E7153

Wi-Fi GO! Card

User Guide

E7153

First Edition
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Contents

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

REACH

Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at http://csr.asus.com/english/REACH.htm.

DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

About this guide

This user guide contains the information you need to install and configure your ASUS Wi-Fi GO! card wireless solution.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**

  This chapter describes the general features of the ASUS Wi-Fi GO! card wireless solution. The chapter also presents the LED indications, and recommended Wi-Fi GO! card network settings.

- **Chapter 2: Installation**

  This chapter provides step by step instructions on installing the wireless LAN adapter drivers and software applications using the support DVD.

- **Chapter 3: Wi-Fi Engine**

  This chapter provides information on how to set up the Wi-Fi GO! card in your home or office network using the setup wizard.

- **Appendices**

  The Appendix lists the wireless LAN channels available for use in your country or location and safety statements.

Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this guide.

WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Information that you MUST follow to complete a task.

NOTE: Tips and additional information to aid in completing a task.

Wi-Fi ASUS Wi-Fi GO! card specifications

Bluetooth v4.0/3.0 + HS Wi-Fi 802.11 a/b/g/n version

Wi-Fi Standard	IEEE 802.11 a/b/g/n
Bluetooth standard	Bluetooth v4.0/3.0 + HS
Data rate	802.11n(HT40) up to 300Mbps 802.11n(HT20) up to 150Mbps 802.11a up to 54Mbps 802.11b up to 11Mbps 802.11g up to 54Mbps
Security	WEP, WPA & WPA2* ***Use WPA2 or open system to reach 65Mbps and above.**
Network architechture types	AP Mode (Windows® 7 supports Access point mode function) Client mode
Frequency band	2.4GHz & 5GHz ISM radio band
Operating range	**Wi-Fi*:** Outdoor up to 300 meters Indoor up to 100 meters *The transmission speed may vary according to the environment **Bluetooth:** 10 - 20 meters (depends on the environment)
Antenna	Antenna 1: Wi-Fi Tx/Rx Antenna 2: Wi-Fi Tx/Rx + Bluetooth 2 x omni-directional dual band antennas (with MMCX connector)
LED	**Wi-Fi:** LED green: Wi-Fi linked LED off: No link **Bluetooth:** LED blue: Bluetooth linked LED off: No link LED blue blinking: Data activity
Support OS	Windows® XP 32 / 64 bit*, Windows® 7 32 / 64 bit *** Windows® XP 32/64 bit only supports client mode.**
ASUS special features	ASUS Wi-Fi Engine* ASUS Wi-Fi GO!* ***ASUS Wi-Fi Engine and Wi-Fi GO! is only supported on Windows® 7.**

*** The specifications are subject to change without notice.**

Wi-Fi ASUS Wi-Fi GO! card specifications

Wi-Fi 802.11 b/g/n version

Wi-Fi Standard	IEEE 802.11 b/g/n
Data rate	802.11n(HT40) up to 150Mbps 802.11n(HT20) up to 65Mbps 802.11b up to 11Mbps 802.11g up to 54Mbps
Security	WEP, WPA & WPA2* ***Use WPA2 or open system to reach 65Mbps and above.**
Network architechture types	AP Mode (Windows® 7 supports Access point mode function) Client mode
Frequency band	2.4GHz ISM radio band
Operating range	**Wi-Fi*:** Outdoor up to 300 meters Indoor up to 100 meters *The transmission speed may vary according to the environment.
Antenna	Antenna 1: Wi-Fi Tx/Rx 1 x omni-directional antennas (with MMCX connector)
LED	**Wi-Fi:** LED green: Wi-Fi linked LED off: No link
Support OS	Windows® XP 32 / 64 bit*, Windows® 7 32 / 64 bit *** Windows® XP 32/64 bit only supports client mode.**
ASUS special features	ASUS Wi-Fi Engine* ASUS Wi-Fi GO!* ***ASUS Wi-Fi Engine and Wi-Fi GO! is only supported on Windows® 7.**

*** The specifications are subject to change without notice.**

Chapter 1

This chapter describes the general features of the ASUS Wi-Fi GO! card wireless solution. The chapter also presents the LED indications and recommended Wi-Fi GO! card network settings.

Product introduction

1.1 Welcome!

Thank you for choosing the ASUS Wi-Fi GO! card wireless solution!

