

MF220
HSPA PCI Express Mini Card

User Manual

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1 Warning and Notice

To the owner

- The use of electronic transmitting devices is forbidden in aircraft, at petrol stations and in hospitals. Please observe and obey all warning signs and switch off your modem in these conditions.
- The module may interfere with medical devices like hearing aides and pacemakers.
- Be aware of warning signs in places such as oil refineries or chemical factories where there are explosive gases or explosive products being processed.

Modem

- Only use original accessories supplied by the manufacturer. Using unauthorized accessories may invalidate your warranty.
- Avoid using the module near or inside metallic structures or establishments that can emit electromagnetic waves.
- The module is not waterproof. Please keep it dry and store it in a cool place out of direct sunlight.
- There are no user serviceable parts. Dismantling the unit will invalidate the warranty.
- Operating temperature range of $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$ and humidity 5%~95% are recommended.

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

NOTE: 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.

The final end host device which contains this module will be labeled in a visible area with FCC ID:Q78-MF220

2 Introduction

2.1 Introduction

There is a multi-mode 3G PCI Express Mini Card (Wireless LAN Module) in your notebook. The card works in HSPA+/HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM networks. It integrates the functionality of a modem and a mobile phone (SMS), and combines mobile communication with Internet perfectly. It supports data, and SMS services through the mobile phone network, enabling you to communicate anytime and anywhere.

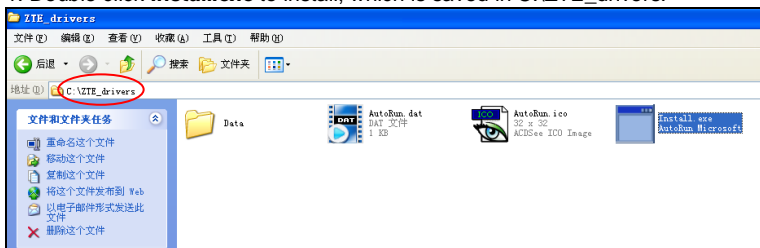
2.2 Functions

Functions	SMS, Data service, Applications management, etc.
Network Standards.	HSPA+/HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM
Transmission (Max. data rate)	HSPA+: 14.4Mbps DL
	HSUPA: 5.76Mbps UL

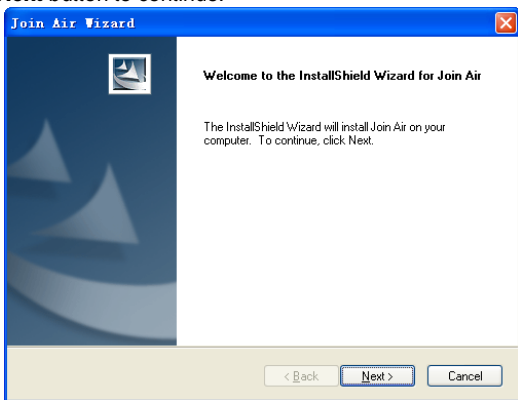
3 Installing the Software

If you accidentally uninstall the application software, you can reinstall it by following the steps below.

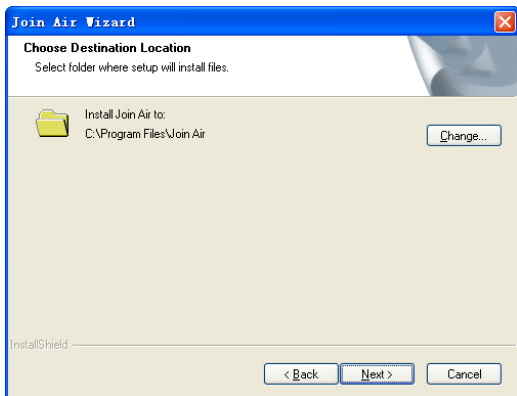
1. Double click **Install.exe** to install, which is saved in C:\ZTE_drivers.



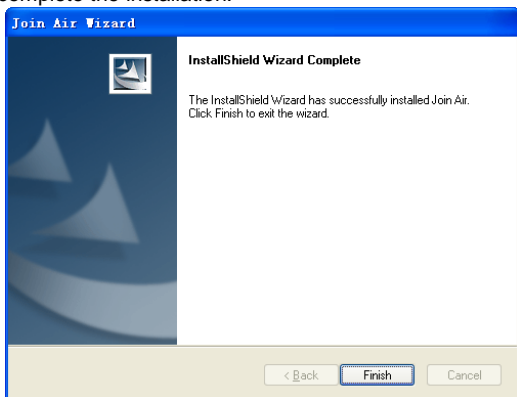
2. Click the **Next** button to continue.



