



The HP PS110 is a Wi-Fi Alliance authorized Wi-Fi CERTIFIED 802.11a/b/g/n product. The Wi-Fi CERTIFIED Logo is a certification mark of the Wi-Fi Alliance.



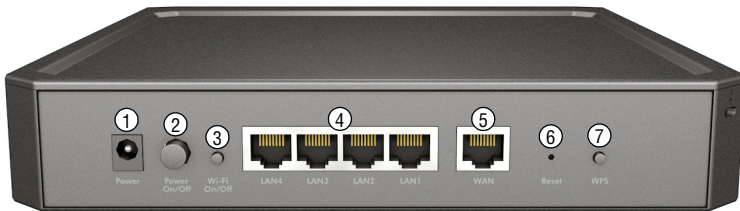
## HP PS110 Wireless VPN Router Quickstart

This Quickstart shows you how to install and get started using the HP PS110 802.11n Wireless VPN Router, hereafter referred to as the PS110. (See *Products list* on page 6 for part numbers.)

The latest documentation, including the *HP PS110 Wireless Router Configuration/Administration Guide*, is available at [www.hp.com/support/manuals](http://www.hp.com/support/manuals).

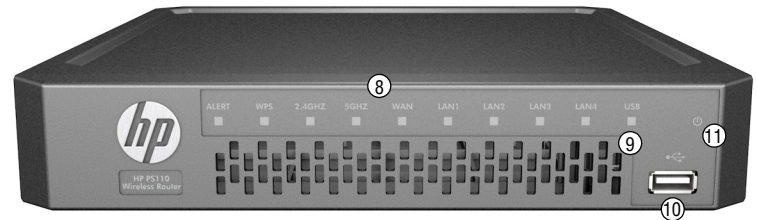
The PS110 router is an all-in-one networking device designed specifically to work with the HP ProLiant MicroServer Gen 8 Server. It incorporates an IPv6 capable router, gigabit LAN switch, 802.11n wireless access point, SPI firewall, and VPN encryption technology. The PS110 provides a single radio dual band 802.11n access point and aggregate VPN capacity of 30 Mbps. The Device enclosure is designed to specifically stack on top of the MicroServer Gen 8 and has built-in technology to automatically detect any HP ProLiant Server in your network. In addition to auto-detection of HP ProLiant Servers, the device interface shows real-time health status of the discovered servers via the iLO interface found on the servers.

## Hardware overview



### Rear view

- |                        |                 |
|------------------------|-----------------|
| 1: Power jack          | 5: WAN port     |
| 2: Power On/Off button | 6: Reset button |
| 3: Wi-Fi On/Off button | 7: WPS button   |
| 4: LAN ports 1-4       |                 |



### Front view

- |                                |
|--------------------------------|
| 8: System and port status LEDs |
| 9: USB port LED                |
| 10: USB 2.0 port               |
| 11: Power LED                  |

## Package contents

The PS110 router, two mounting screws with wall anchors, four rubber feet, AC/DC power adapter, power cord, and documentation.

## Ports

- **Four LAN Ethernet ports:** Auto-sensing 10/100/1000 BaseT Ethernet ports with RJ-45 connectors.

- **One WAN Ethernet port:** Auto-sensing 10/100/1000 BaseT Ethernet port with RJ-45 connector.
- **USB port:** A standard USB 2.0 port that can be connected to an external USB storage device. For details, see the USB port description in the *HP PS110 Wireless Router Configuration/Administration Guide*.

## Radio and antennas

The PS110 provides a single dual-band radio with three antennas supporting 3x3 MIMO three-spatial-stream 802.11n. The PS110 supports 802.11b/g/n operation modes at 2.4 GHz or 802.11a/n operation modes at 5 GHz. The PS110 does not support concurrent operation at 2.4 GHz and 5 GHz.

## Wi-Fi On/Off button

Press the button for more than three seconds and then release it to turn the wireless function of the router on or off.

## WPS button

Press the button for more than three seconds to enable Wi-Fi Protected Setup (WPS) and allow a wireless client device to securely join the network. Within two minutes, initiate the WPS procedure on the wireless client device. See the wireless client documentation for information on how to connect to access points using WPS.

