

## Broadcom BCM94313HMG2L

# Broadcom BCM94313HMG2L Half Mini PCI-e WLAN Wireless Card User Manual

Model: BCM94313HMG2L

## 1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of the Broadcom BCM94313HMG2L Half Mini PCI-e WLAN Wireless Card. This card is designed to provide wireless connectivity for compatible laptop systems, specifically noted for compatibility with the Lenovo G560 model.

Key features of this wireless card include:

- BroadCom Half Mini PCI-e WLAN Wifi Card
- Model: BCM94313HMG2L
- Part Number (P/N): WPEB-121GN
- Compatible with: Lenovo G560

## 2. SETUP AND INSTALLATION

Installing the Broadcom BCM94313HMG2L wireless card requires careful handling and adherence to safety procedures. It is recommended that installation be performed by individuals familiar with computer hardware components.

### 2.1 Safety Precautions

- Always disconnect the laptop from its power source and remove the battery before opening the chassis.
- Discharge static electricity by touching a grounded metal object before handling internal components.
- Use appropriate tools to avoid damaging the laptop or the wireless card.
- Refer to your laptop's specific service manual for detailed instructions on accessing the Mini PCI-e slot.

### 2.2 Installation Steps

1. **Prepare the Laptop:** Power off your laptop, disconnect the AC adapter, and remove the battery.
2. **Access the Mini PCI-e Slot:** Carefully open the laptop's access panel, typically located on the bottom, to expose the internal components, including the Mini PCI-e slot. Consult your laptop's manual for exact location and opening procedure.
3. **Remove Existing Card (if applicable):** If replacing an existing wireless card, gently disconnect any antenna cables and unscrew the retaining screw. Carefully slide the old card out of the slot.
4. **Insert the New Card:** Align the Broadcom BCM94313HMG2L card with the Mini PCI-e slot. Insert the card at a slight angle (approximately 30 degrees) and push it firmly until it is seated.

5. **Secure the Card:** Gently push the card down until it is parallel with the motherboard. Secure it with the retaining screw.
6. **Connect Antenna Cables:** Carefully attach the antenna cables to the corresponding connectors on the wireless card. Typically, there are two connectors labeled 'MAIN' and 'AUX' or '1' and '2'. Ensure a secure connection.
7. **Reassemble:** Close the access panel, reinsert the battery, and reconnect the AC adapter.



**Image 1:** Front view of the Broadcom BCM94313HMG2L Half Mini PCI-e WLAN Wireless Card. The label displays the model number BCM94313HMG2L, part number WPEB-121GN, and MAC address 002682448F6A. It also indicates "Product of China". This view shows the main chip and the two antenna connectors at the top.



**Image 2:** Back view of the Broadcom BCM94313HMG2L Half Mini PCI-e WLAN Wireless Card. This side shows various regulatory compliance markings such as CE 0984, N12075, CCAB09LP4390T8, FCC ID: QDS-BRCM1050, and IC: 4324A-BRCM1050. It also reiterates the model BCM-BCM94313HMG2L.

### 3. OPERATING INSTRUCTIONS

After physical installation, the operating system needs to recognize and utilize the wireless card.

#### 3.1 Driver Installation

1. **Power On:** Start your laptop. The operating system should detect new hardware.
2. **Install Drivers:**
  - **Automatic Installation:** Modern operating systems (e.g., Windows, Linux) may automatically install generic drivers.
  - **Manual Installation:** If drivers are not automatically installed, you may need to download them from the Broadcom website or your laptop manufacturer's support page (e.g., Lenovo support for G560). Search for drivers specific to the BCM4313 chipset or BCM94313HMG2L model.
3. **Verify Installation:** Open Device Manager (Windows) or equivalent system information tool (Linux) and check under "Network adapters" to ensure the Broadcom wireless card is listed and functioning correctly without any error symbols.

#### 3.2 Connecting to a Wireless Network

1. **Enable Wi-Fi:** Ensure your laptop's Wi-Fi function is enabled (often via a physical switch or keyboard shortcut).
2. **Scan for Networks:** Use your operating system's network settings to scan for available wireless networks.
3. **Select and Connect:** Choose your desired network from the list, enter the security key (password) if prompted, and connect.

