

ZTE MF691

HSPA+ USB Modem

User Manual

ZTE CORPORATION
NO. 55, Hi-tech Road South, ShenZhen, P.R.China
Postcode: 518057
Tel: (86) 755 26779999
URL: <http://www.zte.com.cn>
E-mail: mobile@zte.com.cn

LEGAL INFORMATION

Copyright © 2010 ZTE CORPORATION.

All rights reserved.

No part of this publication may be excerpted, reproduced, translated or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without the prior written permission of ZTE Corporation.

The manual is published by ZTE Corporation. We reserve the right to make modifications on print errors or update specifications without prior notice.

Version No. : R1.0

Edition Time : 2010.05

Manual No. :

Contents

Modem Introduction	1
Introduction.....	1
Applicability Scope.....	1
System Requirements.....	1
Specification.....	1
Hardware Installation.....	3
Outline and Parts.....	3
Hardware Installation.....	3
Connecting to Your Computer.....	4
Software Installation	6
Installation.....	6
Run the Application Software.....	7
Safe removal from your system	7
Uninstall.....	7
Function & Operation	9
Interface Introduction.....	9
Main Interface	9
Description of Mini Icons	10
Internet	11
Connecting to Internet.....	11
Disconnecting from Internet	11
Internet Connection Log	11
SMS.....	12
Creating a New SMS.....	13
Reading SMS	13
SMS Interface Operating Guide.....	14
Phonebook.....	14
Creating a New Group	15
Creating a New Contact	15
Searching for a Contact.....	15
Sending SMS to a Contact	15
Phonebook Interface Operating Guide.....	16
Settings.....	16
Security Settings	16
Connection Settings	17
Network Settings.....	17
Message Settings.....	18
Alert Settings	18
Help.....	18
FAQ & Answer	19
Warning and Notice	21

To the owner 21
Using your USB Modem 21
Limited Warranty 21
Limitation of Liability 22
How to get help 22

Modem Introduction

Introduction

The ZTE USB modem is a multi-mode USB modem, working in HSPA+/HSUPA/HSDPA/WCDMA/EDGE/GPRS/GSM networks. With USB interface connecting to a laptop or a desktop PC, 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.

Applicability Scope

The Modem device supports main types of laptops and desktop PCs, such as HP, IBM, Toshiba, Lenovo, Dell, Founder, etc.

System Requirements

The performance of the modem may be negatively influenced if configuration is below the recommended requirements.

Windows Operating System

Windows XP /Vista /7

Hardware configuration (Recommended):

- CPU: 500MHz Pentium or above
- Hard Disk: 20 GB or above
- RAM: 128 MB or above

Apple MAC Operating System


Operating System: Version 10.4, 10.5, 10.6

- CPU: PowerPC or Intel
- Processor: 500M or above
- Memory: 128M or above

Specification

The following table shows the specification of your device.

Interface Type	USB 2.0 high speed
Systems supported	Supports most types of laptop and desktop PC.
Operating systems supported	Windows XP, Vista, 7 MAC OS X
Functions	SMS service, Data service, Applications management, support microSD card, etc.
Network Standards	HSPA+/HSUPA/HSDPA/WCDMA/EDGE/GPRS/GSM
Transmission speed (Max)	HSUPA: 5.76Mbps UL

	HSDPA: 7.2Mbps DL HSPA+: 21Mbps DL
Temperature	Storage: -40°C ~ +80°C
	Operation: -10°C ~ +60°C
Dimension	89.2mm×27.8mm×10.4mm
Weight	About 32g
microSD  capability	Support up to 16GB microSD card

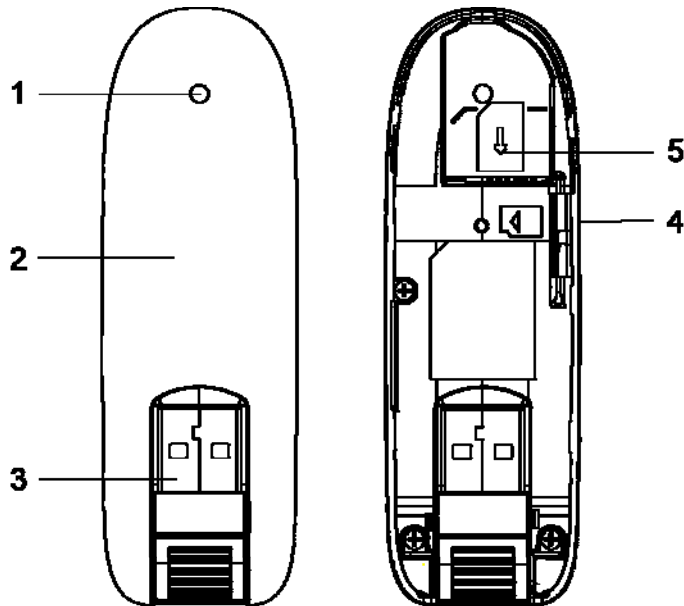
NOTE
Notes:

microSD logo is a trademark.

Hardware Installation

Outline and Parts

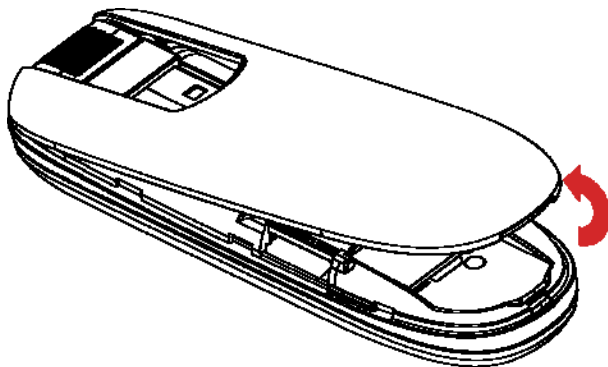
The following figure shows the appearance of the MF691. It is only for your reference. The actual product may be different.