## Reset button

The Reset button is accessible through a hole on the rear panel of the PS110, labeled as 6 on page 1. To reset the PS110 to factory defaults, insert a paper clip into the Reset button hole and hold the button for more than three seconds, then release.

## Status LEDs

LED	State	Description
Power	Off	The PS110 has no power.
	Green	The PS110 is fully operational.

LED	State	Description
Alert	Amber	The PS110 has a hardware failure or the software has failed to load. Reset or power cycle the PS110. If this condition persists, contact HP customer support.
	Flashing amber	Indicates one of the following conditions: <ul style="list-style-type: none"> <li>The PS110 is starting up following a hard or soft reset.</li> <li>The PS110 is upgrading firmware.</li> <li>The PS110 software is being reset to factory defaults.</li> <li>A hacker attack is detected. The Alert LED remains flashing until the hacker attack ends.</li> <li>The Alert LED remains flashing for 30 seconds when a USB overcurrent condition is detected.</li> </ul>
USB	Off	Either an unsupported or defective USB device is attached.
	Green	A USB device is attached.
WPS	Off	WPS is not active.
	Green	On for 20 seconds when WPS is successful.
	Flashing green	WPS is active and waiting for a wireless client device to join the network.
WAN	Off	The WAN port is not connected.
	Green	The WAN port has a valid link. Flashing indicates network activity.
LAN 1–4	Off	The LAN port is not connected.
	Green	The LAN port has a valid link. Flashing indicates network activity.
2.4 GHz	Off	The 2.4 GHz radio is disabled.
	Green	The 2.4 GHz radio is enabled. Flashing indicates wireless network activity.
5 GHz	Off	The 5 GHz radio is disabled.
	Green	The 5 GHz radio is enabled. Flashing indicates wireless network activity.

## Powering the PS110

The PS110 is powered by an HP AC/DC Power Adapter.

**Caution:** Only use the AC/DC power adapter and power cord that is supplied with the PS110. Do not use any other adapter or power cord.

## Important information to read before installing

**Warning:** This device is intended for indoor installation only. Before installing or using the PS110, ensure that you read and understand all safety information and regulatory requirements, particularly those relevant to your region. Failure to follow this guidance could result in a non-compliant situation.

**Cabling:** You must use supported Cat 5e (or better) cables, and where applicable for your region, surge protection.

**Country of use:** During setup, you are prompted to select the country of use. After the country has been set, the PS110 automatically limits the available wireless channels, ensuring compliant operation in the selected country. Entering the incorrect country can result in illegal operation and can cause harmful interference to other systems.

**Safety:** Consider the following safety information during installation.

- If your network covers an area served by more than one power distribution system, make sure all safety grounds are securely interconnected.
- Network cables can occasionally be subject to hazardous transient voltages (caused by lightning or disturbances in the electrical power grid).
- Handle exposed metal components of the network with caution.
- The PS110 is powered on when connected to an AC power source using its AC/DC power adapter and the power button is pushed in.

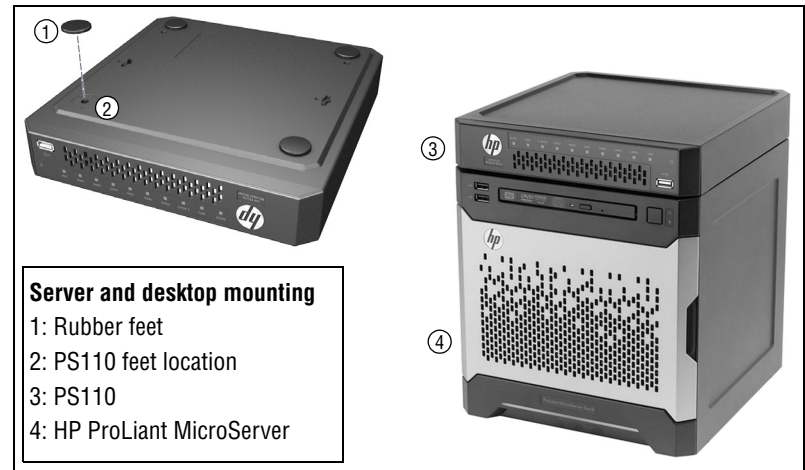
## Installation

The PS110 is designed for stacking on top of an HP ProLiant MicroServer Gen 8 Server. It can also be placed on a desktop or be mounted on a wall.

