ALPHA:
Wireless Card
Installation Manual
GLM-200 Version 0.1

0-Introduction

The Ralink RT2561+ WLAN NIC is a complete wireless high speed Network Interface Card (NIC) utilizing the Ralink RT2561+ chip set. It conforms to the IEEE 802.11g protocol and operates in the 2.45 GHz ISM frequency bands.
It provides a complete reference design evaluation platform of hardware and software to system providers or integrators requiring wireless data communications capability and is ideal for integration into computer platforms.

• Fully compliant with the IEEE 802.11g WLAN standards
• FCC Certified Under Part 15 (pending) to Operate in the 2.45 Bands
• Support for 54, 48, 36, 24, 18, 12, 9, and 6 Mbps OFDM, 11 and 5.5 Mbps CCK and legacy 2 and 1 Mbps data rates
• Driver Supports Microsoft Windows ® 98/SE, ME, XP and 2000 (SR1)

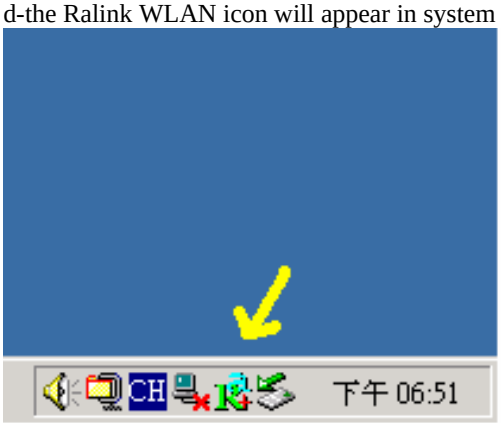
1-GLM-200 Installation procedure

1.1 Installing the miniPCI card into the host PC Notebook

a-open miniPCI slot cover of host PC Notebook housing
b-insert miniPCI card into miniPCI slot
c-connect the host PC notebook antennas to the miniPCI card antenna connectors (Hirose type UFL connector)
d-close miniPCI slot cover of host PC Notebook housing

1.2 Installing the software drivers

a-Start windows
b-When windows detects new hardware and asks for drivers, point to directory where the Ralink driver is located (for example floppy drive, cdrom , harddisk) to install.
c-after drivers are installed, restart windows
d-the Ralink WLAN icon will appear in system tray on the bottom right of the screen (see yellow



fig, 01: Ralink WLAN icon

e-double click the Ralink WLAN icon to open the WLAN settings, the following window will appear (see fig.02)

fig.02: Ralink WLAN Settings window

f-click on configuration tab and select which type of network is required (access point or Peer-to-peer mode), see fig. 03.

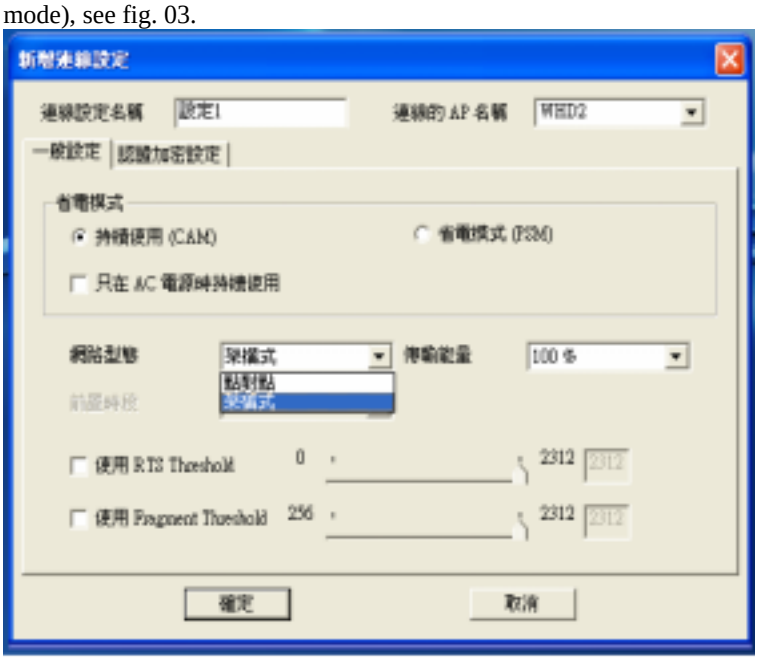


fig.03: Wlan network type setting window

g-select what TX rate is required (default setting is fully automatic) see fig. 04.

