Nokia Siemens
Networks

USB-lte 7410
Series

User Manual

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JAN 2012

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Preface

Safety

IMPORTANT NOTICE

Due to the transmission and reception properties of cellular communications, data can occasionally be lost or delayed. This can be due to the variation in radio signal strength that results from changes in the characteristics of the radio transmission path.

Although data loss is rare, the environment where you operate the device may adversely affect communications. Variations in radio signal strength are referred to as fading. Fading is caused by several different factors including signal reflection, the ionosphere, and interference from other radio channels.

We cannot be held responsible for damage of any kind resulting from delays or errors in the data transmitted or received by the device, nor can they be held responsible for the failure of the device to transmit or receive such data.

POTENTIAL HAZARDS

Do not operate the device in an environment that may be susceptible to dangerous radio interference, especially:

Areas where prohibited by law

Follow any special rules and regulations and obey all signs and notices. Always turn off the device and remove it when instructed to do so, or when you suspect that it may cause interference or danger.

Where explosive atmospheres may be present

Do not use your device in any area where a potentially explosive atmosphere may exist. Sparks in such areas could cause an explosion or fire resulting in bodily injury or, in extreme cases, even death. Be very careful and comply with all notices and instructions.

Users are advised not to operate the device while at a refueling point or service station. Users are reminded to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or areas where blasting operations are in progress.

Areas with a potentially explosive atmosphere are often but not always clearly marked. Potential locations can include gas stations, below deck on boats, chemical transfer or storage facilities, vehicles using liquefied petroleum gas (such as propane or butane), areas where the air contains chemicals or particles, such as grains, dust or metal powder, and any other area where you would normally be advised to turn off your vehicle engine.

Near medical and life support equipment

Do not operate your device in any area where there is medical or life support equipment, or near any equipment that may be susceptible to any form of radio interference. In such areas, the device must be turned off.

On an aircraft, either on the ground or airborne

In addition to FAA requirements, many airline regulations require you to suspend wireless operations before boarding an airplane. Please ensure that the device is turned off and removed prior to boarding aircraft.

While driving a vehicle

The driver of any vehicle should not operate the device while driving a vehicle.

Electrostatic Discharges (ESD)

Electrical and electronic devices are sensitive to electrostatic discharges (ESD). If a significant ESD occurs, restart the device.

1. Introduction

Thank you for purchasing LTE USB Modem. This device is designed to provide the user's computer with a high-speed Internet connection over a cellular phone network.

Installation Procedure

1. Before installing the software, the SIM card must be inserted into the Data Card.
2. Pry the top edge of the back up to release the snaps.
3. Insert the SIM card into the card slot (as shown in below). Position the card so the gold terminals are facing down and the angled edge is facing left. Replace the back, press down until it clicks back into place. The micro SD card is an optional accessory.
4. Insert the USB connector into the USB port on your computer; keep the data card in an upright position (as shown in below).
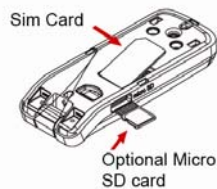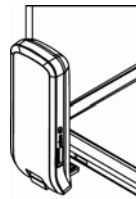
Figure 1   Figure 2

5. The computer automatically recognizes the new hardware and guides you through the installation of the Data Card connection software.
   Windows computers: if the software does not start automatically, run setup.exe in the 1KR Manager folder.
   Macintosh computers: Double click "DataCardPackage.mpkg" to launch software.
6. Follow the software installation steps in the setup wizard. You may need to enter the administrator password.
7. When software installation is complete, restart your computer.
8. By default, the Connection Manager displays the Connection menu. In most cases, the Connection Manager is configured to automatically connect to the Internet as soon as it is started. If not, to establish a connection, click Connect. You may find the name of the mobile network operator on the information bar and other connection details in the Current Connection Table.

2. Product Overview

2.1. Key Features

- The most compact LTE USB Modem commercially available today.
- Supports LTE/DC-HSPA+/HSPA+/HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM*1.
- Operating Systems: Windows XP/Vista/7, Mac OS X10.4/10.5/10.6.
- Easy to use, no additional cable is required.
- Group Message function: allows one SMS to be sent simultaneously to multiple contacts.

2.2. Specifications

2.2.1. System Requirement

- CPU: Pentium III or higher.
- RAM: 128MB RAM or more.
- HDD: minimum space required 50MB.
- Operating Systems: Windows XP/Vista/7, Mac OS X 10.4, 10.5, 10.6.
- Display: 800x600 pixels or more (1024x768 pixels recommended).

2.2.2. Software Applications

Item	Description
Data Service*1	EGPRS: UL 236.8kbps/DL 236.8kbps (MSC 12) UMTS PS: UL 384kbps/DL 384kbps. HSUPA/HSDPA: UL 5.76Mbps/DL 14.4Mbps DC-HSPA+: UL 5.76Mbps/DL 42Mbps LTE: FDD UL 50Mbps/DL 100Mbps.

Item	Description
Short Message Service	SMS sending and receiving. Saving and retrieving SMS on/from PC or SIM card.
Contacts	Phonebook supported on PC or USIM/SIM.
Software contained inside	A CD-ROM is not required to install the product.