## 4. MAINTENANCE

Proper maintenance ensures optimal performance and longevity of your wireless card.

- **Driver Updates:** Periodically check for updated drivers from Broadcom or your laptop manufacturer. Updated drivers can improve performance, stability, and security.
- **Physical Care:** Keep the laptop's internal environment clean and free of dust to prevent overheating and component degradation. Avoid exposing the laptop to extreme temperatures or humidity.

## 5. TROUBLESHOOTING

If you encounter issues with your wireless card, refer to the following troubleshooting steps:

### 5.1 Card Not Detected or Not Functioning

- **Recheck Installation:** Ensure the card is properly seated in the Mini PCI-e slot and the retaining screw is secure.
- **Antenna Connections:** Verify that the antenna cables are securely attached to the card.
- **Driver Status:** Check Device Manager. If there's an exclamation mark or error, try reinstalling the drivers.
- **BIOS/UEFI Settings:** Some laptops have an option in the BIOS/UEFI to enable or disable wireless devices. Ensure it is enabled.

### 5.2 Unable to Connect to Wi-Fi / Slow Connection

- **Wi-Fi Enabled:** Confirm that Wi-Fi is enabled on your laptop.
- **Network Password:** Double-check the Wi-Fi network password.
- **Router Proximity:** Move closer to the wireless router to rule out signal strength issues.
- **Router Reboot:** Restart your wireless router and modem.
- **Driver Update:** Ensure you have the latest drivers installed for the wireless card.
- **Interference:** Other electronic devices can cause interference. Try changing the Wi-Fi channel on your router.

## 6. SPECIFICATIONS

Brand	Broadcom
Model	BCM94313HMG2L (BCM4313 Chipset)
Part Number	WPEB-121GN
Hardware Interface	Half Mini PCI-e
Data Link Protocol	Wi-Fi (WLAN), Bluetooth
Compatible Devices	Laptop (specifically Lenovo G560)
Package Dimensions	1.97 x 1.18 x 0.2 inches
Manufacturer	Broadcom

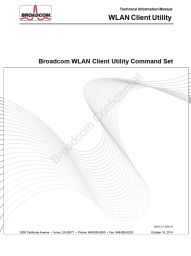
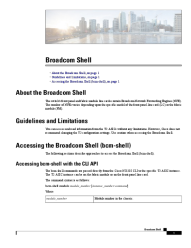



## 7. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided by your seller or the original equipment manufacturer (OEM) of your laptop. As this product is often sold as a replacement part, warranty terms may vary. It is advisable to retain your purchase receipt for any warranty claims.



**Image 3:** The Broadcom BCM94313HMG2L wireless card typically comes in an anti-static bag, as shown. This packaging protects the sensitive electronic components from electrostatic discharge during shipping and handling. The label on the bag may contain supplier information and compliance marks.



	<p><a href="#">Broadcom WLAN Client Utility Command Set Guide</a></p> <p>Comprehensive guide to the Broadcom WLAN Client Utility Command Set, detailing various commands for configuration, control, and diagnostics of wireless network interfaces.</p>
	<p><a href="#">Broadcom Shell: Accessing Network Hardware Components</a></p> <p>A guide to accessing the Broadcom Shell (bcm-shell) on Cisco network devices, detailing methods for interacting with Broadcom Network Forwarding Engines (NFE) and T2 ASICs on fabric modules and line cards.</p>
	<p><a href="#">DX Unified Infrastructure Management 20.4: Release Notes and User Guide</a></p> <p>Explore the comprehensive release notes and user guide for Broadcom DX Unified Infrastructure Management (DX UIM) version 20.4. This document details new features, installation, administration, and troubleshooting for robust IT infrastructure monitoring.</p>
	<p><a href="#">Broadcom Emulex Host Bus Adapters Installation Guide Release 14.4</a></p> <p>This installation guide (Release 14.4) from Broadcom provides detailed instructions for setting up Emulex Host Bus Adapters (HBAs), including models LPe38100, LPe37100, LPe36000, LPe35000, LPe32000, and LPe31000 series. It covers installation, compatibility, major features, specifications, and regulatory information.</p>
	<p><a href="#">Broadcom NetXtreme-E</a></p> <p>Broadcom NetXtreme-E      Broadcom NetXtreme-E</p>



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