- 1. Indicator
- 2. Front Cover
- 3. USB Connector
- 4. microSD card slot
- 5. SIM/USIM card slot

Hardware Installation

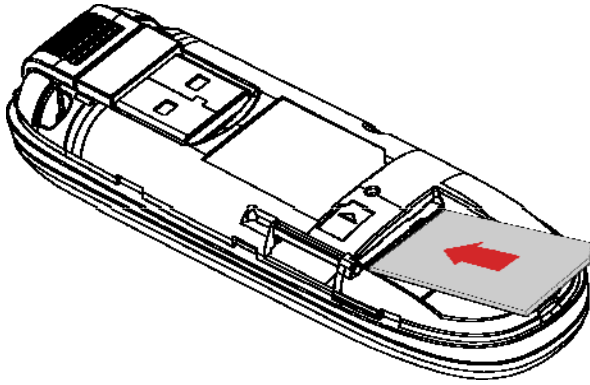
- 1. Put finger on the bottom finger grip, and then lift the cover of the modem to release and remove.



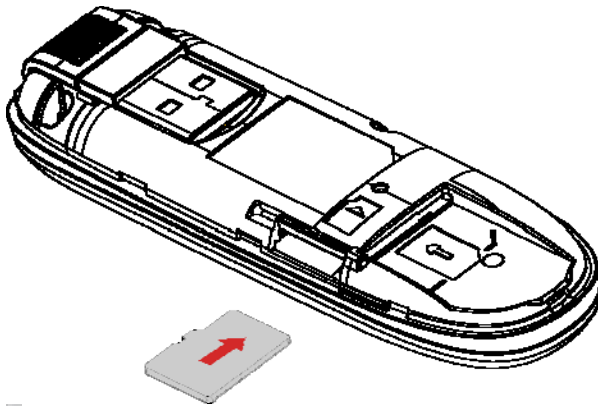
NOTE Notes:

Do not open the cover rudely so as to avoid the damage of the cover.

- 2. Insert the SIM/USIM card with the metal contact area facing downwards into the slot, shown as the following picture.



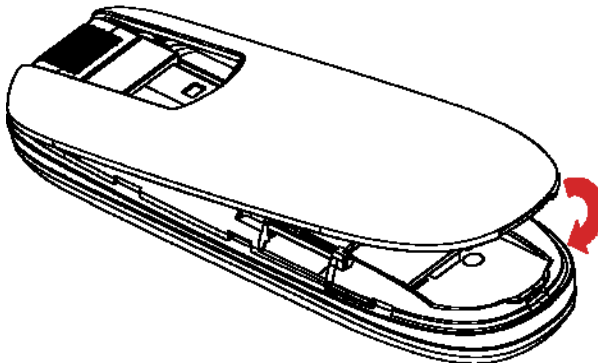
3. Insert your microSD card into the microSD card slot, shown as the following picture.



Notes:

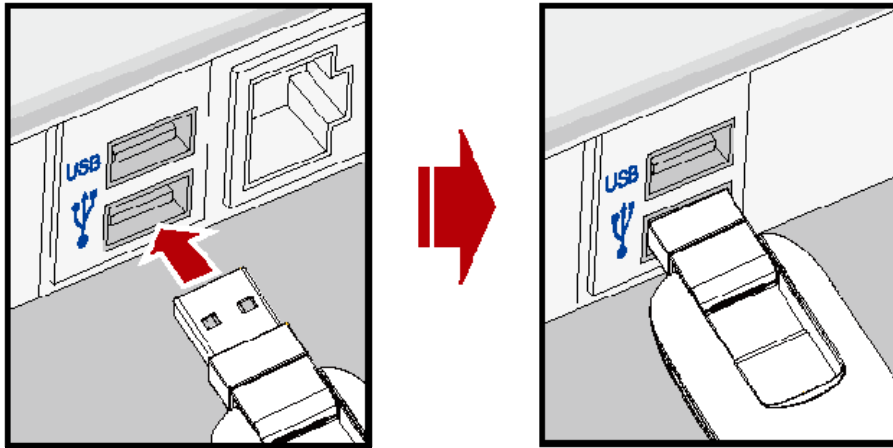
This modem only supports microSD card.

4. Put the cover of the modem flatly upon the body of modem. Direct the cover towards the locking catches on the sides of the modem and push the cover of the modem to lock the cover into its place.



Connecting to Your Computer

1. Rotate the USB connector and plug the USB connector into your computer's USB port. Make sure that it is tightly inserted.



2. The OS automatically detects and recognizes new hardware and starts the installation wizard.

Software Installation

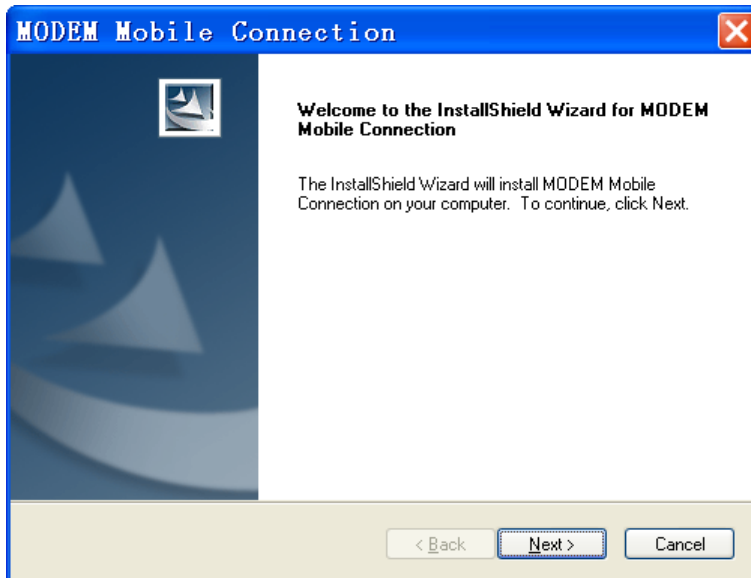
Installation

1. Your system will start the software setup process automatically when you connect the modem to your computer correctly. Follow the system prompts to complete the software installation.