The Wi-Fi GO! card is an easy-to-use wireless local area network (WLAN) adapter designed for home or office use. The Wi-Fi GO! card allows you to connect through the wireless LAN in a single network.

The Wi-Fi GO! card also supports several wireless network configuration including Client mode and Access Point mode. This gives you flexibility to your existing or future wireless network configurations.

To provide efficient security to your wireless communication, Wi-Fi GO! card employs both 64-bit/128-bit Wired Equivalent Privacy (WEP) and Wi-Fi Protected Access (WPA/WPA2) encryptions.

With these and many more, ASUS Wi-Fi GO! card is sure to keep you ahead in the world of wireless computing.

1.2 Features

These ASUS Wi-Fi GO! card's features are found in the AI Suite II:

- Wi-Fi Engine
- Wi-Fi GO!

1.2.1 Wi-Fi Engine

The Wi-Fi Engine utility enables you to connect to two modes:

Client mode: Allows you to connect a single device, or a whole network segment to an existing wireless access point.

AP mode: Allows you to connect a wireless network to a wired system.

Refer to **3.1 Using the ASUS Wi-Fi Engine** for more information.

1.2.2 Wi-Fi GO!

The Wi-Fi GO! utility provides you with a never-before experienced multimedia playback enjoyment, and home cloud computing environment.

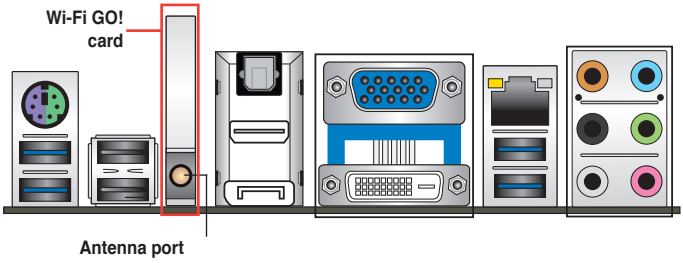
For more details, refer to the Wi-Fi GO! section in the feature manual.

1.2.3 Moveable omni-directional antenna

An omni-directional antenna comes with the Wi-Fi GO! card to maximize your wireless coverage.

1.3 LED and antenna port

The Wi-Fi GO! card is installed at the motherboard rear panel.



- The Wi-Fi GO! card's antenna port may vary on motherboard models.
- The back I/O may vary depending on motherboard models.