### Stacking on MicroServer Gen 8 servers or placing on a desktop

Before placing the PS110 on top of a MicroServer stack or a desktop, attach the included four rubber pads to the recessed areas on the bottom of the PS110.

**Caution:** To achieve maximum wireless coverage, the PS110 must be placed on the very top of the stack of all MicroServer devices. For example, if you have an HP PS1810 on top of the MicroServer, the PS110 must be placed on top of the PS1810.



### Mounting on a wall

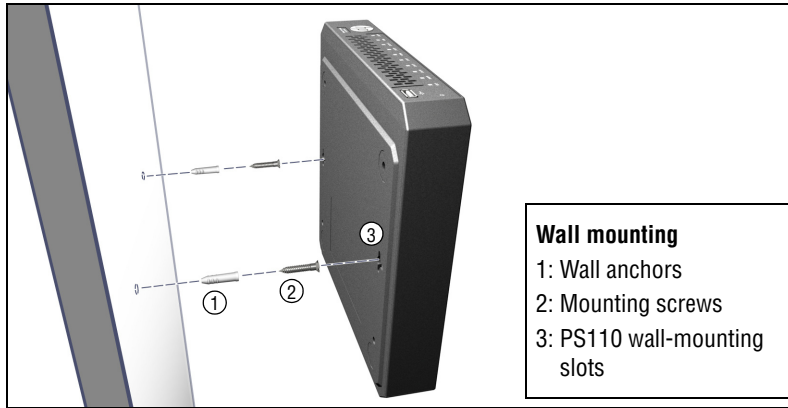
When mounting the PS110 on a wall, ensure that the surface to which you attach the PS110 and the fasteners you use can support at least 0.9 kg (2 lb). Allow extra weight for cables. When mounting on a wall, HP highly recommends that you use the included mounting screws and wall anchors.

There are two slots on the bottom of the PS110 that can be used for wall mounting. If you are mounting the PS110 on a wall, do not attach the rubber feet.

1. On the wall where the PS110 will be installed, mark two holes for the screws (wall anchors) 176 mm (6.93 inch) apart.

**Note:** The wall anchors are not needed when mounting on wooden walls.

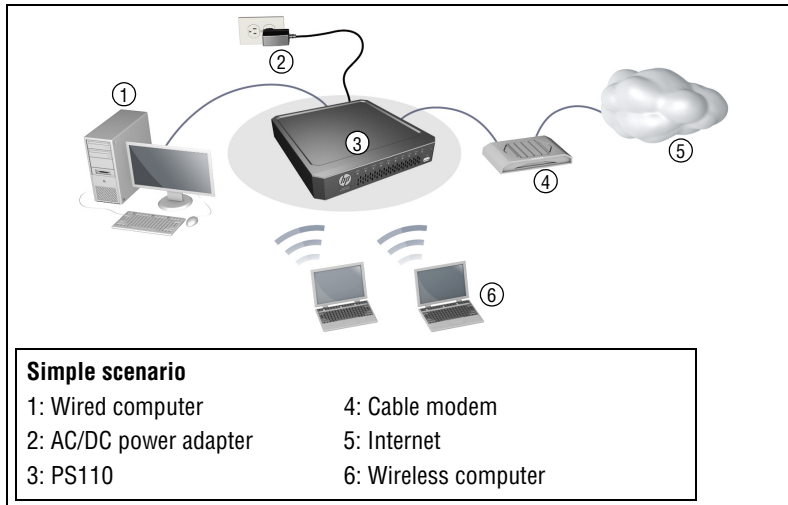
2. Drill two holes for the wall anchors, typically 4.7 mm (3/16 inch) in diameter, and then insert the anchors and tap them flush with the wall surface.
3. Insert the mounting screws into the wall anchors, leaving their heads 3 mm (0.12 inch) clear of the wall surface.
4. With the network ports facing up or down, position the PS110 mounting slots over the screw heads, and then slide the PS110 down onto the screws. Do not let go of the PS110 until you confirm that it is securely in place.



## Initial configuration

This procedure describes how to perform initial configuration for a factory-default PS110. For illustration purposes, a simple scenario is used.

