User’s Manual

GLM-100

FCC Statement :

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.

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 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.

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 (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer 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.

Modular Approval

This device is intended only form OEM integrator under the following conditions:

1) The antenna must be installed such that 20cm is maintained between the antenna and users, and

2) The transmitter module may not be co-located with any other transmitter or antenna.

IMPORTANT NOTE: In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in devices where the antenna may be installed such that 20 cm may be maintained between the antenna and users (for example access points, routers, wireless ADSL modems, and similar equipment).

End Product Manual Information

The user manual for end users must include the following information in a prominent location “IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.”

1.0 Scope

1.1 Document

This document is to specify the product requirements for **802.11b/g Mini-PCI Module**. This Mini-PCI Module is based on Ralink RT2560 chipset that complied with IEEE 802.11b standard from 2.4~2.5GHz, and it can be used to provide up to 11Mbps for IEEE 802.11b and 54Mbps/108Mbps for 2.4GHz IEEE 802.11g to connect your wireless LAN.

With seamless roaming, fully interoperability and advanced security with WEP standard, **802.11b/g Mini-PCI Module** offers absolute interoperability with different vendors' 802.11b/g Access Points through the wireless LAN.

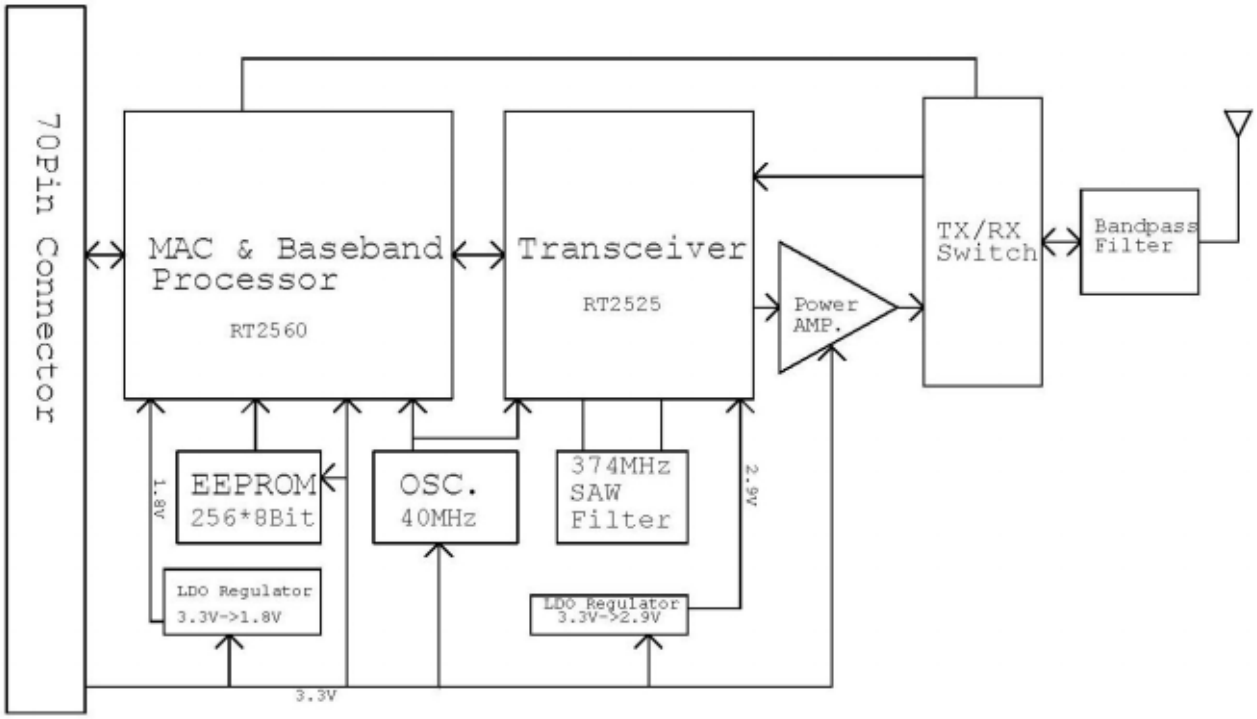
1.2 Product Features

- Compatible with IEEE 802.11g and 802.11b Standard for 2.4GHz Wireless .
- Works with All Existing Network Infrastructure.
- Compatible with WiFi Wireless Products and Services.
- Capable of up to 128-Bit WEP Encryption and 256bit WPA.
- Freedom to Roam While staying Connected.
- Up to 54 Mbps High-Speed Transfer Rate.
- One I-PEX Connectors for External Antenna
- Support Antenna diversity for Better Sensitivity.
- Lower Power Consumption.

2.0 Requirements

The following sections identify the detailed requirements of the **802.11g Mini-PCI Module.**

2.1 Functional Block Diagram



2.2 Technical specifications

Wireless Specifications	
Standard	IEEE 802.11g, IEEE802.11b ,Wi-Fi compliant
Chipset	Ralink RT2560+RT2525
Interface	PCI interface
Connector	One I-PEX connector
LED	NA
Frequency Range	2.412GHz-2.4835GHz 2.412-2.462 GHz(North America) 2.412-2.484 GHz(Japan) 2.412-2.472 GHz(Europe ETSI) 2.457-2.462 GHz(Spain) 2.457-2.472 GHz(France)
Number of Selectable Channels	USA, Canada: 11 channels Europe: 13 channels Japan : 14 channels
Data rate	802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11b:1,2,5.5, 11 Mbps
Modulation Technique	802.11g: Orthogonal Frequency Division Multiplexing (64QAM, 16QAM, QPSK, BPSK) 802.11b:Direct Sequence Spread Spectrum (CCK, DQPSK, DBPSK)
Security	0/64/128 bit WEP
Media Access Protocol	CSMA/CA(Collision Avoidance) with optional ACK
Output Power	Max 16.12dBm@11b; Max 19.06dBm@11g (Peak)
Sensitivity	11g Packet Error Rate < 10% 54bps < 66dBm 11b Packet Error Rate < 8% 11Mbps < 82dBm
Range	300m@11b 100m@11g

2.3 Mechanical Requirements

#	Feature	Detailed Description
2.3.1	Length	• 38mm
2.3.2	Width	• 32mm

2.4 Compatibility Requirements

This device passes the following compatibility requirements.

#	Feature	Detailed Description
2.4.1	Wi-Fi	• Meet Wi-Fi certification for IEEE 802.11 product
2.4.2	Physical Layer and Functionality	• Meet ALPHA Engineering Test Plan and Test Report

DGT 警語：

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。

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。