2.2.3. Software Specifications

Item	Description
SMS	SMS Edit, Add, Delete, Reply and Forward.
	SMS Send/Receive: single page SMS up to 160 characters.
	Concatenated SMS: it is possible to send and receive concatenated SMS up to a total length of 3060 characters equivalent to 20 messages.
	Group Message: allows one SMS to be sent to multiple contacts simultaneously.
	Inbox Folder: Received SMS are saved on the PC or on the USIM/SIM card in the Inbox Folder. Outbox Folder: Sent SMS are saved on the PC or on the USIM/SIM in the Outbox Folder.
	The messages Sent/Received can be sorted on the basis of Sender/ Receiver or Date & Time.
	SMS Indication: the Software utility will inform you of a new incoming SMS.
Contacts	On PC or USIM/SIM.
	Contact management: Name and Phone Number can be changed.
Usage Information	Statistical data on the current connection session, including connection duration, volume and immediate and peak Uplink/Downlink speeds.
	Statistical data on overall connection session, including time and overall Uplink/Downlink volume.
Other functions	Network connection setting: Default settings/User-defined settings.
	Network usage status shown: RSSI indicator, Operator name, Network Service status.
	Band Selection: Automatic/LTE only/3G only/2G only.
	PIN Management: PIN1/PIN2 enable/disable/modify.

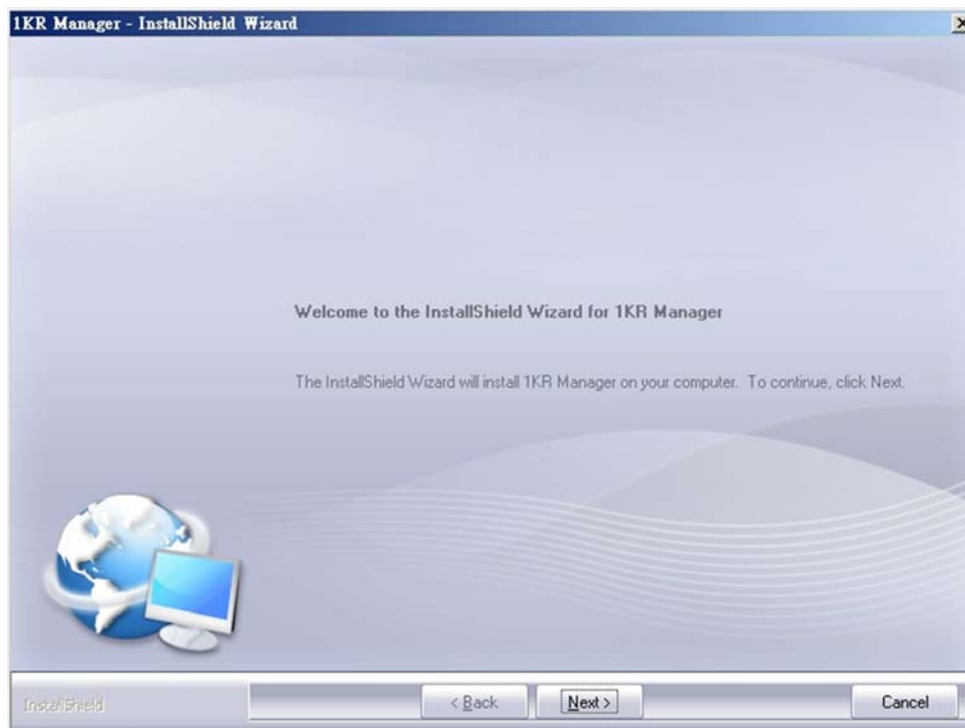# 3. Add/Remove the Software

3.1. Software Installation

Before installing the software, the SIM card must be inserted into the device.

1. Insert the device into a USB port. The computer automatically recognizes the new hardware and guides the user through the installation of the device software.

NOTE

*   If the Found new Hardware Wizard appears, follow the steps in the wizard to install the device driver.

- If the device software is not executed automatically, wait until the device is recognized and then run setup.exe in the 1KR Manager folder to install the software.
- In the Windows Vista and Windows 7 environment, after inserting the device, the computer asks you to confirm installation of the software present on the device.

2. Follow the software installation steps in the setup wizard. Once the installation is complete, a shortcut to the iKR Manager is created on the desktop.

3.2. Removing Application Packages

To remove the driver and the device software from your system:

1. Open the Control Panel and click Add or Remove Software to view the list of the applications installed.
2. Select 1KR Manager and click **Remove**.

⚠ NOTE

The terminology used in the Control Panel of your environment may vary depending on the version of Windows installed.

3. Restart your computer to remove the application completely.

4. Initial Use

When the device is inserted into a USB port, the device software runs automatically. Please make sure the SIM card has been inserted into the device.

To run the device software manually, access **Start > All programs > 1KR Manager > 1KR Manager**.

⚠ NOTE

If the PIN code of the SIM card is enabled, you need to enter your PIN code to access to 1KR Manager.

When the device software is running, its icon is displayed in the Application bar.

The device software provides all the functions necessary for managing connections to the mobile network.