LED indicators

Bluetooth module LED indications*

Status	Description
Off	No link
Blue	Linked
Blinking	Data activity

*** Bluetooth module is optional.**

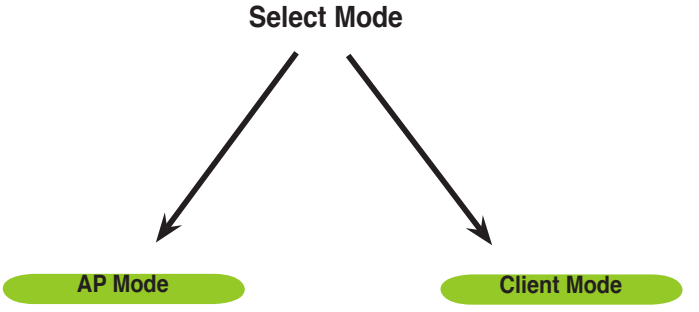
Wi-Fi LED indications

Status	Description
Off	No link
Green	Linked

1.4 Choosing an appropriate wireless network

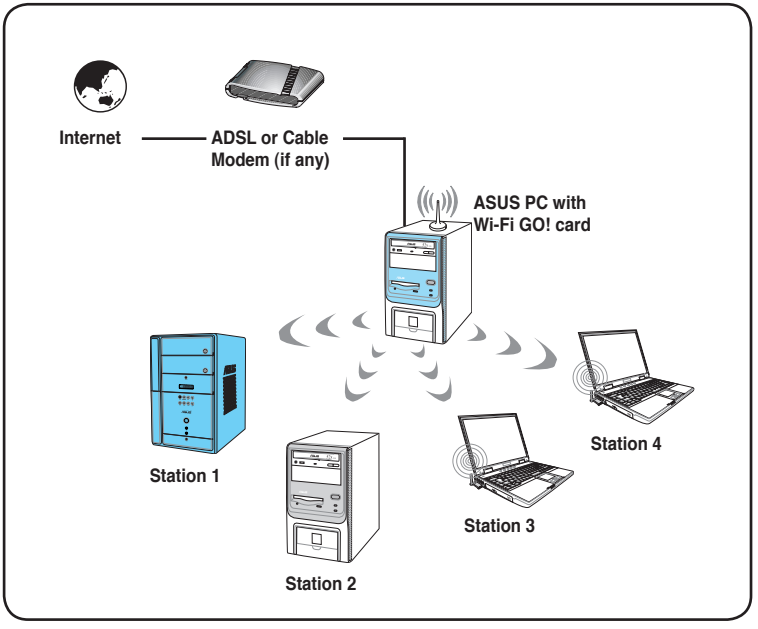
You can use the ASUS Wi-Fi GO! card in various wireless network configurations. Select the most appropriate configuration for your home or office network before setting up the Wi-Fi GO! card.

The following pictures and descriptions are for reference only and may not exactly match your actual network configuration.



1.4.1 Access Point Mode (AP Mode)

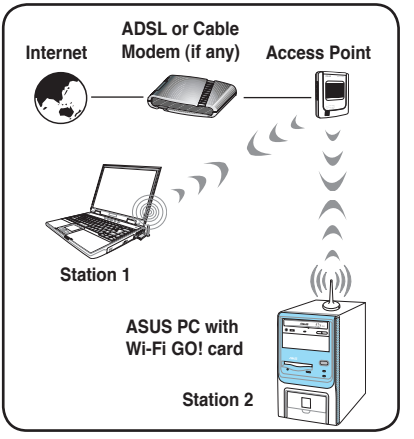
Under AP Mode, the ASUS Wi-Fi GO! card configures the wireless access point (WAP) of your local area network (LAN), and Internet access for your wireless devices.



1.4.2 Client mode

An Infrastructure wireless network is centered on a wireless access point (AP) that provides Internet access and LAN communication for the wireless stations. In Infrastructure mode, the wireless LAN stations communicate with each other via the wireless AP.

In this mode, your Wi-Fi GO! card acts as a wireless adapter. It communicates with the LAN computers and accesses Internet through the wireless AP.



Chapter 2

This chapter provides step by step instructions in installing the Wi-Fi GO! card drivers and utilities in your computer. This part also provides information in installing the antenna.

Installation

2.1 Installation

2.1.1 System requirements

Before installing the Wi-Fi GO! card drivers and utilities, make sure that your system meets the following requirements.

- ASUS motherboard with Wi-Fi GO! card onboard solution
- Operating system:
  Client mode: Windows® XP/ Windows® 7
  AP mode: Windows® 7
- Optical drive for utilities and driver installation

In the Client mode, only Windows® 7 supports Wi-Fi Engine.

2.1.2 Installing the Wi-Fi GO! card

The Wi-Fi GO! card models may vary depending on motherboard package.

For installation details, refer to the bundled Quick Installation Guide (QIG) in the Wi-Fi GO! card's package.

2.1.3 Signal range

The signal range of Wi-Fi GO! card depends on the operating environment. Obstacles such as walls and metal barriers could reflect or absorb wireless signals. Devices such as microwave stove can also greatly interfere with the wireless network.

Signal range:

- 802.11g: Indoor 80ft (30m), outdoor (LOS, Light-Of-Sight) 200ft (60m)
- 802.11b: Indoor 130ft (40m), outdoor (LOS, Light-Of-Sight) 1000ft (310m)
- 802.11n: Indoor 330ft (100m), outdoor (LOS, Light-Of-Sight) 980ft (300m)

By default, the device automatically adjusts the data rate and the closer the wireless station is, the better signal and transmit speed it receives. To improve your wireless transmission, move your wireless stations closer to the Wi-Fi GO! card.

2.2 Driver and utilities installation

The contents of the motherboard support DVD are subject to change without notice. Visit the ASUS website for driver/utilities updates.

Ensure to install the Wi-Fi GO! card to the motherboard before running the support DVD.

To install the Wi-Fi GO! card driver:

1. Insert the motherboard support DVD into the optical drive.
2. If Autorun is enabled in your computer, the driver installation automatically appears.
3. Click **ASUS Bluetooth 4.0 Wi-Fi Driver** or **ASUS Wireless Network Driver**, and follow the onscreen instructions to install the Wi-Fi GO! card driver.