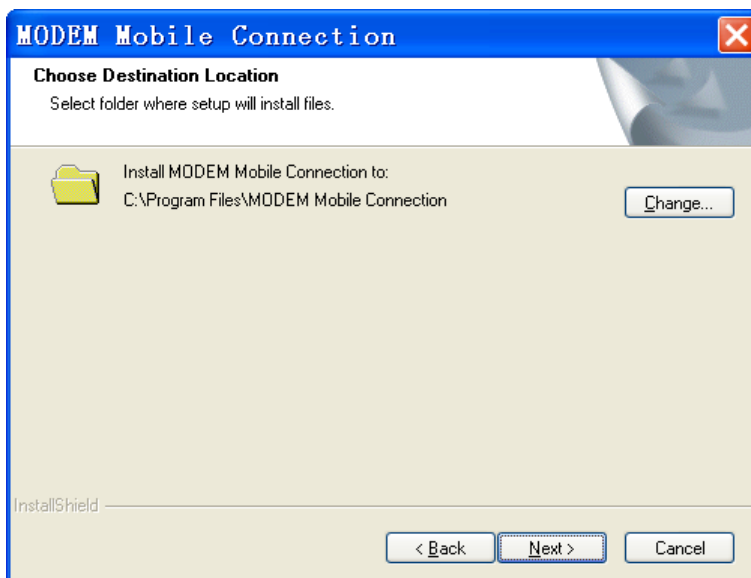
 **Notes:**

If the system does not launch installation automatically, you can run the installation program in path of **My Computer > ZTEMODEM**.

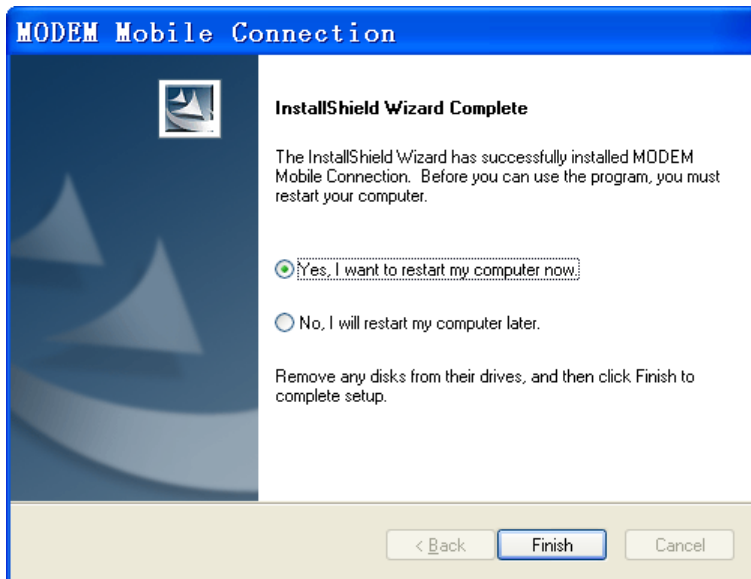
2. Click the **Next** button to continue.



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



4. Wait until the setup procedure is completed, select “Yes, I want to restart my computer now.” and click the **Finish** button to end the installation.




Notes:

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

Run the Application Software

1. Connect the modem to your computer correctly.
2. Click **Start > Programs > MODEM Mobile Connection > MODEM Mobile Connection** to run the application software.

Or double click the shortcut icon  to run the application software.

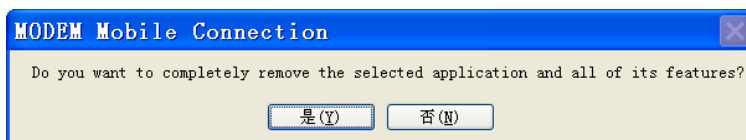
After the modem initialized, main interface appears. When the standby icon  appears in the taskbar, the modem can work properly.

Safe removal from your system

Please close the application software, and then you can pull out the USB Modem safely.

Uninstall

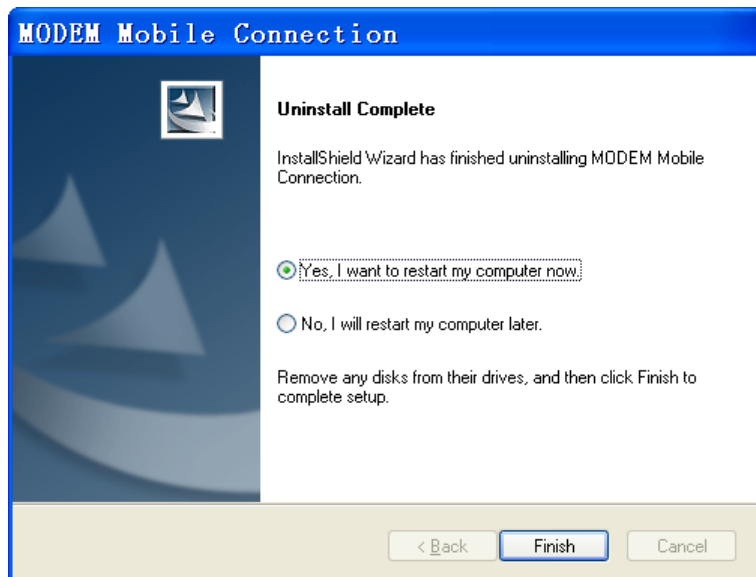
1. Close the application program before the software uninstalls. Click **Start > Programs > MODEM Mobile Connection > Uninstall** menu on your computer. Follow the system prompts to complete the software uninstall.
2. Click the **Yes** button to confirm uninstall of the software.



- Click the **Yes** button according to the indication, then the system begins to uninstall programs.

