

WLAN 54Mbps MiniPCI Card

(For OEM of Mobile Host equipment such as Access Point or Router)

USER MANUAL

Version 0.1, August 5, 2002

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

(1) The devices are restricted to indoor operations within the 5.15 to 5.25GHz range. (2) For this device to operate in the 5.15 to 5.25GHz, so the devices must use integral antennas.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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

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

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as 2 conditions above are met, further transmitter test 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 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.

End Product Labeling

This transmitter module is authorized only for use in device 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). The final end product must be labeled in a visible area with the following: “Contains TX FCC ID: O7J-GL5054MP-AA”.

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.

Instruction for the installation of this Module

This module is searching for the authorization of mobile host application. Only the OEM of mobile host such as Access Point or Router is allowed to install this module. This module is not for the end user.

Two types of antenna have been included in this authorization. If dipole antenna is going to be used in the end product, the OEM has to be sure that the part below the bending section should be affixed on the housing of the host equipment. Unless the end user destroy the housing, the antenna can not be removed. If the inverted-F antenna is going to be used, then the antennas should be covered completely by the housing of the host equipment. In other words, the antenna should be the integral part of the equipment.

For performance testing of this module, a PCMCIA to mini-pci adapter can be used, and the software control instruction starts from next page.

RF Module Performance Test Instruction - via the control of notebook PC

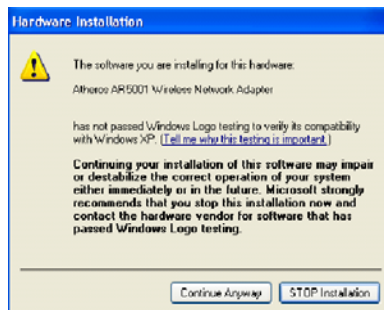
1. Insert the WLAN 54Mbps miniPCI Card into the miniPCI slot or the slot of PCMCIA to miniPCI adapter. Then insert the driver CD into the CD-ROM.
2. Wait for the following dialog box to appear. Choose “Install from a list or specific location (Advanced),” and click Next to continue.



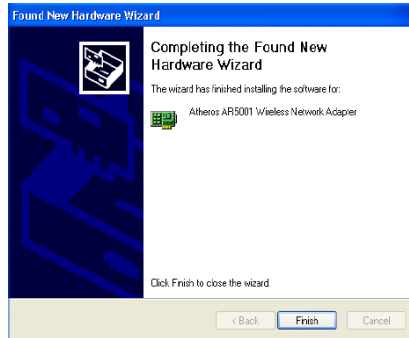
3. Under “Search for the best driver in these locations,” choose “Include this location in the search” and click Browse to find the location of the NDIS driver. When the driver location has been identified, click Next to continue.



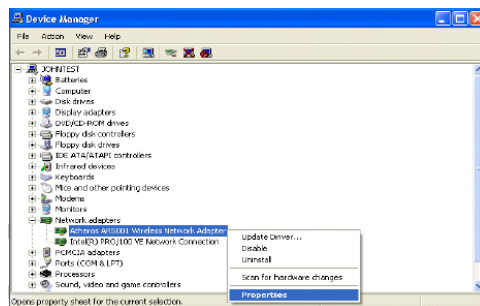
4. The NDIS evaluation driver currently does not have a digital signature from Microsoft. Therefore, Windows XP shows a warning message. Click Continue Anyway to proceed with driver installation.



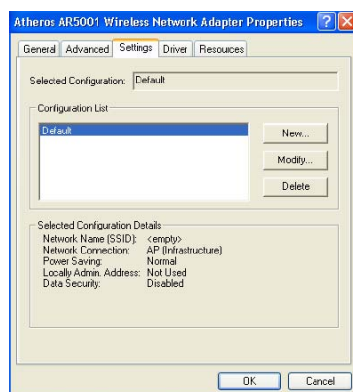
5. Click Finish to complete driver installation, and refer to “Device configuration” for device configuration.



6. Go to Device Manager, right-click “Wireless Network Adapter,” and select Properties to access to the properties of the adapter.



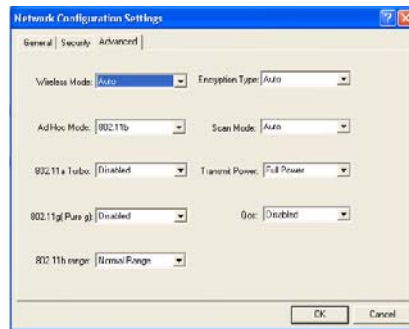
6. Configuration additions, modifications, and deletions are made under the “Settings” tab of “Wireless Network Adapter Properties.” Select one of the configurations under the configuration, click Modify or New and complete the steps in “Infrastructure Mode” or “Ad Hoc Mode” to set up the station to work in infrastructure mode or ad hoc mode, respectively.



Selecting Encryption Types

Atheros supports two encryption types; Wired Equivalent Privacy (WEP) and Advanced Encryption Security (AES). By default, the STA is set to auto and will first attempt to use AES and will only use WEP if AP only supports, or is configured for WEP only.

1. Use the Advanced tab on the “ Wireless Network Adapter” dialog to change the encryption type.



To change the encryption type, take the following steps:

1. Select Encryption Algorithm.
2. Select the desired setting from the Value menu.

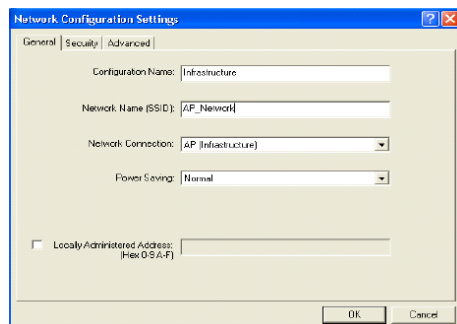
CAUTION: To successfully transmit data frames, specify a unique key.