In this scenario, the PS110 links wired and wireless computers to the Internet through a cable modem provided by an Internet Service Provider (ISP). For instructions on how to configure other scenarios, see the *HP PS110 Wireless VPN Router Configuration/Administration Guide*.



The PS110 is managed through its web-based management interface using Microsoft Internet Explorer 8 or later, Google Chrome v29 or later, or Mozilla Firefox v24 or later.

You must perform the initial configuration from a computer that is directly connected to one of the PS110 LAN ports. If you configure the PS110 from a wireless computer, you might lose contact with the PS110 when you change the wireless configuration.

**Note:** Do not power on the PS110 until directed.

### A. Configure your computer

1. Verify that the Ethernet network interface of your computer is set to obtain an IP address automatically from DHCP.
2. Disable any wireless connection on your computer.

### B. Connect cables and power on the PS110

1. Connect your cable modem to the WAN port on the PS110 using a standard Ethernet cable.
2. Connect the LAN port on your computer to one of the LAN ports on the PS110 using a standard Ethernet cable.
3. To be able to discover and monitor the health status of HP servers from the PS110, connect a network cable between any available LAN port and the server's iLO port.

**Note:** It is also possible to use a single cable between the PS110 and server for data and iLO communications, but this requires that you connect to server Ethernet port 1, and requires changes to the server configuration to cause the server Ethernet 1 port to be "shared" for data and iLO communications. See the server documentation on shared iLO mode for more information.

4. Connect other equipment to the LAN ports using standard Ethernet cables.
5. Ensure that the power button is not pressed in.
6. Connect the AC/DC power adapter to the power socket on the PS110, and then plug the AC/DC power adapter into a standard electrical wall socket.
7. Power on the PS110 by pressing the power button.

Initially, the PS110 LAN port LEDs turn on and off. Wait approximately one minute until the Alert LED turns off before proceeding to the next step.

## C. Connect to the management interface and log in

**Note:** A factory-default PS110 is assumed.

1. In a web browser, enter the address: **https://192.168.1.1**.
2. On the Login page, specify **admin** for both **Username** and **Password**, and then select **Login**.

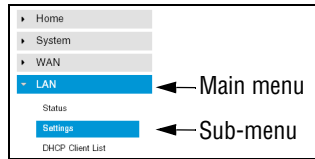
**Note:** HP recommends that you change the default password on the **System > Admin** page and select **Save**. Passwords must be at least six characters long and include four different characters.

3. On the License Agreement page, read the agreement and select **Accept HP End User License Agreement**.
4. A Country prompt appears. Select the country in which the PS110 is operating, and then click **Save**.

**Caution:** To ensure compliance, you must select the correct country. See *Country of use* on page 3.

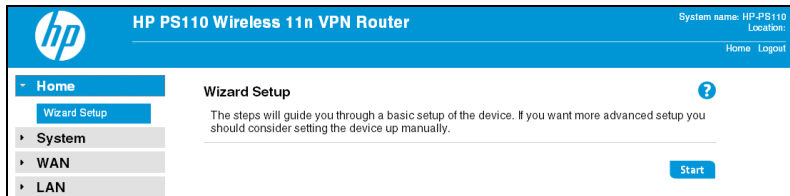
The PS110 management interface home page opens.

The management interface is organized with menus and sub-menus. Instructions for making menu selections, such as “select **LAN > Settings**” indicate that you should select the **LAN** menu, and then the **Settings** sub-menu.