3. Select the folder that you want to install the software, and you can select a different location by pressing the **Change** button, and then click the **Next** button.



4. The system shows the installation progress, wait a minute and click the **Finish** button to complete the installation.





Note: If you have problems with installation after the above operation, please contact the shop or ZTE.

4 Functions

4.1 Interface Introduction

When you want to use the Wireless LAN Module, click the “**Start** → **Programs** → **Join Air** → **Join Air**” menu to run the application software, or double click the

shortcut icon  to run the application software.

After the application software is correctly initialized, the standby icon  appears in the taskbar.

Note: To use all the functions the Wireless LAN Module offers, you must insert the (U)SIM card into the device in which the Module is installed. Please refer to the manual of the device for the instruction of (U)SIM card insertion.

1. Main Interface





The diagrams of the main interface of the application software:




The whole interface is divided into four parts. Related functions can be executed by operation in the related areas.

System information area

Indicators in this area show the system status and different kinds of tips.

Indicator	Explanation
	Indication of signal strength, which is divided into 6 stages from none to the strongest.
	Indication of current network type.
	Roaming.
	Packet switched

Indicator	Explanation
	Circuit switched

Internet information area

This area shows the name of the current service provider, device condition and connection information.

Function button area

There are five function button icons.



SMS: Send, read and manage SMS.



Phonebook: Manage contact information.



Settings: Setting options for the modem.



Data records: Show connection information.



Connect: Connect to the Internet.

Main menu button area

Click the  icon to popup the following menu:


Log: The record of software operation.

Diagnostics: View hardware information, operational information and network settings.

Help: Enter connection manager software help.

Exit: Close the application.

2. Description of Mini Icons

Click the minimize button  and the software will minimize as an icon on the taskbar. This will not influence data transfer or sending and receiving of SMS.

Double click the icon on the taskbar to restore the window.

Taskbar icons

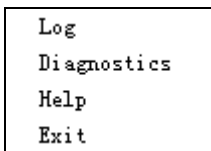


The USB modem is ready to connect to the Internet.



The USB modem is connected to the Internet.

Right click the taskbar icons, the following menu will appear:



Log: The record of software operation.



Diagnostics: View hardware information, operational information and network settings.

Help: Enter connection manager software help.

Exit: Exit the program and stop the modem from working.

4.2 Connecting to the Internet


You can browse web pages after you have accessed to Internet with the help of module, you can also receive SMS when surfing in the Internet.

Click the “**Connect**” button . The system will search for available networks automatically. You can click “**Cancel**” button  to cancel connection.




When connected, connection duration and data record will be shown in the Internet information area. Then you can access the Internet and receive email etc, through the network.

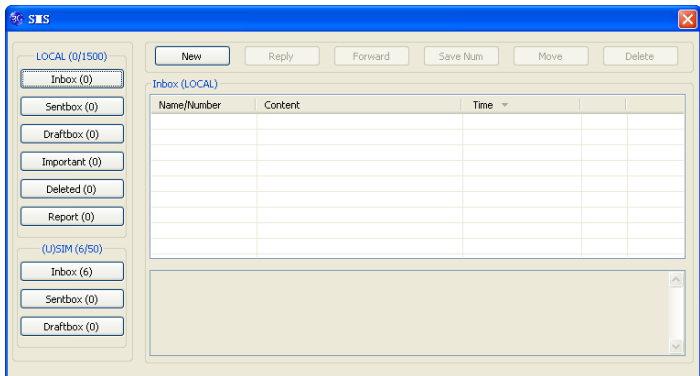


When the connection is established, the “Connect” button changes into the “Disconnect” button . Click it to disconnect from the Internet.

4.3 SMS

Click the “SMS” icon  to switch to the SMS interface, which shows the number of SMS in your PC (LOCAL) and (U)SIM card. Click “Inbox”, “Sentbox”, “Draftbox”, “Important”, “Deleted”, or “Report” to enter corresponding interface.

Note: To make sure that the SMS can be used properly, make sure that the SMS center number is correct.



Inbox: Save the received messages.

Sentbox: Save the successfully sent messages.

Draftbox: Save the SMS which haven't been sent. The drafts can only be saved in PC, not SIM/USIM.