4.1. Indicator LED's

Color	Blinking	Solid
Red	• Searching • PIN lock • Error: No SIM	
Yellow	GPRS/EDGE data transfer	GPRS/EDGE network connected
Green	WCDMA/HSPA/HSPA+ data transfer	WCDMA/HSPA/HSPA+ network connected
Blue	LTE data transfer	LTE network connected

4.2. Software Overview

By default, 1KR Manager displays the Connection menu, which allows you to view the current connection status. The appearance of the Manager screens may vary.
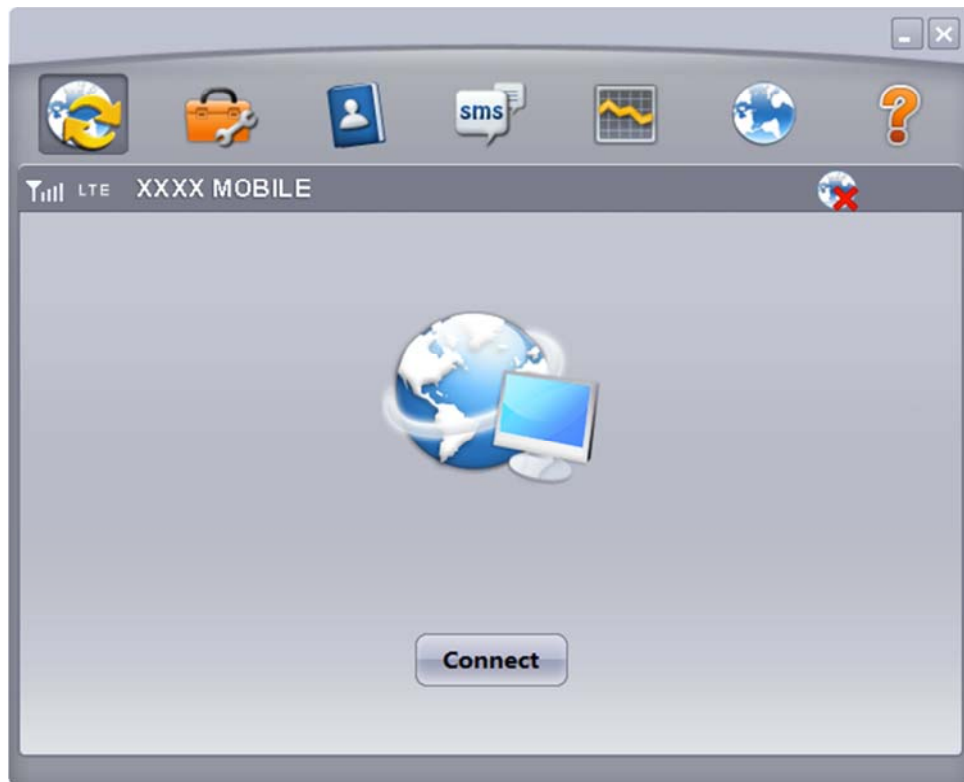
Once a connection is established, this tab displays additional information on the connection, including configuration details.

4.3. Establishing a Connection

In most cases, the USB-lte 7410 has been pre-programmed to connect to the Internet automatically. If not, to establish a connection, click **Connect**. Once the connection is established, you can surf the internet, send e-mails, send text messages and perform any other (online) internet activity.

Please note that the connection is established using the default profile.

4.4. Connection

- Profile Name - displays the current profile.
- Connection Time - displays how long the current session has been active.
- Volume - displays the total amount of data received (Rx) and transmitted (Tx).
- Speed - displays the instant speeds for both transmitted and received data.
- Top Speed - displays the maximum speed in the current connection for both transmitted and received data.

4.5. Ending a Connection

To end the connection, click **Disconnect** or simply unplug the USB-lte 7410 from your computer.

5. Advanced Functions

5.1. Setting

5.1.1. Profile

You can create, modify and delete personalized profiles.

⚠ NOTE

This should only be undertaken by experienced users. Incorrect setting of your profile can result in inability to connect to the Internet.

5.1.1.1. Creating Profiles

You can create your own connection profile. The device supports two types of profile: RAS and NDIS. Each profile contains the account information used to establish the connection.

To create a new connection profile:

1. Click **Setting** .
2. In the left column, select **Profile**.
3. Click **New** to create a profile.
4. Select the profile type, NDIS or RAS, and enter a name for the connection.
5. Enter the parameters relative to the APN (only in the case of a RAS connection) and the telephone number.

   You may obtain the above information from your mobile network operator.
6. Click **OK** to create the connection profile.

5.1.1.2. Editing Profiles

To edit a profile:

1. Click Setting .
2. In the left column, select **Profile**.
3. Select the profile to modify.
4. Click **Edit** and modify the details of the profile.
5. Click **OK** to save the changes.

5.1.1.3. Deleting Profiles

To delete a profile:

1. Click **Setting** .
2. In the left column, select **Profile**.
3. Select the profile to delete.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.

5.1.1.4. Setting as Default Profile

To set a profile as the default profile:

1. Click Setting .
2. In the left column, select **Profile**.
3. Select the profile to be used as the default one.
4. Click **Set as Default Profile**.

5.1.2. PIN

You can use the device software to manage your SIM card information. You may enable or disable the PIN code or switch between PIN1 and PIN2.

5.1.2.1. Enabling/Disabling PIN Code

You may set a PIN code to prevent unauthorized use of the SIM card.

By default, the PIN is disabled. To enable the PIN code:

1.   Click **Setting**   .
2.   In the left column, select **PIN**.
3.   Select **Enable**.
4.   Enter the correct PIN code.

NOTE

The PIN code is provided by the network provider.