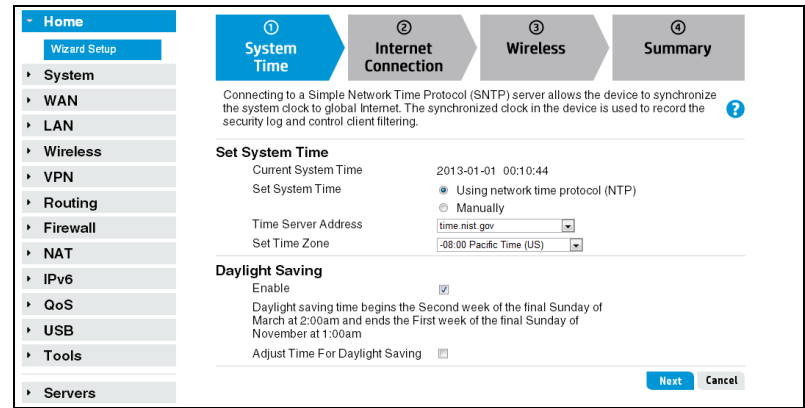


## D. Run the wizard to set up the PS110

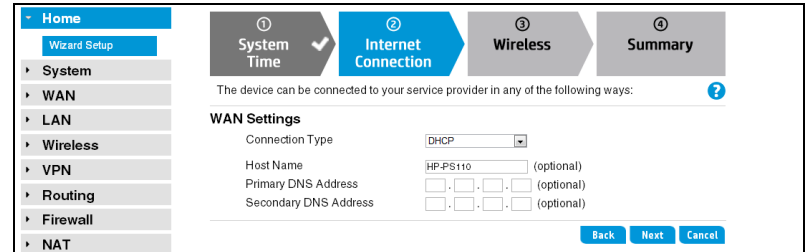
1. Select **Home** on the management interface menu.



2. Select **Start** to start the wizard.
3. Either configure the system time manually by entering the date and time, or keep the default setting of **Using network time protocol (NTP)**. Set the time zone for your region, and enable daylight saving, if required. Click **Next**.



4. Set the **Connection Type** for the WAN connection to your ISP. The default setting is to use the DHCP protocol. Click **Next**.



5. Configure the wireless settings:
  - Select the 2.4 GHz or 5 GHz radio band for your wireless network.
  - Set the radio operating mode. Select a compatibility mode if support for older 802.11a/b/g devices is required, otherwise HP recommends that you select 11n only.
  - Set a unique SSID name for the wireless network.
  - Select an authentication mode for security. In this example, a setting of **WPA2-PSK** is selected and a **Passphrase** is entered for the network security. For information on other wireless security settings, see the *HP PS110 Wireless Router Configuration/Administration Guide*.

Click **Next**.

6. Confirm the settings, and then click **Finish**.

The router reboots and the PS110 is operational.

## E. Test the wireless connection

For the purposes of this example, the PS110 has its DHCP server enabled (the default setting) and the cable modem is on and operating normally.

1. Disconnect the wired connection from your computer to the PS110.
2. Enable the wireless network interface of your computer.
3. Use your computer's wireless network utility to find and connect to the PS110's wireless network. The SSID name is "HP1" in this example.

4. When prompted, enter the wireless security passphrase for the network, as configured in section D, step 5.
5. Confirm that you can browse the Internet from your computer.

## F. To perform additional configuration

Re-launch the PS110 management interface at <https://192.168.1.1> and log in using the configured username and password.

**Note:** MicroServer information is available on the Servers menu.

## Products list

Model	Part numbers
HP PS110	JL066A (WW), JL065A (AM)

WW=Worldwide, AM=The Americas (North, Central, and South America)

## Technical support

For worldwide technical support information, see the HP support website at [www.hp.com/networking/support](http://www.hp.com/networking/support).

For more information see "Contacting HP" in the *HP PS110 Wireless VPN Router Installation Guide*.

## Regulatory information

### FCC Notice

**FCC ID:**  
**B94MRLBB1401**

This FCC Class B device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

For the full FCC Class B equipment notice and other important safety, environmental, and regulatory information, see *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at [www.hp.com/support/Safety-Compliance-EnterpriseProducts](http://www.hp.com/support/Safety-Compliance-EnterpriseProducts).

For products available in the USA/Canada market, 2.4 GHz operation is limited to channels 1-11.

This device is restricted for indoor use.

A 20 cm minimum distance must be maintained between the antenna and the users of this wireless device. Under such configuration, the FCC radiation exposure limits set forth for a population/uncontrolled environment can be satisfied.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

### Industry Canada Notice CAN ICES-3 (B)/NMB-3(B)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

**Important Note: IC Radiation Exposure Statement:** This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the antenna and the user.

### Notice for Brazil, Aviso aos usuários no Brasil

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

### Notice for Mexico

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

### Notice for Korea

B 급 기기 (가정용 방송통신 기자재)	이 기기는 가정용 (B 급) 전자파 적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.
Class B (broadcasting communication device for home use)	This device obtained EMC registration mainly for home use (Class B) and may be used in all areas.