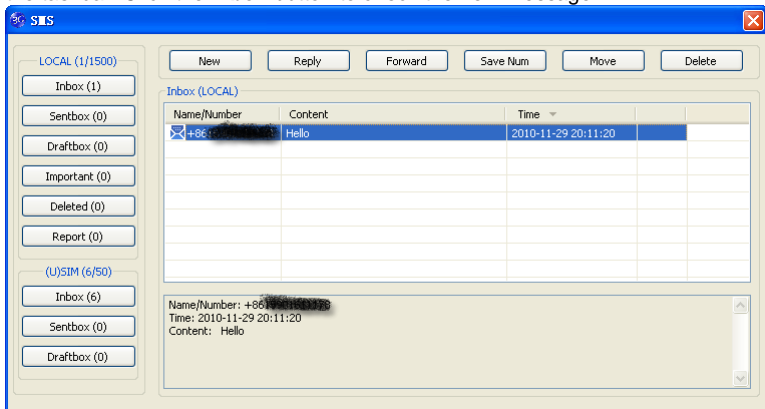
Important: Save the important messages that you have moved from other folders.

Deleted: Save the deleted messages.

Report: Save the message reports.

Checking SMS

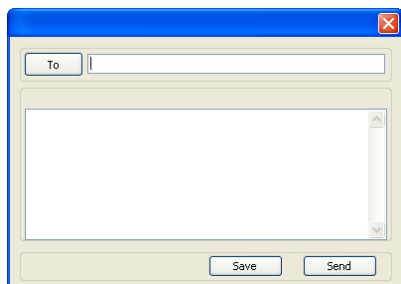
When an incoming message is received, a pop-up dialog box will appear above the taskbar. Click the **Inbox** button to check the new message.



Click other buttons in the SMS window to view the messages in each folder. Select a message to read its full content below the message list.

Create a new message

Click **"New"** to open a new dialog box and input the recipient's number and message content.

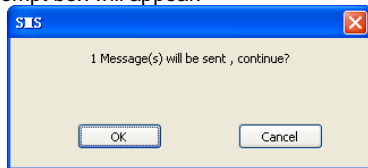


The recipient's number can be input directly or by clicking the **To** button and selecting contacts from the **Phonebook**.

To send a message to multiple recipients, please separate each recipient with “,”.

The SMS content can include 160 individual English characters (including English symbols). The total characters and the number of messages need to be sent are shown in the dialog box.

Click **Send** and a prompt box will appear.



Click **OK** to send the short message.

If the message is sent successfully, it will be saved in **Sentbox** automatically. Otherwise, it will be saved in **Draftbox** automatically.

Tip: If your network supports, you can send short messages the same time surfing the Internet. Click **SMS** button, enter the SMS interface to write and send short messages normally.

The SMS box operating guide

Enter **Inbox/Sentbox/Draftbox/Important** to execute the following by clicking on each button or right-clicking on a message:

Reply: Reply short messages to the sender (available only in “**Inbox**”).

Forward: Forward a short message to other recipients (available only in “**Inbox**”).

Move: Change the location where selected messages are stored (LOCAL or USIM/SIM card). By default, the messages the modem received are saved on LOCAL (computer).

Delete: Delete the selected short messages.

Save Number / Save Num: Save the sender's number to **Phonebook**.

Send: Send selected messages in **Sentbox/Draftbox**.

Edit: Edit selected message in **"Draftbox"**.

Export/Import: Export the SMS to CSV or import SMS from CSV.


Save to Important: Move the SMS to **Important** folder.

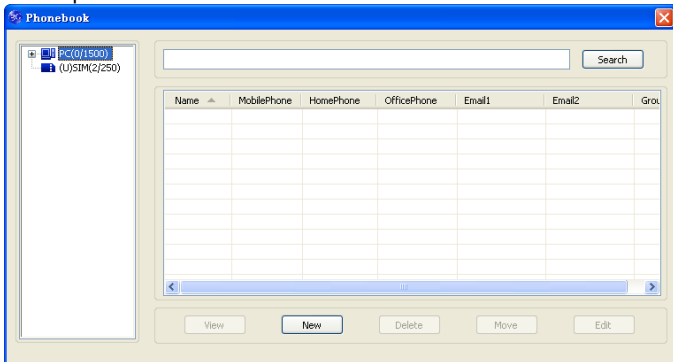
Revert: Move the SMS from **Important** or **Deleted** folder back to other folders.

If you want to select several messages, hold **"Ctrl"** or **"Shift"** key and left-click on the items.

New messages can not be received when the (U)SIM card is full (different USIM/SIM cards have different capacities). The system will indicate that the inbox is full and prompt you to clear the **"Inbox"** of USIM/SIM card.