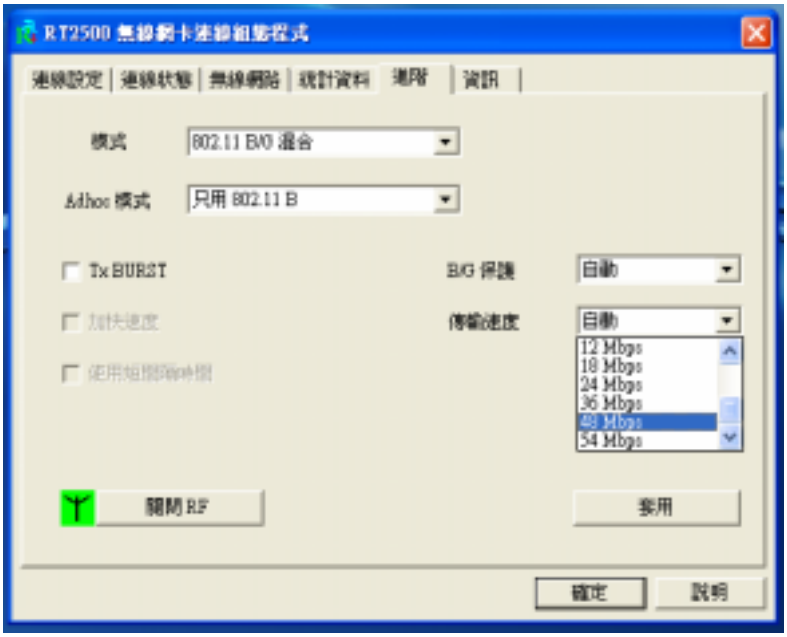


fig.04: WLAN TX rate Setting window

h-select what encryption type is required, 64 or 128 bit WEP (default setting is disabled) see fig. 05.

fig.05: WLAN encrption rate Settings window

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i-click on the status tab to see the connection status (fig.06).

fig.06: WLAN networks status

j-click on the about tab to see the software drivers versions and MAC address (fig.07).

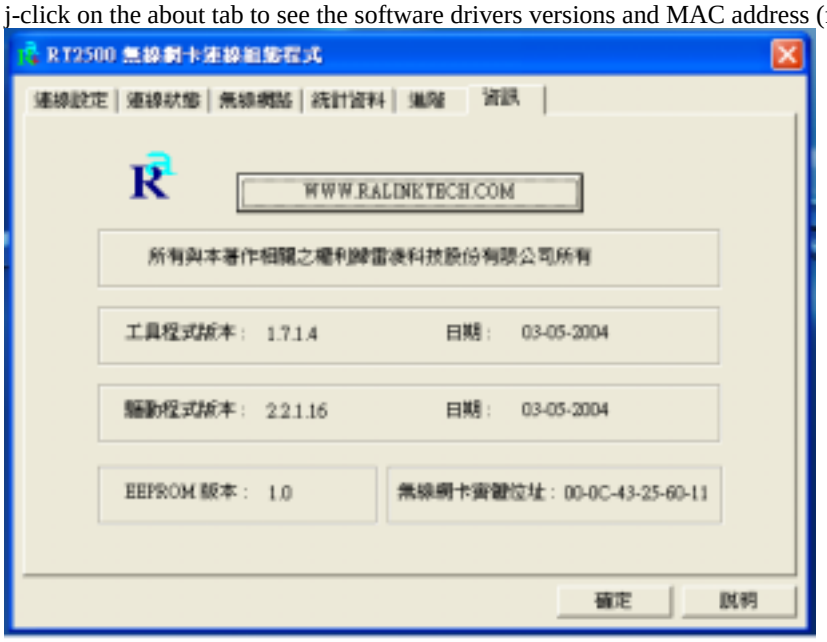

fig.07: WLAN driver and MAC addres information

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1.3 Wireless LAN installation guide lines and Authorization for use

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications made to this device that are not expressly approved by Ralink may void the user's authority to operate the equipment. Ralink is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution or attachment of connecting cables and equipment other than specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Ralink and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

The use of Wireless LAN devices may be restricted in some situations or environments for example:
* On board of airplanes, or
* In an explosive environment, or
* In case the interference risk to other devices or services is perceived or identified as harmful.
In case the policy regarding the use of Wireless LAN devices in specific organizations or environments (e.g. airports, hospitals, chemical/oil/gas industrial plants, private buildings etc.) is not clear, please first verify authorization to use these devices prior to operating the equipment.