Wi-FI GO! card driver's name varies on Wi-Fi GO! card models.

To install the **ASUS AI Suite II** utility:

After the Wi-Fi GO! Card driver is successfully installed, click **Utilities > AI Suite II** and follow the onscreen instructions

If Autorun is NOT enabled in your computer, browse the contents of the support DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the DVD.

Chapter 3

This chapter provides information in setting up the Wi-Fi GO! card using the ASUS Suite II's Wi-Fi Engine for your home or office network.

Wi-Fi Engine

3.1 Using the ASUS Wi-Fi Engine

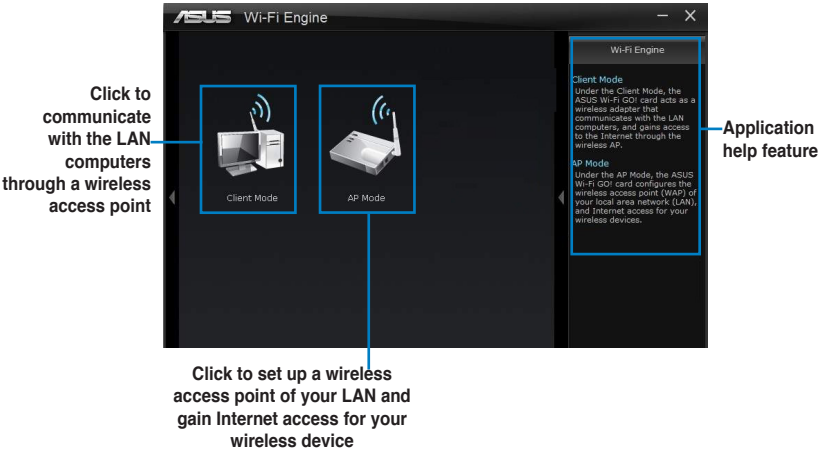
After installing the Wi-Fi GO! card drivers to your system, use ASUS AI Suite II's Wi-Fi Engine to set up the Wi-Fi GO! card for your network.

Ensure to select the most appropriate configuration for your wireless network before you proceed. Refer to section 1.4 for details.

Ensure to connect the supplied antenna to the antenna connector on the motherboard, or the Wi-Fi GO! card may not be able to detect other wireless devices in your environment.

3.1.1 Launching the Wi-Fi Engine

To launch this utility, open the **ASUS AI Suite II**, then click **Tool > Wi-Fi Engine**.

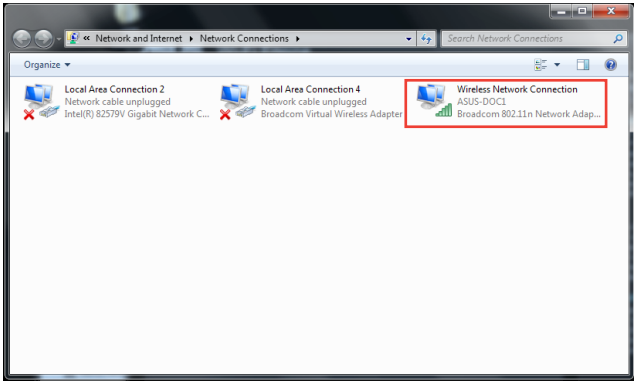


Using the client mode

Allows you to connect your computer to a network using the client mode.

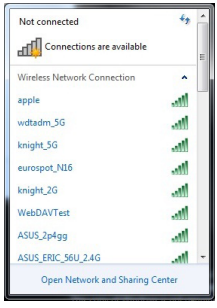
To use the client mode:

1. Select and double-click the network.



2. Select and click the wireless network connection name.

Some networks may require you to key in the password.



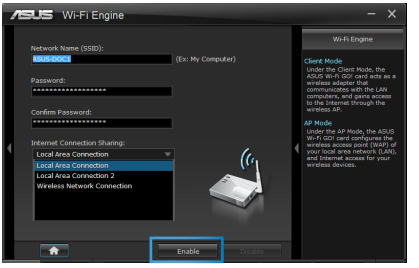
Using the AP mode

Allows you to connect your computer to the network using the access point mode.