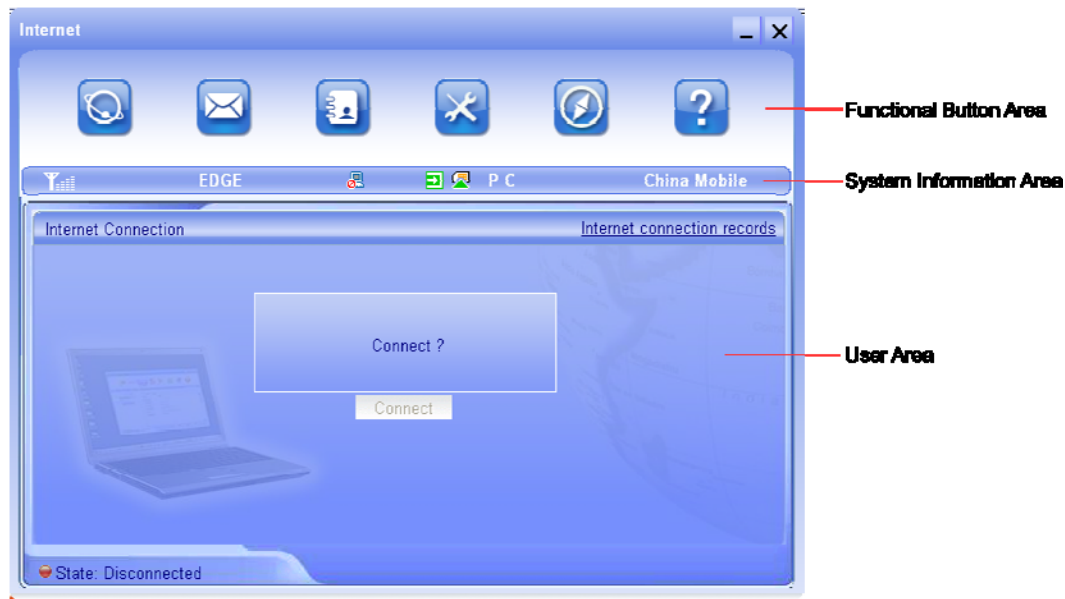


- Wait a minute, select “Yes, I want to restart my computer now.” and click the **Finish** button to complete the application software uninstall.



Function & Operation

Interface Introduction









Main Interface

The whole interface is divided into three parts. Related functions can be executed within the corresponding button.


Functional Button Area













There are various functional buttons available. By selecting one of the buttons, the corresponding action will be carried out:

-  **Internet:** Connect to the Internet.
-  **SMS:** Send SMS or read SMS.
-  **Phonebook:** Save and view the different information of the contacts.
-  **Settings:** Set normal relative information for the modem.
-  **GPS:** Global Position System.
-  **Help:** Enter the USB modem software help.

System Information Area

Show the system status and different kind of tips.

Icon	Explanations
	The icon indicates the network signal strength. There are 6 stages from none to the strongest.

	The icon indicates there are new SMS at present.
	The icon indicates the current status of Internet connection is not connected.
	The icon indicates the current status of Internet connection is already connected.
	The letter “P” means it supports packet-switch (P) service, while letter “C” means it supports circuit switch (C) service. “P” is necessary for Internet connection.
	The icon indicates insert status of the modem. Red means it has not been inserted into the computer.
	Yellow means it has been inserted into the computer but in offline status.
	Green means it has been inserted into the computer.
	The icon indicates insert status of the (U)SIM card to the modem. Red means it has not been inserted.
	Green means the card has been inserted.
	The icon indicates the modem is in status of roaming.
	The icon indicates the current network type, EDGE in service.
	The icon indicates the name of the service provider.









User Area

Show the man-computer interaction information under various conditions.

Description of Mini Icons

When clicking the minimise button, the software will minimise as an icon on the system tray. If connected to the Internet, minimising the software won't influence the download of data or receiving of SMS. When the application window is minimised, the system icons in the system tray will represent the current modem status. Double click the icon to resize the display of the application software again.

Taskbar Icons Description

-  The USB Modem is not inserted into the computer.
-  The USB Modem is offline.
-  The USB Modem has been inserted into the computer.
-  (U)SIM card is not inserted.
-  No network signal.
-  There is a new message.
-  Modem is in normal standby status.
-  The Internet is already connected.

The Usage of Tray Icons


Right click the tray icon to popup the operation menu:



- **Device Offline/Device Online:** Switch the current connection status of the modem and the network.
- **Factory Settings:** Restore all the settings to the original values in the USB modem. This operation just affects the settings in the USB modem and do not change any software settings in the laptop or desktop PC.
- **Help:** Enter the USB modem software help.
- **About:** View the information of the application software and hardware versions.
- **Exit:** Close the software and stop the modem from working.

Internet


Connecting to Internet

1. Click  icon to enter Internet Connection interface.
2. Click the **Connect** button. The system will search for available networks automatically.
You can click the **Cancel** button at any time to cancel the connection attempt.
3. When connected, the user area will show the amount of data transferred, the elapsed connection time.
The **Connect** button will change to the **Disconnect** button.

You can access the internet and receive e-mails etc. through the mobile network.

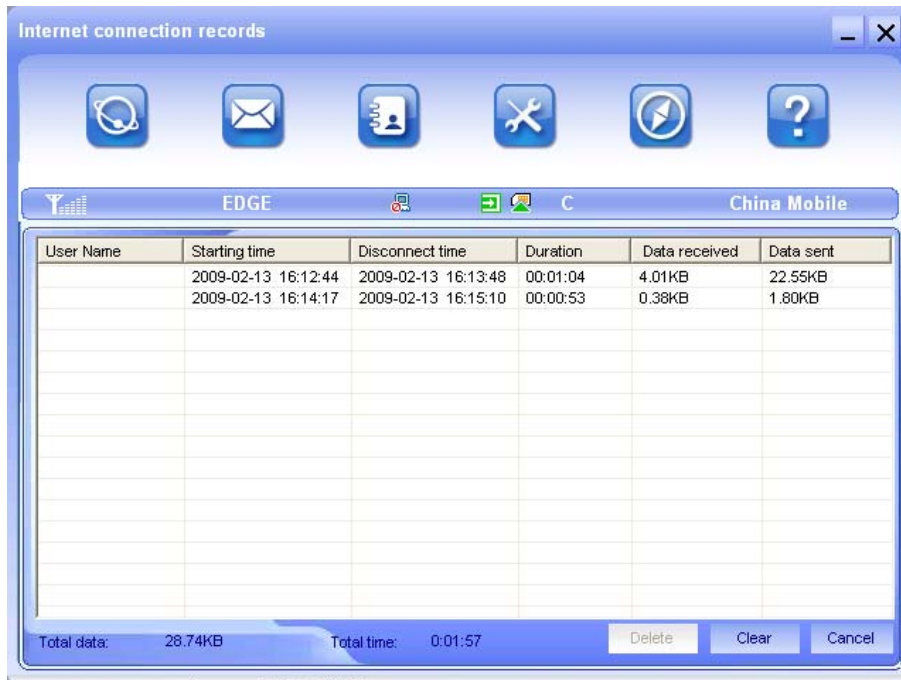
If the network supports, you can also receive SMS while surfing the Internet.