5.   Click **OK** to enable.

To disable the PIN code:

1.   Access Setting > PIN > Disable.
2.   Click OK to disable.

CAUTION

The PIN code must be entered correctly within three [3] tries. Failure to do so will result in the SIM card being blocked.
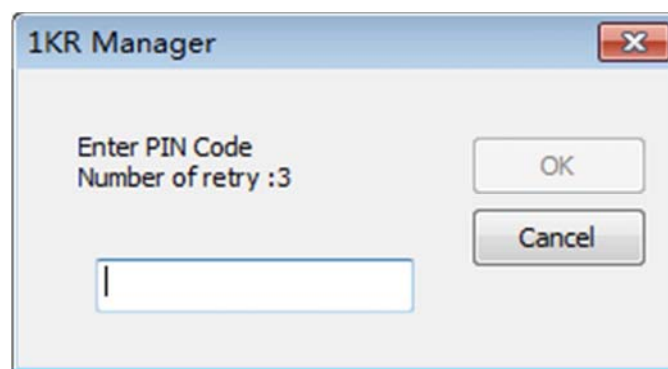
Once a PIN code is enabled, you will be asked to enter the code when you start the device software.
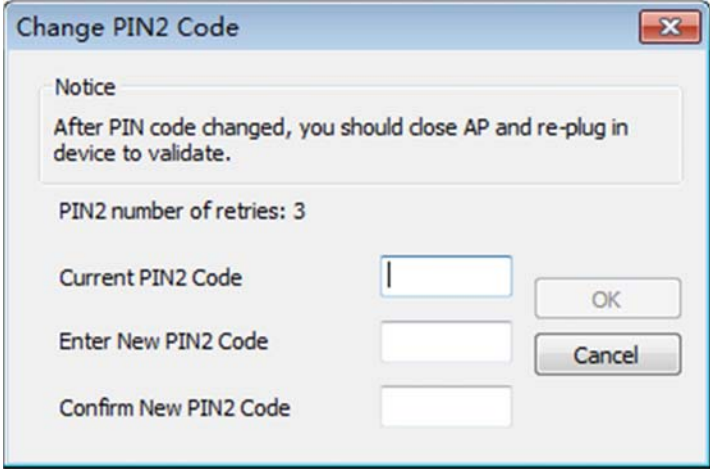
5.1.2.2. Changing PIN2 Code

1. Click **Setting** .

2. In the left column, select **PIN**.

3. Click **Change Code**.

4. Enter the current PIN2 code and the new code.

⚠ CAUTION

The current PIN2 code must be entered correctly within three [3] tries. Failure to do so will result in the SIM card being blocked.

5. Click OK to save the changes.

Change PIN2 Code

Notice

After PIN code changed, you should close AP and re-plug in device to validate.

PIN2 number of retries: 3

Current PIN2 Code

Enter New PIN2 Code

Confirm New PIN2 Code

OK

Cancel

5.1.3. Band Settings

The device provides four options for band selection:

Option	Description
Automatic	The device automatically selects the band/radio technology on the basis of the networks available in current area and those supported by the device.
LTE only	The device will be used exclusively with the LTE service.
3G only	The device will be used exclusively with the 3G UMTS/DC-HSPA+/HSPA+/HSUPA/HSDPA service.
2G only	The device will be used exclusively with the 2G GSM/GPRS service or the EDGE 850/900/1800/1900.

To modify the band settings:

1. Click **Setting** .

2. In the left column, select **Band**.

3. Select Automatic, LTE only, 3G only or 2G only.

4. Click **Apply**.

5.1.4. Network Settings

The geographical area where the LTE Modem is used may be covered by more than one network. You may instruct the LTE Modem to automatically connect to the strongest network available or you may prefer to connect to a specific network. If you select a network manually, the LTE Modem remains connected to it regardless of other available networks.

Option	Description
Automatic	The LTE Modem automatically connects to the network with the strongest signal. This is the default setting.
LTE only	Select an available network from the list generated by the LTE Modem.

To select a network manually:

1. Click **Setting** .

2. In the left column, select **Network**.

3. Select **Manual**.

4. Click **Search** to view all the networks available.

5. Select a network operator and click **Apply**.
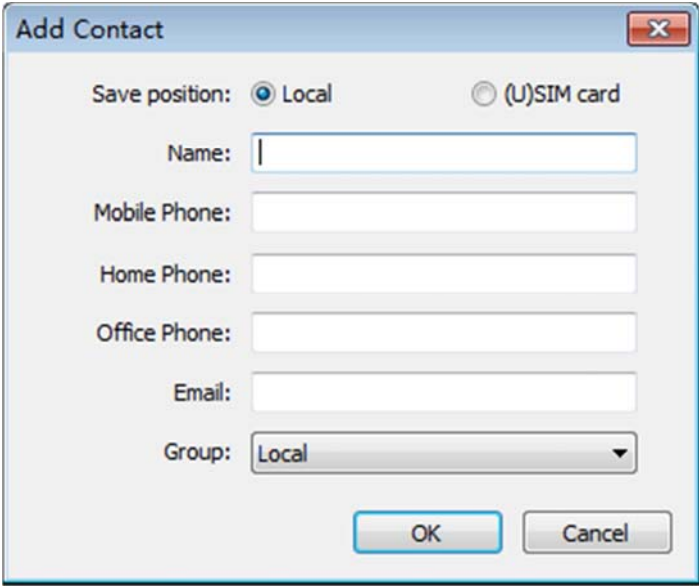
5.2. Contacts

The device software allows you to view all the contacts on the PC or on the SIM card. You can add, edit or delete contacts.
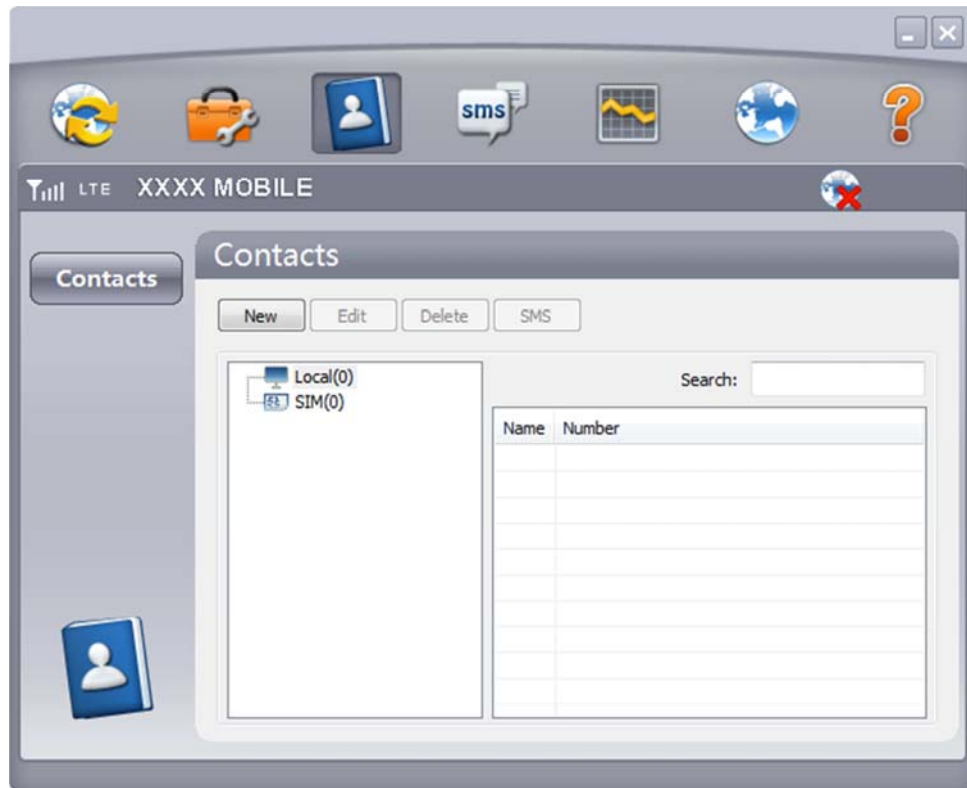
5.2.1. Adding a Contact

1. Click **Contacts** .

2. Select **New > Contact**.

3. Enter the name and contact details.

4. Specify the PC or your SIM card as the location to store the contact.

5. Select a group from the drop-down list.

6. Click **OK** to add the contact.

5.2.2. Creating a Group

1. Click **Contacts** .

2. Access **New > Group**.

3. Enter a group name.

4. Press *Enter* to save the name.

5.2.3. Editing Contacts

1. Click **Contacts** .

2. Select the contact to edit.

3. Click **Edit**.

4. Modify the contact details.

5. Click **OK** to save the changes.

5.2.4. Deleting a Single Contact

1. Click **Contacts** .

2. Select the contact to delete.

3. Click **Delete**. The message "Do you want to delete selected contact(s)?" pops up.

4. Click **Yes** to confirm the deletion. The message "Done" pops up.

5. Click **OK**.

5.2.5. Deleting Multiple Contacts

1. Click **Contacts** .

2. Select the contacts to delete while holding the *Control* key.

3. Click **Delete**. The message "Do you want to delete selected contact(s)?" pops up.

4. Click **Yes** to confirm the deletion. The message "Done" pops up.

5. Click **OK**.

5.3. Text Messaging (SMS)

The device software provides Text Messages (SMS) functions similar to a mobile phone, including sending, receiving, replying, forwarding and deleting messages.

5.3.1. Writing/Sending a Text Message

1. Click **SMS** .

2. Click **New**.

3. Enter the recipient's phone number, or select an entry from the contacts list in the PC phone book or on the SIM card. To select an existing contact, click **Receiver:** and select a contact, and then click **OK** to add the phone number.
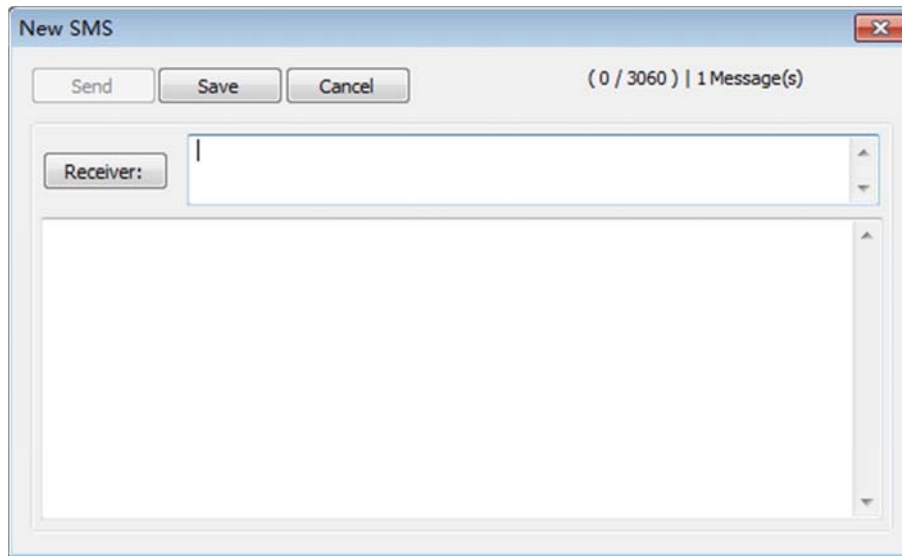
4. Enter your message.