1. In the Wi-Fi Engine menu, click **AP Mode**.
2. Enter the **Network Name**, and key in your password.

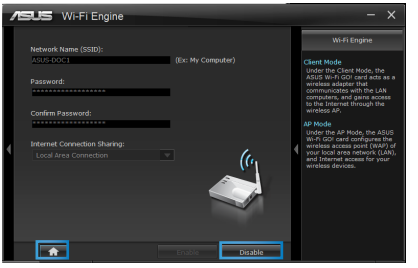
- Network name must be the same with SSID (Service Set Identifier).
- Password must be more than 8 characters.

3. Click from the **Internet Connection Sharing** field and select the network connections name.



4. Click **Enable** to enable the AP mode under the selected type of Internet connection sharing.

5. To deactivate the Internet connection sharing, click **Disable**. Click to go back to the Wi-Fi Engine menu.



3.2 Wi-Fi Engine wireless security

To protect your wireless network, you need to set up the security on your Wi-Fi GO! card.

Network authentication

Network authentication uses certain types of mechanism to identify authenticated wireless clients. Wi-Fi GO! card supports the following authentication methods:

Open system: This option disables authentication protection for your wireless network. Under the Open mode, any wireless client can connect to your wireless network.

Shared key: Shared means using the same WEP keys for authentication and encryption.

WPA-PSK: WPA-PSK (Pre-Shared Key) is the solution for home and SOHO users who have no 802.11X authentication server within the LAN. To setup WPA-PSK, you need to input a passphrase and let the system generate the key. Combination of letters, numbers and non-alphnumeric charecters is recommended for ensuring security.

WPA2-PSK: WPA2 (WI-FI Protected Access 2) provides network administrators with a high level of assurance that only authorized users can access the network. Based on the ratified IEEE 802.11i standard, WPA2 provides government grade security. The WPA2 can be enabled in two versions -- WPA2-Personal and WPA2-Enterprise. WPA2-Personal protects unauthorized network access by utilizing a set-up password. WPA2-Enterprise verifies network users through a server. WPA2 is backward compatible with WPA.

Encryption

Encryption is used to convert plain text data into unreadable codes with certain type of algorithm before capsulation for wireless transmission. Wi-Fi GO! card supports the following encryption methods:

WEP: WEP stands for Wired Equivalent Privacy. It uses 64 or 128-bit static keys. You can let the system generate the WEP keys by inputting a Passphrase.

TKIP: Temporal Key Integrity Protocol (TKIP) dynamically generates unique keys to encypt every data packet in a wireless session.

AES: Advanced Encryption Standard (AES) is a dependable encryption adopted in WPA2 or IEEE802.11i standard. It offers stronger protection and greatly increases the complexity of wireless encryption.

Appendices

The Appendices list the wireless LAN channels available for use in your country or location, and safety warning statements

RF Equipment Notices

CE: European Community Compliance Statement

The equipment complies with the RF Exposure Requirement 1999/519/EC, Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0–300 GHz). This wireless device complies with the R&TTE Directive.

Wireless Radio Use

This device is restricted to indoor use when operating in the 5.15 to 5.25 GHz frequency band.

Exposure to Radio Frequency Energy

The radiated output power of the Wi-Fi technology is below the FCC radio frequency exposure limits. Nevertheless, it is advised to use the wireless equipment in such a manner that the potential for human contact during normal operation is minimized.

FCC Bluetooth Wireless Compliance

The antenna used with this transmitter must not be colocated or operated in conjunction with any other antenna or transmitter subject to the conditions of the FCC Grant.

Bluetooth Industry Canada Statement

This Class B device meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la Class B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

BSMI: Taiwan Wireless Statement

無線設備的警告聲明
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射頻、加大功率或變更原設計之特性及功能。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。

於 5.25GHz 至 5.35GHz 區域內操作之
無線設備的警告聲明
工作頻率 5.250 ～ 5.350GHz 該頻段限於室內使用。

Japan RF Equipment Statement

この製品は、周波数帯域5.15～5.35G Hzで動作しているときは、屋内においてのみ使用可能です。

KC (RF Equipment)

대한민국 규정 및 준수
방통위고시에 따른 고지사항
해당 무선설비는 운용 중 전파혼신 가능성이 있음,
이 기기는 인명안전과 관련된 서비스에 사용할 수 없습니다.