Disconnecting from Internet

1. Click  icon to enter Internet Connection interface.
2. Click the **Disconnect** button at any time to stop the connection to the Internet.

Internet Connection Log

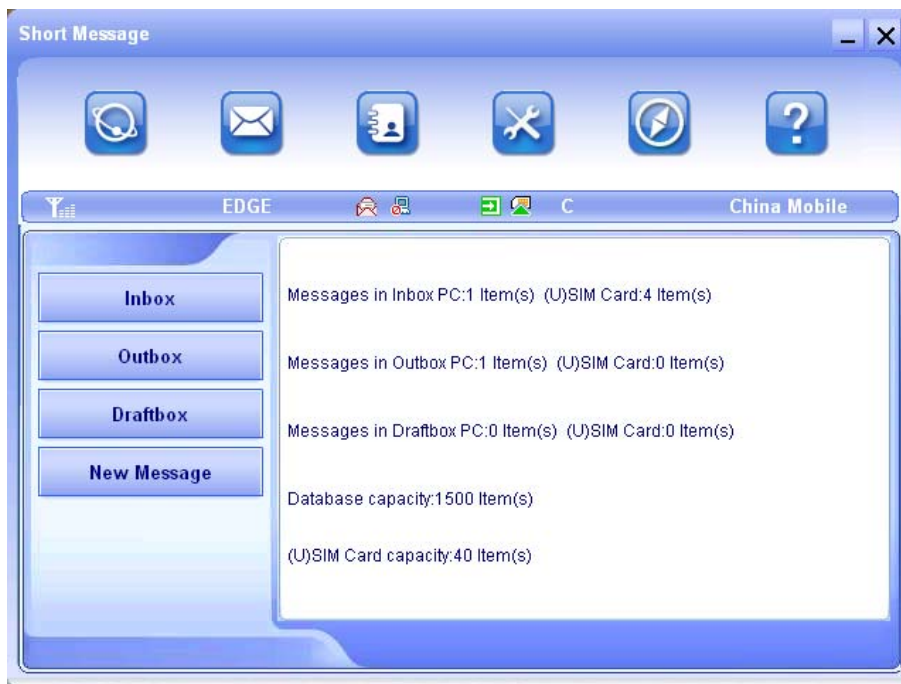
Click the [Internet connection records](#) button to check the log of Internet connection history in the Internet Connection interface.




NOTE Notes:

Data usage is approximate only, please contact your operator for actual usage.

SMS



Click the  button to witch to the SMS interface. You can select the location of saving SMS (PC or (U)SIM card), and execute different operations in the Inbox, Outbox and Draftbox. Click **Inbox**, **Outbox** and **Draftbox** to view the SMS list.



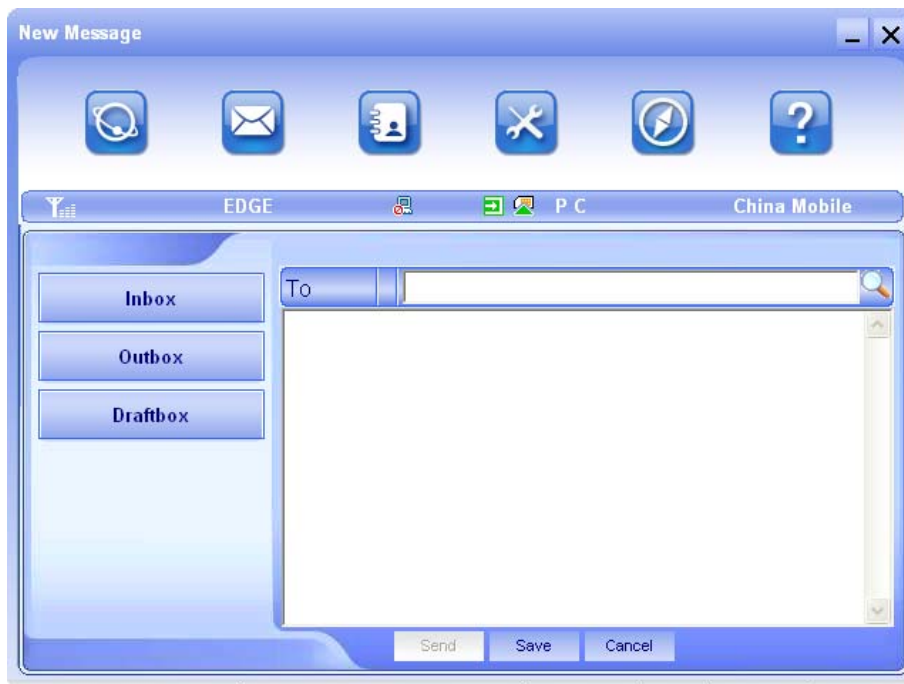
Notes:

To make sure that the SMS can be used properly, at first, you should setup the correct SMS center number.

- **Inbox:** Save the received messages.
- **Outbox:** Save the successfully sent messages.
- **Draftbox:** Save the editing messages which haven't been sent, or the failed sent messages.

Creating a New SMS

1. Click the **New Message** button, input the recipient's number.



The recipient's number can be input directly or by entering the Phonebook to select one/more/group records. The recipient's amount can be one or more. Please use “;” to separate recipients.


2. Input content in the appropriate fields.

The SMS content can include 160 individual English characters (including English symbols). On the interface, the number of total characters and the number of messages to be sent will be shown.

3. Click the **Send** button, the prompt screen will appear on the interface. Select **Yes**, and then the edited short message(s) will be sent.

After sending successfully, the SMS will be saved into Outbox automatically. If the sending operation fails, failure notification will appear, and the message will be saved in the Draftbox.

Reading SMS

When receiving a new SMS, the system will pop-up a dialog box in the taskbar. You can click  to enter the SMS interface.

1. Click the **Inbox** button.

2. Select a new message, and double click it to read the content of new message.

SMS Interface Operating Guide

There will be various functional button shown in the SMS interface. Select the different functional buttons to carry out corresponding operation.

