

FCC Statement

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

The 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.

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 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.



CAUTION:

OEM integrator is still responsible for testing their end product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can not 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 can not 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.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

If this device is going to be operated in 5.15 ~ 5.25GHz frequency range, then it is restricted to indoor environment only.

End Product Labeling

This transmitter module is authorized only for use in a device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains TX FCC ID: M4Y-AG623C".

RF Exposure Manual Information That Must be Included

The users 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 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter."

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.

Service Center in U.S.A

Company Name : Zcomax.

Company Address: 14545 Valley View Ave., Suite S Santa Fe Springs, CA 90670

Tel: 562-926-4588

1. Introduction

54Mbps IEEE802.11a/b/g Wireless Network Mini PCI Adapter is the perfect solution for your wireless network applications based on the IEEE 802.11a/b/g standard offering a data rate of 54Mbps in a wireless LAN environment.

AG-623C is designed for Access Point, Router, ATUR, Printer Server series, IP Camera series and Internet Video Server gives you wireless access the web and network resource without the wire.

AG-623C provides high-speed access to network resources and has built-in 40/64-bit, 128 bit and 256 bit of WEP (Wired Equivalent Privacy) data encryption. With Direct Spread Spectrum Signaling (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM), domain access control, WEP encryption and group security, the modules will safeguard all your wireless data transmissions from your nosy neighbors.

AG-623C allows you to take full advantage of your devices mobility with access to real-time information and online services anytime and anywhere.

2. Feature

- . Complies with IEEE 802.11a/b/g Standard for 2.4GHz Wireless LAN.
- . Works with All Existing Network Infrastructures.
- . Compatible with Wi-Fi Wireless Products and Services
- . Capable of up to 256-Bit WEP Encryption.
- . Freedom to Roam While staying Connected
- . 54 Mbps High-Speed Transfer Rate
- . Two UF-L Connectors for External Antenna
- . Support Antenna diversity for Better Sensitivity
- . Lower Power Consumption.

3.Specification

Product Description				
IEEE 802.11 a/g compliant 5 & 2.4 GHz WLAN miniPCI card with Super A & Super G				
Host Interface				
32-bit miniPCI,				
Operating Voltage				
DC3.3V ± 5%				
Chipset				
MAC / BB Processor		Atheros AR5414 (Single chip)		
PA Chip		RF5824 RFMD		
Power Consumption				
11a	TX: 550 mA		RX: 450 mA	
11b	TX: 550 mA		RX: 450 mA	
11g	TX: 550 mA		RX: 450 mA	
Radio				
Antenna connector	Primary : one U.FL connector Secondary :one U.FL connector			
Output Power	IEEE802.11a	Min.	Typical	Max.
	Band 1 5.15GHz ~ 5.25 GHz	10	11	12
	Band 3 5.725GHz ~ 5.850 GHz ;	14	15	16
	IEEE802.11g	Min.	Typical	Max.
	54Mbps Ch1、 Ch11	12	13	14
	54Mbps Ch6	17	18	19
	IEEE802.11b	Min.	Typical	Max.
	11/1Mbps	15	16	17
Sensitivity	IEEE 802.11a / Super A Sensitivity @Packet Error Rate: 10% 5.15GHz ~ 5.25 GHz ; 5.725GHz ~ 5.850 GHz			
	<ul style="list-style-type: none"> ◆ 54/108 Mbps: -72dBm ◆ 48 Mbps: -73dBm ◆ 36 Mbps: -77dBm ◆ 24 Mbps: -81dBm ◆ 18 Mbps: -84dBm ◆ 12 Mbps: -86dBm ◆ 9 Mbps: -88dBm ◆ 6 Mbps: -90dBm 			
Sensitivity	IEEE 802.11g / Super G Sensitivity @ Packet Error Rate: 10%			

