRLBB-1403
- MRLBB-1404

Transmit Power:

- 2.4Ghz : 802.11b 13dbm +/-2dBm, 802.11g 13dBm +/-2dBm, 802.11n HT20 13dBm +/-2dBm, 802.11n HT40 13dBm +/-2dBm
- 5Ghz : 802.11a 21dBm +/-2dBm, 802.11n/802.11ac HT20/VHT20 21dBm +/-2dBm, 802.11n/802.11ac HT40/VHT40 21dBm +/-2dBm, 802.11ac VHT80 21dBm +/-2dBm
- Maximum transmit power varies by country

Receiver Sensitivity :

- 802.11b:-88dBm@11Mbps, 802.11g:-72dBm@54Mbps, 802.11n (2.4Ghz):-69dBm@450Mbps, 802.11a:-76dBm@54Mbps,
802.11n(5Ghz):-71dBm@450Mbps, 802.11ac:-61dBm@1300Mbps

Services

Refer to the Hewlett Packard Enterprise website at <http://www.hpe.com/networking/services> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

Standards and protocols Denial of service protection

(applies to all products in series) Automatic Filtering of well-known Denial of Service Packets

Device management

RFC 1157 SNMPv1/v2c
Web UI

General protocols

IEEE 802.11a/b/g Wireless Protocol
IEEE 802.1D Spanning Tree Protocol
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1W Rapid Spanning Tree Protocol
IEEE 802.3 Type 10BASE-T
IEEE 802.3ab 1000BASE-T
RFC 1631 NAT
RFC 1723 RIP v2

Technical Specifications

RFC 2131 DHCP

RFC 2236 IGMP Snooping

RFC 2637 Point-to-Point Tunneling Protocol (PPTP)

RFC 2661 L2TP

IPv6

RFC 2080 RIPng for IPv6

Mobility

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

IEEE 802.11ac WLAN Enhancements for Very High Throughput

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

IEEE 802.11e QoS enhancements

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

IEEE 802.11n WLAN Enhancements for Higher Throughput

QoS/CoS

IEEE 802.1P (CoS)

RFC 2474 DSCP DiffServ

RFC 2474, with 4 queues per port

Wi-Fi MultiMedia (WMM), IEEE 802.11e

Security

WPA (Wi-Fi Protected Access)

WPA (Wi-Fi Protected Access)/WPA2

Summary of Changes

Date	Version History	Action	Description of Change:
06-Jun-2016	From Version 3 to 4	Changed	Product description updated.
01-Dec-2015	From Version 2 to 3	Changed	Overview and Technical Specifications updated
17-Feb-2015	From Version 1 to 2	Changed	VPN throughput updated to 200Mbps on Technical Specifications



Sign up for updates



**Hewlett Packard
Enterprise**

© Copyright 2016 Hewlett Packard Enterprise Development LP. The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise 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. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

To learn more, visit: <http://www.hpe.com/networking>

c04394251 - 15062 - Worldwide - V4 - 06-June-2016