5. Click **Send** to send the message.

5.3.2. Replying to a Text Message

1. Click **SMS** .

2. Select the message to reply to.

3. Click **Reply**.

4. Enter your message.

5. Click **Send** to send the message.

5.3.3. Forwarding a Text Message

1. Click **SMS** .

2. Select the message to forward.

3. Click **Forward**.

4. Select the contact to forward to.

5. Click **Send** to send the message.

5.3.4. Deleting a Single Text Message

1. Click **SMS** .

2. Select the message to delete.

3. Click **Delete**.

5.3.5. Deleting Multiple Text Messages

1. Click **SMS** .

2. Select the messages to delete.

3. Click **Delete**.

5.3.6. Saving a Sender in Contacts

1. Click **SMS** .

2. Select a message.

3. Right-click and select **Save to Contacts** from the context menu.

4. Enter the contact name in the **Add Contact** window.

5. Click **OK** to save the contact. A message is shown to indicate that you have saved the contact successfully.

6. Click **OK** to close the window.

5.3.7. Creating Folders

1. Click **SMS**   .
2. Click **Create Folder**.
3. Enter a folder name.
4. Click **OK** to create a new folder.

5.3.8. SMS Settings

You may change the Service Center number, the message validity period and other settings.

1. Click **SMS**   .
2. Click **Setting**.
3. If necessary, enter a new Service Center Number.
4. Specify the validity period of messages.
5. To request delivery notifications, tick the checkbox.
6. To enable incoming SMS sound effects, tick the checkbox.
7. Click **OK** to save the settings.

5.4. Usage

You may select your billing period for each month, set limit by transmission and query the volume of data exchanged of 3G+HSDPA, GPRS+EDGE or LTE.
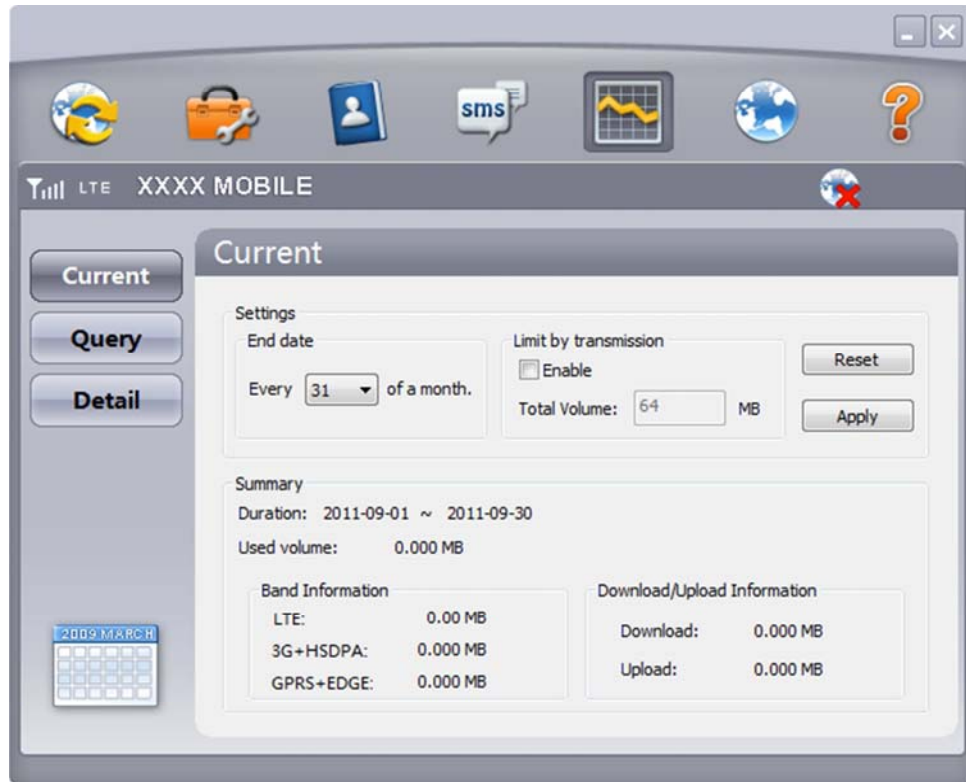
5.4.1. Current