	<ul style="list-style-type: none"> ◆ 54 / 108 Mbps: -74dBm ◆ 48 Mbps: -75dBm ◆ 36 Mbps: -79dBm ◆ 24 Mbps: -83dBm ◆ 18 Mbps: -86dBm ◆ 12 Mbps: -88dBm ◆ 9 Mbps: -90dBm ◆ 6 Mbps: -91dBm 		
	IEEE 802.11b Sensitivity @ Packet Error Rate: 8%		
	<ul style="list-style-type: none"> ◆ 11Mbps: -87dBm ◆ 5.5Mbps: -92dBm ◆ 2Mbps: -93dBm ◆ 1Mbps: -95dBm 		
Modulation	IEEE 802.11a (OFDM/DSSS) <ul style="list-style-type: none"> ◆ 48/54 Mbps (QAM-64) ◆ 24/36 Mbps (QAM-16) ◆ 12/18 Mbps (QPSK) ◆ 6/9 Mbps (BPSK) 	IEEE802.11g (OFDM/DSSS) <ul style="list-style-type: none"> ◆ 48/54 Mbps (QAM-64) ◆ 24/36 Mbps (QAM-16) ◆ 12/18 Mbps (QPSK) ◆ 6/9 Mbps (BPSK) 	IEEE 802.11b (DSSS) <ul style="list-style-type: none"> ◆ 5.5/11 Mbps (CCK) ◆ 2 Mbps (DQPSK) ◆ 1 Mbps (DBPSK)
Range Coverage (Typical range in open environment with 0 dBi Antenna)	IEEE 802.11a 54Mbps: 60 meter 48Mbps: 70 meter 36Mbps: 80 meter 24/18Mbps: 120 meter 12/9/6Mbps: 120 meter	IEEE 802.11g 54Mbps: 60 meter 48Mbps: 70 meter 36Mbps: 80 meter 24/18Mbps: 120 meter 12/9/6Mbps: 120 meter	IEEE 802.11b 11Mbps: 80 meter 5.5Mbps: 120 meter 2Mbps: 200 meter 1Mbps: 300 meter
Operating Frequency	IEEE 802.11a ISM Band <ul style="list-style-type: none"> ◆ USA(FCC): 5.15GHz ~ 5.25 GHz ; 5.725GHz ~ 5.850GHz 		
	IEEE 802.11b/g ISM Band <ul style="list-style-type: none"> ◆ USA(FCC): 2.412GHz ~ 2.462 GHz (CH1 ~ CH11) 		
Software Specification			
Supported OS	Identical to Atheros Latest Version		
Security	Identical to Atheros Latest Version		
Physical Specification			
Dimension	59.6mm(L) * 46.2mm(W) * 4.15mm(H) (include connector)		
Weight	50 g		
Environment Specification			
	Temperature (Ambient)	Humidity (non-condensing)	
Operating	-10 ~ 65		
Storage	-20 ~ 80	5 ~ 90%	
Warranty			
12 months			

4. Hardware Installation

The following sections in this chapter describe how to install AG-623C Module

4.1. Installation Overview

AG-623C wireless module is design for Access Point, Router, ATU-R, Printer Server series, IP Camera series and Internet Video Server only.

4.2. Safety Recommendations

The safety guidelines are as follows:

Keep the board area clear and dust-free before, during, and after installation.

Keep tools away from walk areas where you and others could fall over them.

Do not wear loose clothing or jewelry, such as earrings, bracelets, or chains, that could get caught in the board.

Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.

Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.

Never attempt to lift an object that is too heavy for one person to handle.

4.3. Maintaining Safety with Electricity

Warning: Before working on a board or working near power supplies, unplug the power cord on AC units; on DC units, disconnect the power at the circuit breaker.

Follow these guidelines when working on equipment powered by electricity:

Do not work alone if potentially hazardous conditions exist anywhere in your work space.

Never assume that power is disconnected from a circuit; always check the circuit.

extension cables, frayed power cords, and missing safety grounds.

If an electrical accident occurs, proceed as follows:

- Use caution; do not become a victim yourself.
- Disconnect power from the system.
- If possible, send another person to get medical aid. Otherwise, assess the condition of the victim and then call for help.
- Determine if the person needs rescue breathing or external cardiac compressions; then take appropriate action.

- 7 -

4.4. Installing a **AG-623C**

Remove the **AG-623C** module from its protective packaging.

Avoiding Electrostatic Discharge

Before you install the **AG-623C** module, ground yourself by touching a piece of metal to avoid electrostatic discharge (ESD). You should also take the following precautions to prevent damage to the **AG-623C** module:

Keep the **AG-623C** module in its antistatic-shielded bag until you are ready to install it.

Handle the **AG-623C** module by its edges.

Ensure the connector is connected to above Model's board tightly.