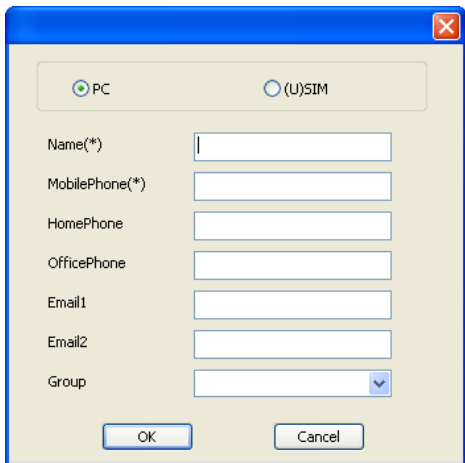
4.4 Phonebook

Click **Phonebook** icon  to enter **Phonebook** interface. Contact information can be saved either on your PC or the SIM/USIM card. For each contact record on the PC, the information includes name, mobile phone number, home phone number, office phone number, emails and the group to which it belongs. For each contact record on the SIM/USIM card, the information only includes name and mobile phone number.



Creating a new record

1. Click **"New"** to add a new contact;
2. Select contact type ("**PC**" or "**(U)SIM**") and input the information. Then click **"OK"**.



The image shows a dialog box for creating a new contact. At the top, there are two radio buttons: "PC" (which is selected) and "(U)SIM". Below this, there are several input fields: "Name(*)", "MobilePhone(*)", "HomePhone", "OfficePhone", "Email1", "Email2", and "Group" (which is a dropdown menu). At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Editing contacts

1. Select a contact and click **"Edit"**;
2. Edit the contact information and click **"OK"**.

Deleting contacts

Select one or more contacts and then click **"Delete"**.

Sending SMS to contacts

1. Right click the selected contacts and select **"SMS"**;
2. Input message content in the new window and click **"Send"**.

Searching for a contact

1. Enter the keyword in the search box;
2. Click **"Search"** to search for matching results, which will be displayed in the contacts list.

Other buttons Description


If any contact is selected, you can execute any of the following by clicking on the corresponding button.

View: View the selected contact's information.

Move: Change the location (PC or SIM) where selected contacts information is stored.

Right click on the contacts and you can create new contacts, view, edit, copy-and-paste, move, delete, export, or import selected contacts.

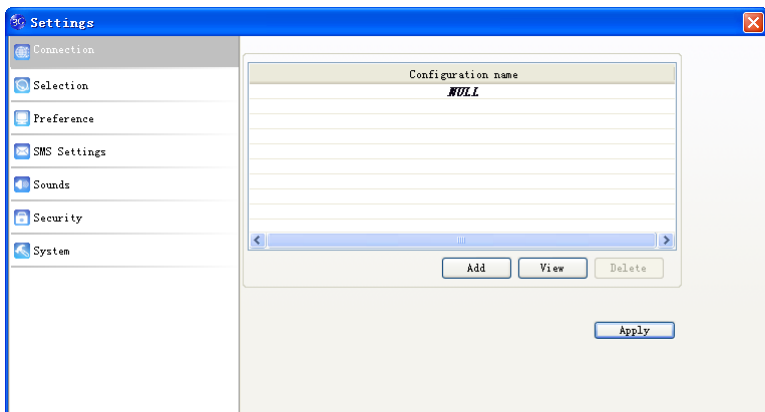
4.5 Settings

Click “Settings” icon  to switch to the settings interface.

Note: All the necessary settings have been preset by default. There is no need to change such settings. If you want to change these settings, please consult your service provider.

Connection settings

To ensure that the modem can connect to the Internet properly, you should configure the connection information first.



(1) Button description

Add: Add new configuration files.

View/Edit: View/edit the selected configuration file.

Delete: Delete the selected configuration files.

(2) Add new Configuration file

Click **“Add”** button to add new connection information to the system.

There are two parts of configuration information: **“Common”** and **“Advance”**.

The **“Common”** information includes **“Config File”**, **“APN”** and **“User name”**.

The **“Advance”** information includes **“DNS”**, **“PDP server”**, **“Authentication mode”** and **“PDP Type”**. Please consult your network service provider for all above information. The configuration information may vary as the service provider and network type differ.