- **Read:** Read all the information of short messages. (The content of short messages, sender's phone number, delivered date and time)
- **Reply:** Reply short messages to the sender (Can not be executed in Outbox / Draftbox).
- **Forward:** Send the short message to other recipients (Can not be executed in Draftbox).
- **Move:** Change the saving location of short messages between PC or (U)SIM card (Can not be executed in Draftbox).
- **Delete:** Delete the selected short messages.
- **Save:** Save sender's number into the Phonebook.
- **Cancel:** Return to the SMS interface.

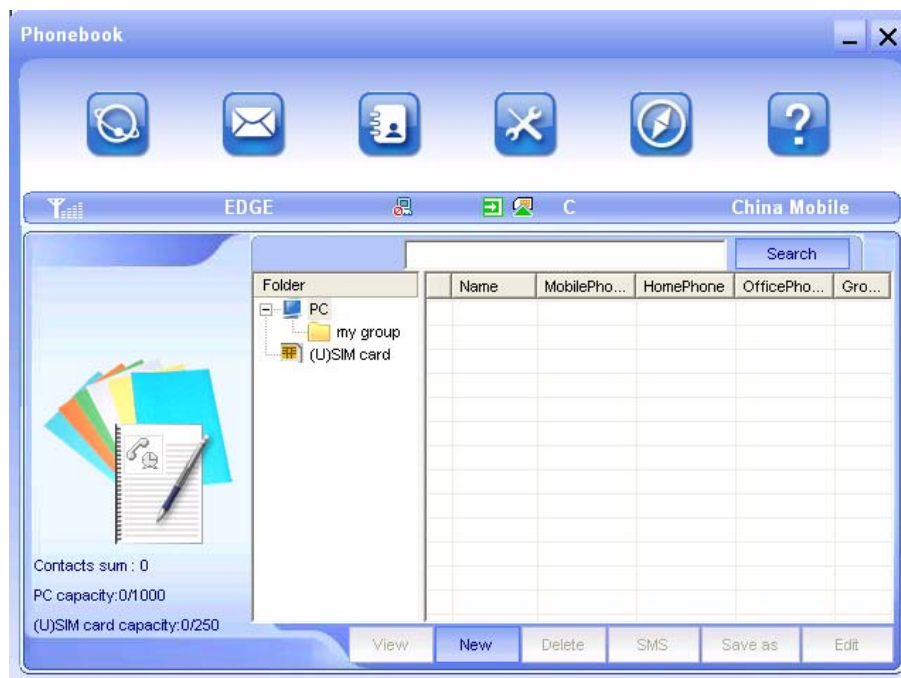
If you want to delete several messages at once, you can use the **Ctrl** or **Shift** key to execute multichoice, and left click an item to add to selection.




Tips:

New message can not be received when the (U)SIM card is full of short messages. Please clear your inbox at (U)SIM card side in time.

Phonebook



Click the  button to switch to the Phonebook interface. The phonebook information can be saved in PC or (U)SIM card, and you can choose the saved position. A record saved in PC includes Name, MobilePhone, HomePhone, OfficePhone, Email and Groups. If saved in (U)SIM card, the record may include Name and MobilePhone, which depends on the capability of saving records in (U)SIM card.

The capability of saving records and the number of current saving records in PC or (U)SIM card are

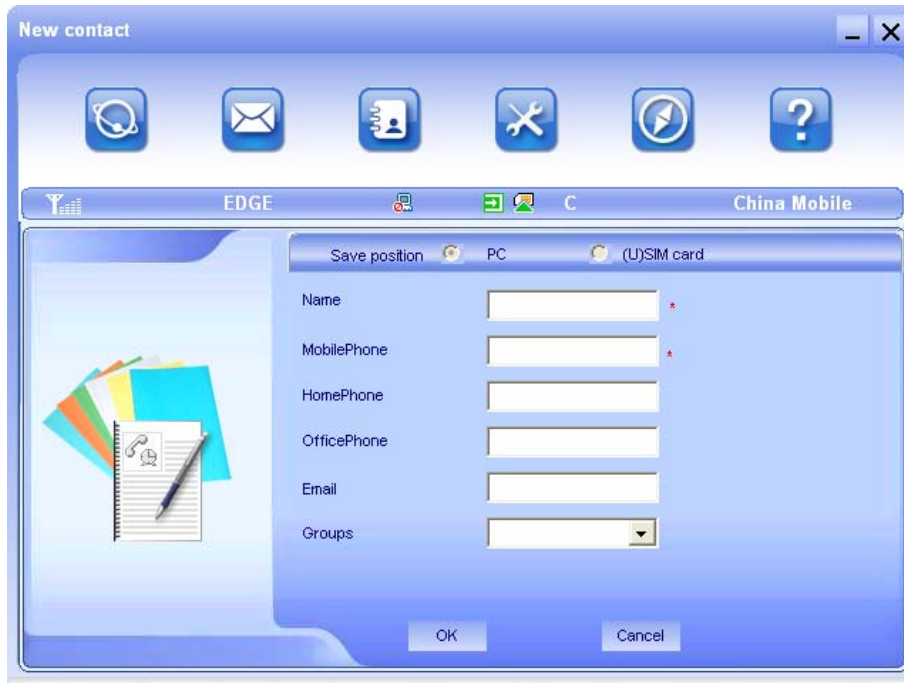
shown at the left bottom corner of the interface.

Creating a New Group

1. Click **New > New Group** below the group list area to add a new group.
2. Edit the group name just taken.

Creating a New Contact

1. Click **New > New Contact** below the contact list area.



2. Choose the saving location of a new contact. (In option: PC or (U)SIM card)
3. Input the contact information.
4. Click the **OK** button to finish.

Searching for a Contact

1. Enter the search conditions in the search condition blank.

You can key in total or any part of the record characters or phone number you are searching for.

2. Click the **Search** button to begin searching.
3. The search results will display in the contacts window.

Sending SMS to a Contact

1. Select one or more contacts.
2. Click the **SMS** button.
3. The system will pop-up SMS edit window automatically, the selected contact mobile phone number(s) will be listed in the receiver column.