1. Click **Usage** .

2. In the left column, select **Current**.

3. Specify a date in a month as the end of the billing period.

4. To control the transmission volume, enable Limit by Transmission and set the maximum total volume.

5. Click **Apply** to save the settings.

5.4.2. Query

1. Click **Usage** .
2. In the left column, select **Query**.
3. Specify the start date and end date for a query.
4. Click **Query**. You can view the query result on 3G+HSDPA, GPRS+EDGE and LTE respectively.
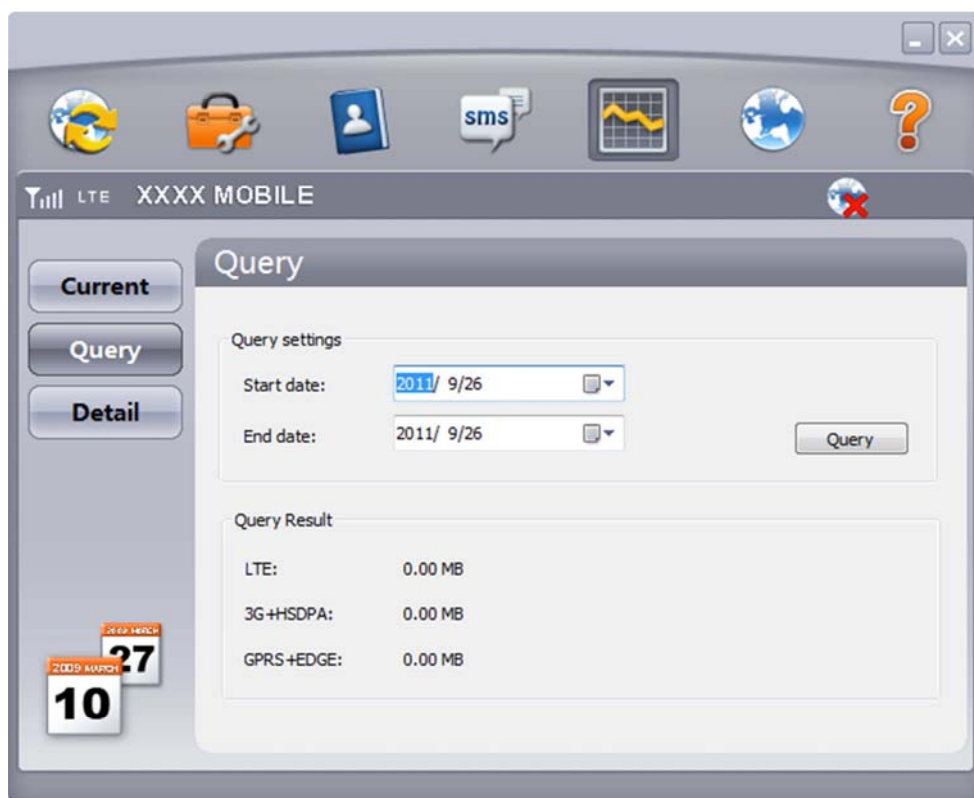
5.4.3. Detail

Access **Usage > Detail** to check the details on usage.

- • Profile - the name of the profile used.
- • APN - the type of connection used.
- • Time Start - the connection start time is displayed in hh:mm:ss format.
- • Time End - the connection end time is displayed in hh:mm:ss format.

- • Data sending - the total number of bytes transmitted.
- • Data receiving - the total number of bytes received.
- • Instant speed max. speed up/down - the maximum speed achieved for sending and receiving data.
- • Average speed up/down - the average speed achieved for sending and receiving data.

To remove all logs, click **Clear all logs** and then click **Yes** in the pop-up window to confirm the deletion.
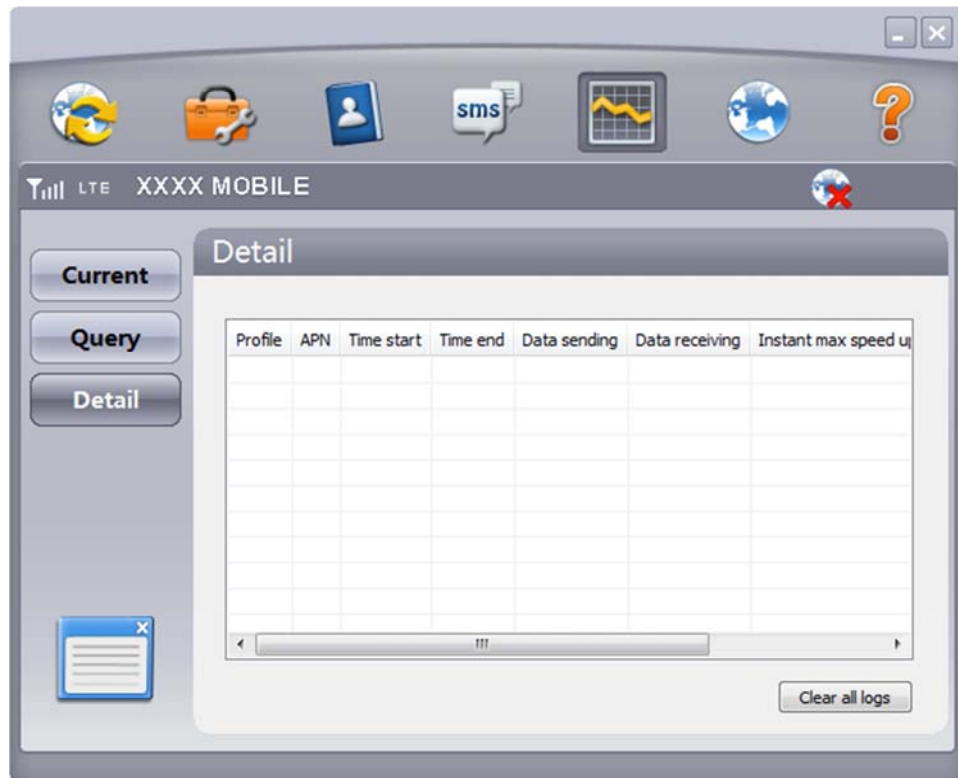
5.5. Software Update

Click the Globe symbol to access your Service Provider's site for USB-lte 7410 Software updates. This should be done after the initial installation of the USB-lte 7410, to ensure you have the latest Software features.