The screenshot shows a window titled "Connection" with a close button in the top right corner. It has two tabs: "Common" and "Advance". The "Common" tab is selected and contains the following fields:

- Config File**
 - Config name: [Text Input]
 - Dial number: [Text Input]
- APN**
 - Obtain APN address automatically
 - Use the following APN address: [Text Input]
- User name**
 - User name: [Text Input]
 - Password: [Text Input]

At the bottom right of the dialog are "Save" and "Cancel" buttons.

Selection settings

Automatic: The system selects the network automatically.

Manual: Manually select the network.

When **“Manual”** is selected, click **“Search”** button to search for available networks. Select the proper network from the search results and click **“Apply”** to register to the network.

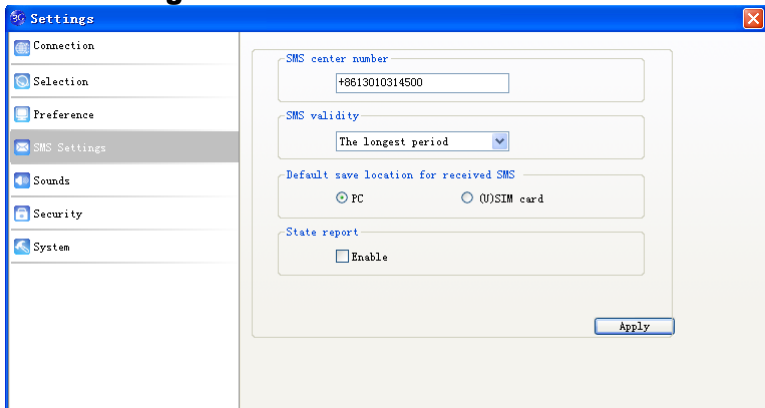
Preference settings

Automatic: The system selects available network automatically.

UMTS/HSPA Only: The system will only select UMTS or HSPA networks.

GPRS/EDGE Only: The system will only select GPRS or EDGE networks.

SMS Settings



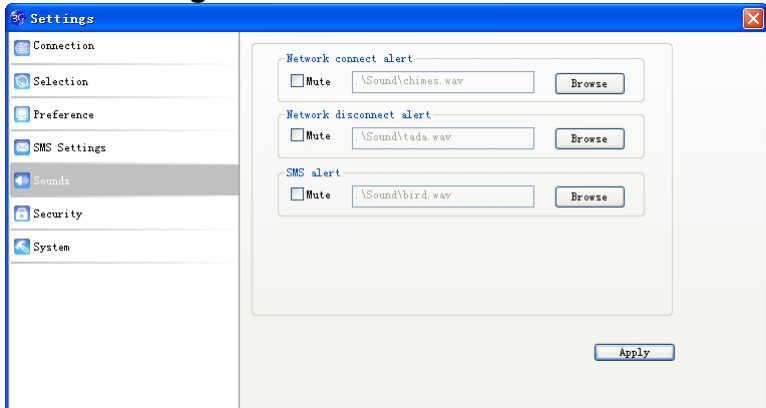
SMS center number: Set the message center number. You can use the default number preset by your service provider. The correct SMS center number must be input in order to use the SMS properly. If you want to edit it, please consult with your service provider for more information.

SMS validity: Set the time limit for saving SMS in the network side. (This function needs network support.) You can select “**12 hours**”, “**A day**”, “**A week**” or “**The longest period**”. The default setting is the longest period permitted by the network.

Default save location of received SMS: Select “**PC**” to save the received SMS in your PC; select “**(U)SIM card**” to save it in SIM/USIM card.

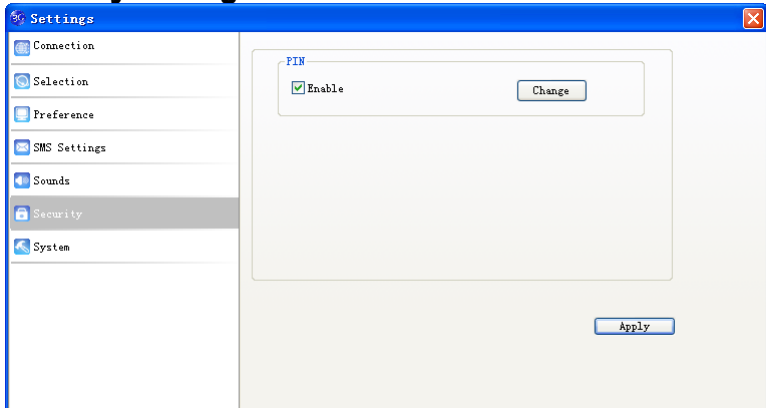
State report: Enable state report to receive notification when the message is sent successfully.