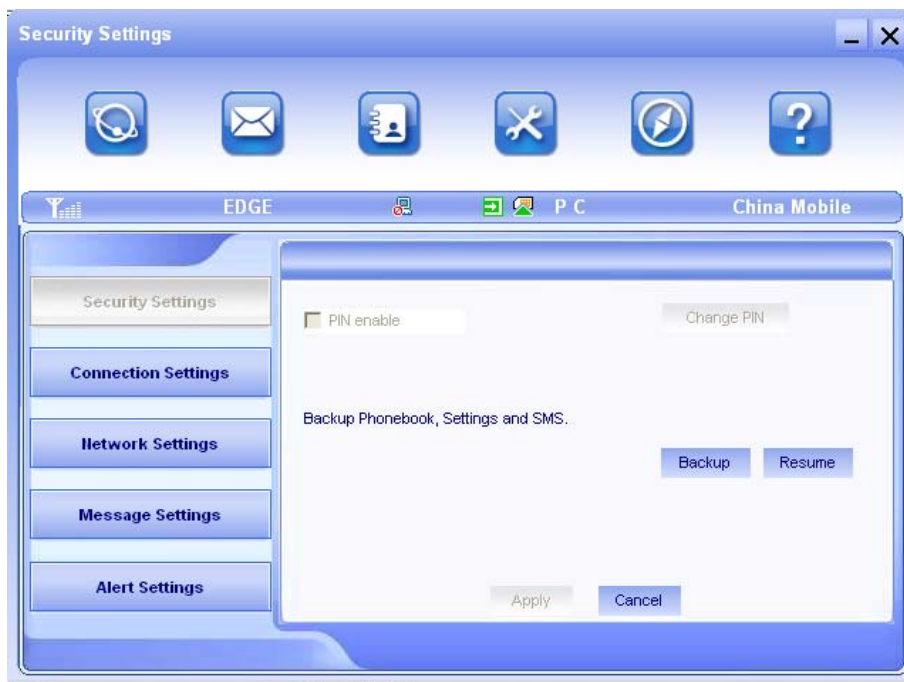
4. Enter the contents of the message and then click the **Send** button.


Phonebook Interface Operating Guide

There will be various functional button icons shown in the Phonebook interface. Select different functional button and it will carry out corresponding operation.

- **View**: View the selected records for detail information.
- **New**: Add a new contact or group.
- **Delete**: Delete the selected contacts.
- **SMS**: Send SMS to the selected contact(s) mobilephone.
- **Save as**: Save the selected contacts as a text file.
- **Edit**: Edit the information of the selected contact.

Settings



Click the  button to switch to the settings interface. It includes: Security Settings, Connection Settings, Network Settings, Message Settings, and Alert Settings.



Notes:

All the necessary settings have been correctly saved in your USB modem by ZTE. There is no need to change these default settings.

Security Settings

PIN code

You can enable the PIN code verification by selecting **PIN Enable**.

When **PIN Enable** item is selected, you will be asked to enter PIN code to use the modem.

Click the **Change PIN** button to modify the PIN code. Enter the old PIN code and a new PIN code, click the **OK** button to save.

**Notes:**

This function needs network support.

Backup Phonebook, Settings and SMS

You can backup the Phonebook and SMS in PC, Settings to your PC. And you can also restore them.

Click the **Backup** button to backup the Phonebook and SMS in PC, Settings. Or click the **Resume** button to restore the Phonebook, SMS, Settings.

Connection Settings

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

Button Description

- **Add:** Add a new configuration file.
- **View/Edit:** View/Edit the selected configuration file.
- **Delete:** Delete the selected configuration file.
- **Set default:** Choose one of configuration files to be a default file.

Configuration File

Select **Add** button to add a new configuration file to the system.

The configuration information includes: Config Filename, Dial Number, User name, Password, APN, DNS, and PDP address. If network supports “**Obtain server address automatically**”, the modem can obtain the assigned IP information automatically. If network does not support it, you should input the proper address manually. Please consult the network supplier of (U)SIM card for all above information. The configuration information may be various according to the different network suppliers and network types.

Network Settings**Operator Selection**

- **Automatic:** The system selects the network automatically based on the user’s selected rules and the network status.
- **Manual:** The network is selected by users themselves.

When **Manual** is selected, click the **Apply** button, the system will search for available networks. After a short period the supplier list will be shown in a window, also displaying available networks.

Select the network that the supplier is utilized to serve your (U)SIM and press the **Select** button to enter the network.

Preference Mode

- **UMTS preferred:** The system selects the UMTS network preferred.
- **GPRS/EDGE preferred:** The system selects the GPRS/EDGE network preferred.
- **UMTS Only:** The system will only select the UMTS network.
- **GPRS/EDGE Only:** The system will only select the GSM network.


Message Settings

- **Message Center:** Set the corresponding SMS center number. You must input the correct SMS center number to use the SMS properly and the number will be provided by the network provider.
- **Validity Period:** Set the time limit for saving SMS in the network side. (This function needs network supports.) In option: **12 hours**, **A day**, **A week**, or **The longest period**. The default setting is the longest period permitted by the network.
- **Delivery Report:** When **Turn On** item is selected, the network will inform you of the status for the sent messages.
- **Save in:** Select **Default** to save in location set by network; select **PC** to save in laptop or desktop PC; select **(U)SIM Card** to save in (U)SIM card.

Alert Settings

You can set **Connect alert**, **Disconnect alert**, and **Incoming SMS alert** by yourself. The audio file supports wav format. Click the **Browse** button to replace the default audio file. These alerts sound on the PC side. If you select **Mute**, you can not hear corresponding alert.

Help

Click the  button to switch to the help interface. Under the help topic, you can get useful information about functions of the software, etc.