5.6. Help

Click **Help** to open the link to the User Manual.

6. Appendix

6.1. Glossary

2G

Second-generation mobile networking technology. Represents a switchover from analog to digital; most 2G networks use GSM.

3G

Third-generation mobile networking technology that enables simultaneous transfer of voice and non-voice data; most 3G networks use UMTS.

3.5G

A more recent standard of mobile networking technology; normally uses HSDPA.

3.75G

A more recent standard of mobile networking technology; normally uses HSUPA.

APN (Access Point Name/Network)

Provides GPRS routing information. Consists of:

• Network ID: Identifies the external service requested by a GPRS user.

• Mobile network operator ID: Specifies routing information.

ARFCN (Absolute Radio Frequency Channel Number)

The specific ID numbers for all radio channels used in cellular communications.

Bps (bits per second)

Measurement unit for data flow.

DNS (Domain Name System)

Helps route network traffic by making the addressing process more user-friendly.

DHCP (Dynamic Host Configuration Protocol)

How devices obtain IP addresses from a server.

DUN (Dial-Up Network)

Windows component that enables online access via a modem.

EDGE (Enhanced Data GSM Environment/Enhanced Data for Global Evolution)

Advanced GPRS that delivers multimedia and other data needing greater bandwidth up to 237 kbps.

GPRS (General Packet Radio Service)

Delivers data in packets of up to 86 kbps.

GSM (Global System for Mobile Communications)

The most popular cellular network, mostly operates in 850-900 MHz or 1800-1900 MHz; the primary 2G system.

IMEI (International Mobile Equipment Identity)

A number unique to each GSM/UMTS device that can be used block network access in the case of a stolen mobile device.

IP (Internet Protocol)

Routes packets over a network.

HSDPA (High Speed Downlink Packet Access)

Advanced WCDMA that delivers bandwidth-intensive data at downlink speed up to 7.2Mbps; typically associated with 3.5G.

HSUPA (High Speed Uplink Packet Access)

Advanced WCDMA that delivers bandwidth-intensive data at uplink speed to 5.76Mbps; typically associated with 3.75G.

HSPA (High Speed Packet Access)

The collection of High Speed Downlink Packet Access (HSDPA) and High Speed Uplink Packet Access (HSUPA).

Kbps (Kilobits per second)

A data flow measure; 1024 bits/second.

LAN (Local Area Network)

A data network with limited range but good bandwidth.

LTE (Long Term Evolution)

The latest update to the UMTS technology provides downlink peak rates of at least 100 Mbit/s and uplink of at least 50 Mbit/s in case of FDD mode.

Mbps (Megabits per second)

A data flow measure; 1,048,576 bits/second.

PPP (Point-to-Point Protocol)

An internet connection method.

PIN (Personal Identity Number)

Four to eight digital number SIM card security code allowing access to carrier's network.

Rx

Shorthand for Reception.

SIM (Subscriber Identity Module)

A small card that contains key mobile device identification, as well as subscription and contact information.

SMS (Short Messaging Service)

Allows sending and receiving of text messages up to 160 characters.

Tx
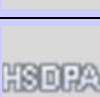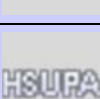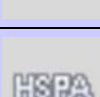
Shorthand for Transmission.

WCDMA (Wideband Code Division Multiple Access)

One of the main technologies used for the implementation of third-generation (3G) cellular systems. The UMTS system is based on WCDMA .This product supports WCDMA/UMTS up to

384kbps.

6.2. Icon List

Name	Graphics	Description
Device Inserted		The application has detected the device. This icon is also used to check for the availability of updated Software.
Device Removed		The application is unable to detect the device.
Received Signal Strength Indicator		The number of bars beside the antenna increases as signal strength increases, to a maximum of four bars. Blank bars in the signal strength indicator mean that you are outside the coverage area or have insufficient signal strength to maintain a GSM data connection.

	▼ııll	
GSM	GSM	Displayed when the service is available.
GPRS	GPRS	
UMTS	UMTS	
EDGE	EDGE	
HSDPA	HSDPA	
HSUPA	HSUPA	
HSPA	HSPA	
LTE	LTE	
PLMN (Public Land Mobile Network)	Carrier	Depends on Carrier. Displayed after a network connection has been established.

Name	Graphics	Description
Roaming Indicator		Displayed when user is not within home network coverage.
New message		Displayed when you get a new message. It disappears after you enter the Inbox.

Message inbox full		Displayed when the message inbox is full. It disappears when the inbox has free space.
Disconnected		Displays the connection status. If connected, Time duration is shown.
Connecting		
Connected		

*1: Radio technology depends on actual network configuration and product specification.

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6 8 0 1 0 0 7 2 0 7 6
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Nokia Siemens Networks