Sound settings



You can set “**Network connect alert**”, “**Network disconnect alert**” and “**SMS alert**”. These alerts will sound on the PC side. The audio file supports MP3, WAV, MID and WMA formats. Select “**Mute**” to mute corresponding alert.

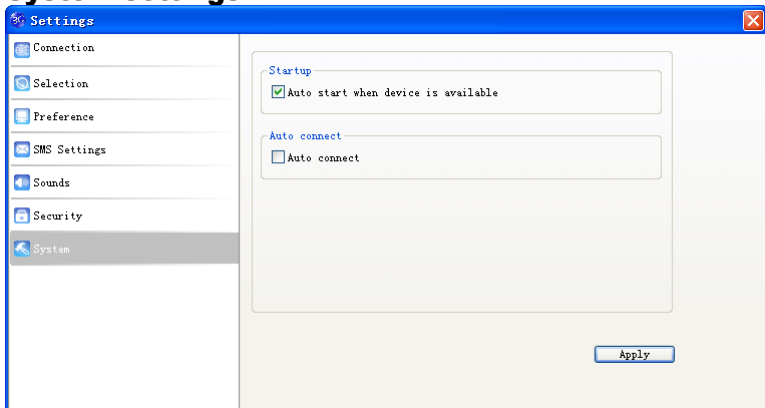
Security settings



Enable or disable PIN code protection. Click “**Change**” button to change the PIN code. Click “**Apply**” button and input the PIN code to apply the security changes.

Note: If the PIN code protection is enabled, you need to enter the PIN code every time you start to use the modem.

System settings



Auto start when device is available: The software will start automatically when the modem is inserted into the PC.

Auto connect: Automatically connect to the Internet when the software is ready.

4.6 Data record

Click “**Data records**” icon  to check the log of Internet connection history.

In the “Transfer Data” tab, you can check the real-time upload/download speed, upload/download data and transfer time. You can also check the upload/download data and duration in one day, one month and one year.

In the “Data records” tab, select start date “**From**” and end date “**To**” on top to view the record of data exchange in the given period.


Select a record and click “**Delete**” button to delete the record. Click “**Clear**” to delete all the records in the list.

Note: Data usage is approximate only; please contact your operator for accurate usage.

4.7 microSD card

When you use a microSD card in the modem, the PC will display the MicroSD card as a removable disk. You can use it freely.

4.8 Help

Click “**Help**” icon  to open the help file. You may also access the help information by right-clicking the taskbar icon and select “**Help**”.

5 FAQ

When you meet the following problems in service, please refer to the following answers to solve it. If the problems still exist, please contact with your suppliers.

Problem Description	Possible Causes	Problem Solving
After restarting the computer, there is no signal indicated.	You are in the place where there is no GSM/ GPRS /EDGE /WCDMA /HSPA network coverage. Such places include underground parking garages, tunnels, and some remote rural areas.	Change location to find a good place with sufficient signal.
	The (U)SIM card isn't inserted properly.	Remove and reinsert the (U)SIM card correctly.
	Your notebook is positioned in such a way as that adversely affects the devices signal reception.	Adjust the angle / position of your notebook or its proximity to other electronic devices.
Sending message failure.	The SMS center number is incorrect.	The module is preconfigured so it is unlikely that it will need changing. However if it is missing or incorrect contact your operator.
	The network is busy or you are in an area with no signal.	Try later or move to an area with a stronger signal.
Date connection failed.	You are in the place where there is no GSM/ GPRS/ EDGE/ WCDMA/ HSPA network coverage.	Move to an area with good signal.

Problem Description	Possible Causes	Problem Solving
	The network is busy.	Try later.
	The APN in the user configuration file is incorrect.	Check the APN in the user configuration file in the "Network settings".
	The module data is corrupted.	Local network access or the target server maybe experiencing problems. Retry data request.
	The network type has been selected manually, but is incorrect.	Reselect the network type according to the type of the (U)SIM card.
Connected to the Internet, but it cannot open any website page.	After connection, you are unable to open web pages.	Check that the APN in the configuration files is correct.
	IE browser is causing problems.	Upgrade to the new version or reinstall the IE browser.
	Your operating system maybe infected by a virus. Worm Blaster for example can affect upload and downloaded data flow, resulting in an inability to access a website.	Use the professional anti-virus software to check and remove the virus.
	You have connected to an APN which cannot connect to the Internet.	This happens when you are changing any preset operator value in the setting section. Check the entry and enter the correct APN from your operator.