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음

### Notice for Taiwan

低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均

不得擅自變更頻率、加大功率或變更原設計之特性及功能。

### 第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在 5.25-5.35 赫赫頻帶內操作之無線資訊傳輸設備，限於室內使用。

### Notice for China

仅适用于海拔 2000 米以下地区安全使用

### Belarus Kazakhstan Russia marking



### Manufacturer and Local Representative Information

Manufacturer's information:

- Hewlett-Packard Company, 3000 Hanover Street, Palo Alto, California 94304, U.S.

Local Representative information Russian:

- HP Belarus: ИООО «Хьюлетт-Паккард Бел», 220030, Беларусь, г. Минск, ул. Интернациональная, 36-1, офис 722-723, тел.: +375 (17) 392 28 18, факс: +375 (17) 392 2821
- HP Kazakhstan: ТОО «Хьюлетт-Паккард (К)», 050040, Казахстан, г. Алматы, Бостандыкский район, ул. Тимирязева, 28В, 1 этаж, тел./факс: +7 (727) 355 35 50, +7 (727) 355 35 51
- HP Russia: ЗАО «Хьюлетт-Паккард А.О.», 125171, Россия, г. Москва, Ленинградское шоссе, 16А, стр.3, тел/факс: +7 (495) 797 3500, +7 (495) 287 89 05

Local Representative information Kazakh:

- HP Kazakhstan: ЖШС «Хьюлетт-Паккард (К)», Қазақстан, Алматы қ., Бостандық ауданы, Тимирязев к-сі, 28В, тел./факс: +7 (727) 35535 50, +7 (727) 355 35 51

**Manufacturing Date** – The manufacturing date is included in the product serial number, **CCYMPPPZZZ** (HP serial number format for this product). The manufacturing date is indicated by **YM** in the serial number, where **Y** indicates the year counting from within each new decade, with 2010 as the starting point, and **M** is the month when the unit was manufactured. For example, **3A** would indicate **3** for 2013 and **A** for the month of November. Following this convention, 2010 is indicated by **0**, 2011 by **1**, 2012 by **2**, 2013 by **3**, and so forth. Months start at **1** for January, **2** for February, up to **9** for September. **0** (zero) is used for October, **A** for November, and **B** for December.





**FCC Statement:****Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device and its antennas(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

**IC Statement:**

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

Pour les produits disponibles aux États-Unis / Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.

This device and its antennas(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with IC multi-transmitter product procedures. Cet appareil et son antenne (s) ne doit pas être co-localisés ou fonctionner en association avec une autre antenne ou transmetteur.

Dynamic Frequency Selection (DFS) for devices operating in the bands 5250- 5350 MHz, 5470-5600 MHz and 5650-5725 MHz.

Sélection dynamique de fréquences (DFS) pour les dispositifs fonctionnant dans les bandes 5250-5350 MHz, 5470-5600 MHz et 5650-5725 MHz.

les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.

le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5725-5850 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

For indoor use only.

Pour une utilisation en intérieur uniquement.

The maximum antenna gain permitted (for devices in the bands 5250-5350 MHz and 5470-5725 MHz) to comply with the e.i.r.p. limit.

le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5250-5350 MHz et 5470-5725 MHz doit se conformer à la limite de p.i.r.e.

De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

EUT	Ant.	Brand	Part No.	Antenna Type	Connector	Gain (dBi)		Directional Gain In Correlation	
						2.4GHz	5GHz	2.4GHz	5GHz
1	1	M.gear	120300000091A	Dual-band Omni Patch Antenna	I-PEX	4.4	5.8	9.27	10.60
	2	M.gear	120300000091A	Dual-band Omni Patch Antenna	I-PEX	4.7	6.8		
	3	M.gear	120300000091A	Dual-band Omni Patch Antenna	I-PEX	4.4	4.6		
2	4	M.gear	120300000106A	Dual-band Omni Patch Antenna	I-PEX	4.36	6.30	9.21	10.37
	5	M.gear	120300000106A	Dual-band Omni Patch Antenna	I-PEX	4.34	5.71		
	6	M.gear	120300000106A	Dual-band Omni Patch Antenna	I-PEX	4.61	4.62		

Note: Ant. 1~Ant. 3 are for EUT 1; Ant. 4~Ant. 6 are for EUT 2.