2-Regulatory information

2.1 FCC Information to User

This product does not contain any user serviceable components and is to be used with approved antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals

2.2 FCC Guidelines for Human Exposure

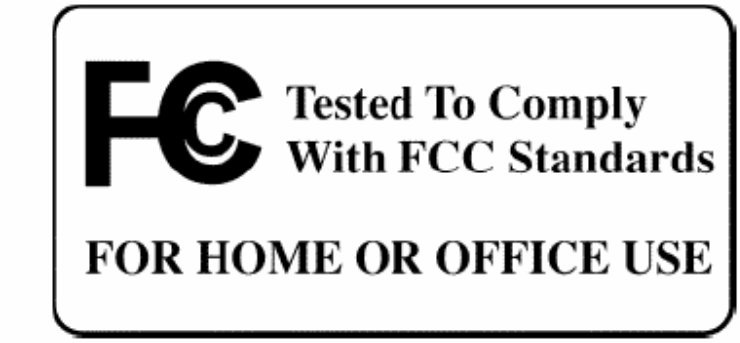
Warning:

In order to comply with RF exposure limits established in the ANSI C95.1 standards, the user is advised to maintain a distance of at least 1 inch (20 cm) from the antenna of this device while it is in use.

2.3 FCC Electronic Emission Notices

This 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
2. This device must accept any interference received, including interference that may cause undesired operation.

2.4 FCC Radio Frequency 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 when the equipment is operated in a commercial environment. 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.
Operation of this equipment in a residential area may cause harmful interference, in which case the user will be required to correct the interference at his own expense.
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 or more 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

2.5 Export restrictions

This product or software contains encryption code which may not be exported or transferred from the US or Canada without an approved US Department of Commerce export license.

2.6 Europe - EURtion of Conformity

This device complies with the essential requirements and other relevant provisions of the European R&TTE Directive 1999/5/EC.

Compliance to essential test suites is met per standards:

R&TTE Harmonized Standard Description

LVD specification
EN 60950
EN 60950,ed. (1992), incl A1(1993), A2(1993), A3(1995) and A4(1997)
Safety of information technology equipment, including electrical business equipment.
Meets R&TTE directive art. 3.1.a of essential requirements on protection of the health and sefety of the user.

ETSI EMC specification
ETSI EN 301 489-1 V1.2.1
(2000-08)
ETSI EN 301 489-17 V1.1.1
(2000-09)
Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services;
Part 1: Common technical requirements
Part 17: Specific conditions for Wideband data and HIPERLAN equipment
Meets R&TTE directive art. 3.1.b of essential requirements on protection with respect to Electro Magnetic Compatibility.

ETSI RF specification
ETSI EN 300 328
Part 1 V1.2.2 (2000-07)
ETSI EN 300 328
Part 2 V1.1.1 (2000-07)
Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques;
Part 1: Technical characteristics and test conditions
Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
Meets R&TTE directive art. 3.2.a on effective use of spectrum so as to avoid harmful interference.

Important Notice :

This device is a 2.4 GHz low power RF device intended for home and office use in EU and EFTA member states. In some EU / EFTA member states some restrictions may apply. Please contact local spectrum management authorithies for further details before putting this device into operation.

3-Technical Specifications

Radio Technology IEEE 802.11g (DSSS and OFDM)

Operating Frequency 2412-2462MHz ISM band
Modulation Schemes DQPSK, DBPSK, CCK, 16 QAM, 64 QAM
RF Channel Availability 11 channels for United States (2412 MHz to 2462 MHz)
13 channels for Europe (2412 MHz to 2472 MHz)
13 channels for Japan (2412 MHz to 2472 MHz), channel 14 only
available in DSSS mode (11 Mbps max)
11 channels for Taiwan (2412 MHz to 2462 MHz)
Data Rate Support for 54, 48, 36, 24, 18, 12, 9, and 6 Mbps OFDM, 11 and
5.5 Mbps CCK and legacy 2 and 1 Mbps data rates
Media Access Protocol CSMA/CA with ACK
Transmitter RF Output Power < 18.0 dBm EIRP (typical) including antenna gain
Operating Voltage 3.3 VDC via PC host miniPCI slot
Interface miniPCI formfactor
Device driver Support Microsoft® Windows® NT, 2000, ME, and XP

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。

CAUTION:
This device is intended only for OEM integrators under the following conditions:

1. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna (installed to end product) shall not be less than 20 cm (8 inches) during normal operation.

2.•This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

As long as the 2 conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emission, PC peripheral requirements, etc.).

Additional Information that Must be Provided to OEM Integrators:
The end user should NOT be provided any instructions on how to remove or install the device.