NOTE: If AES and ad hoc are both specified, the STA will use WEP.

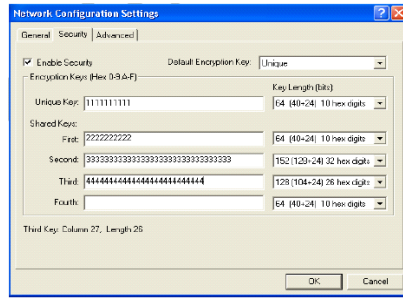
NOTE: Fragmentation is currently not supported using AES.

Infrastructure mode

1. Under the “General” tab, make sure the “Locally Administered Address” checkbox is unchecked.

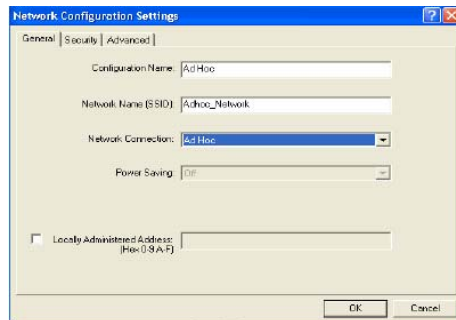


- Usually, infrastructure mode is used in an enterprise environment where APs are installed and maintained by corporate IT staff. Much of the data in the enterprise network is confidential. It is important to configure security to make sure only stations with appropriate keys can receive sensitive data. The Wireless Network Adapter and NDIS driver support key lengths of 40 bits, 104 bits and 128 bits. Typically, the appropriate encryption and decryption keys are supplied by the corporate IT staff.



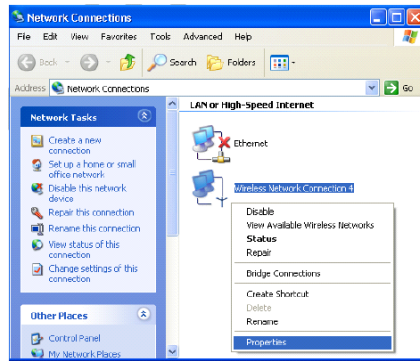
Ad Hoc Mode

- Similar to the setup of AP Infrastructure mode described in the previous section, ad hoc mode is also configured by changing the options in the “Network Configuration Settings” window.

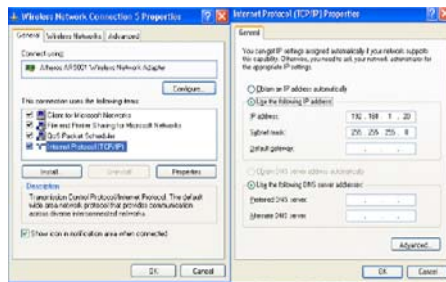


TCP/IP Setup

- From the Start menu, choose Programs > Accessories > Communications > Network Connections. Find the “Local Area Connection” that is associated with the Atheros AR5001 Wireless Network Adapter. Right click that connection and click Properties.



2. Select “Internet Protocol (TCP/IP)” and click Properties.

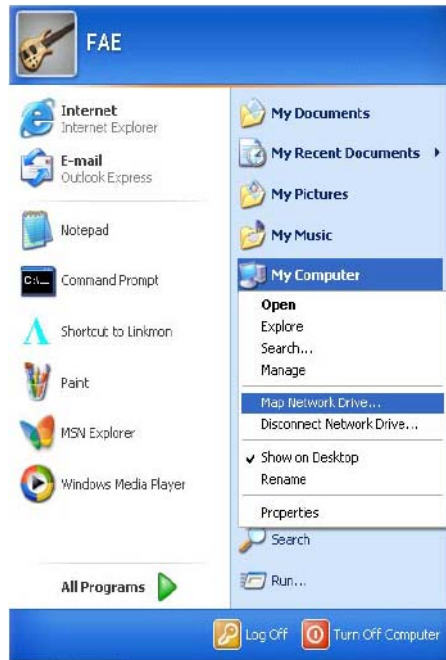


3. Click “Use the following IP address” and input an IP address and Subnet mask. Depending on the type of network the station connects to, Gateway and DNS Configuration information can also be required. IP configuration information (DHCP or assigned IP address, Gateway and DNS server IP addresses) is usually obtained from the corporate IT staff. For a simple demonstration, the station is assigned a static IP address.

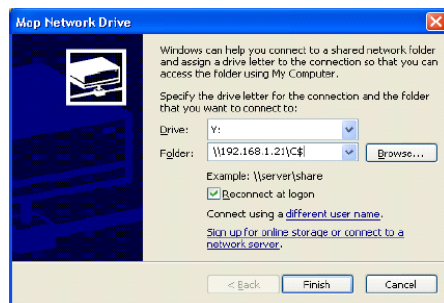
4. Click OK in both “Internet Protocol (TCP/IP) Properties” and “Local Area Connection Properties” to complete the IP configuration.

5. When a TCP/IP connection is established, the LinkMon utility can be used to monitor the operating status of Wireless Network

6. To map the drive on another machine to your computer, from the Start menu, choose My Computer and right-click to select “Map Network Drive....”



7. Assign the drive letter that maps to the network-shared folder and specify the shared folder information. Click Finish to map the drive.



8. After mapping the drive, you can perform file transfers, video streaming, and all other network data transfers that are normally performed with wired 10/100 Ethernet connections.