FAQ & Answer

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
The system can not run the installation program automatically.	The system configuration is having difficulty with the auto-run software.	The modem will appear as a virtual CDROM on the PC's start menu. Click on the icon and start installation program. If you have previously installed a version of the program, please uninstall it first.
After installation, the system doesn't install the driver program properly.	The system configuration is having difficulty with the auto-run software.	Please install the driver program manually. The driver program can be found in installation folder.
After the modem is plugged in, the UI program doesn't run automatically.	The system configuration is incorrect.	Please open the UI program manually. You can find it on the desktop.
After restarting the computer, there is no signal indicated.	1. You are in the place where there is no GSM/GPRS/EDGE/WCDMA/HSDPA network coverage. Such places include underground parking garages, tunnels, and some remote rural areas.	1. Change location to find a good where having signal.
	2. The modem is not properly connected.	2. Close the modem safely as usual, pull out the modem and reinsert the modem again.
	3. The (U)SIM card isn't inserted properly.	3. Remove and reinsert the (U)SIM card correctly.
	4. The modem is positioned in such a way as that adversely affects the modem signal reception.	4. Adjust the angle/position of the modem or its proximity to other electronic modem.
When the modem is being installed, the computer cannot find it.	1. The installation programs of the modem have not been installed properly.	1. Run the installation program first then connect the modem. Now install the drivers as normal in Windows.
	2. The modem is not connected properly.	2. Restart the computer, or reconnect the modem.
	3. The (U)SIM card is not inserted properly.	3. Reinsert the (U)SIM card correctly.
Sent message failure.	1. The SMS center number is incorrect.	1. Your modem is preconfigured so it is unlikely that it will need changing. However if it is missing or incorrect contact your operator.
	2. The network is busy or you are in an area with no signal.	2. Try later or move to an area with a stronger signal.
Date connection failed.	1. You are in the place where there is no GSM/GPRS/EDGE/WCDMA/HSDPA network coverage.	1. Move to an area with good signal.
	2. The network is busy.	2. Try later.

Problem Description	Possible Causes	Problem Solving
	3. The APN in the user configuration file is incorrect.	3. Check the APN in the user configuration file in the "Network settings".
	4. The modem data is corrupted.	4. Local network access or the target server maybe experiencing problems. Retry data request.
	5. The network type has been selected manually, but is incorrect.	5. Reselect the network type according to the type of the (U)SIM card.
Connected to the Internet, but you cannot open any website page.	1. After connection, you are unable to open web pages.	1. Check that the APN in the configuration files is correct.
	2. IE browser is causing problems.	2. Upgrade to the new version or reinstall the IE browser.
	3. 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.	3. Use the professional anti-virus software to check and remove the virus.
	4. You have connected to an APN which cannot connect to the Internet.	4. 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.

Warning and Notice

To the owner

- Some electronic devices are susceptible to electromagnetic interference sent by modem if inadequately shielded, such as the electronic system of vehicles. Please consult the manufacturer of the device before using the modem if necessary.
- Operating of laptop and desktop PCs and the modem may interfere with medical devices like hearing aids and pacemakers. Please always keep them more than 20 centimeters away from such medical devices when they are turned on. Turn the modem off if necessary. Consult a physician or the manufacturer of the medical device before using the modem.
- Be aware of the usage limitation when using a modem at places such as oil warehouses or chemical factories, where there are explosive gases or explosive products being processed. Turn off your modem if required.
- The use of electronic transmitting devices is forbidden in aircrafts, at petrol stations and in hospitals. Please observe and obey all warning signs and switch off your modem in these conditions.
- Do not touch the inner antenna area if not necessary. Otherwise it will affect your modem's performance.
- Store the modem out of the reach of little children. The modem may cause injury if used as a toy.
- Do not touch the metallic parts of the modem so as to avoid a burn, when the modem is working.

Using your USB Modem

- Please use original accessories or accessories that are authorized. Using any unauthorized accessories may affect your modem's performance, and violate related national regulations about telecom terminals.
- Avoid using the modem near or inside metallic structures or establishments that can emit electromagnetic waves. Otherwise it may influence signal reception.
- The modem is not waterproof. Please keep it dry and store in a shady and cool place.
- Do not use the modem immediately after a sudden temperature change. In such case, it will produce dew inside and outside the modem, so don't use it until it becomes dry.
- Handle the modem carefully. Do not drop, bend or strike it. Otherwise the modem will be damaged.
- No dismantling by non-professionals and only qualified technicians can undertake repair work.
- Operating temperature range of **-10°C ~ +60°C** and humidity range of 5% ~ 95% are recommended.

Limited Warranty

- This warranty does not apply to defects or errors in the Product caused by:
 - i. Reasonable abrasion.
 - ii. End User's failure to follow ZTE's installation, operation or maintenance instructions or procedures.
 - iii. End User's mishandling, misuse, negligence, or improper installation, disassembly, storage, servicing or operation of the Product.
 - iv. Modifications or repairs not made by ZTE or a ZTE-certified individual.
 - v. Power failures, surges, fire, flood, accidents, actions of third parties or other events outside ZTE's reasonable control.
 - vi. Usage of third-party products, or usage in conjunction with third-party products provided that such defects are due to the combined usage.
 - vii. Any other cause beyond the range of normal usage intended for the Product.

End User shall have no right to reject or return the Product, or receive a refund for the Product from ZTE under the above-mentioned situations.

- This warranty is End User's sole remedy and ZTE's sole liability for defective or nonconforming items, and is in lieu of all other warranties, expressed, implied or statutory, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, unless otherwise required under the mandatory provisions of the law.

Limitation of Liability

ZTE shall not be liable for any loss of profits or indirect, special, incidental or consequential damages resulting from or arising out of or in connection with using of this product, whether or not ZTE had been advised, knew or should have known of the possibility of such damages, including, but not limited to lost profits, interruption of business, cost of capital, cost of substitute facilities or product, or any downtime cost.

How to get help

You can get Help by:

- Clicking **Help** on the software.
- Sending E-mail to **mobile@zte.com.cn**
- Visiting **http://www.zte.com.cn**
- Calling Service Hotline: **+86-755-26779999**

Radio Frequency (RF) Energy

This model device meets the government's requirements for exposure to radio waves.

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government: The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is **1.6W/kg**. *Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

The highest SAR value for the model device as reported to the FCC when worn on the body, as described in this user guide, is **1.170 W/kg** (Body-worn measurements differ among device models, depending upon available enhancements and FCC requirements.)

While there may be differences between the SAR levels of various devices and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model device is on file with the FCC and can be found under the Display Grant section of

<http://www.fcc.gov/oet/fccid> after searching on

FCC ID: Q78-ZTEMF691.

FCC Compliance

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.

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.