



User's Guide

MWiMAX Express Card

mWiMAX Connection Manager

SWC-E100

Draft
2007.10. 25.

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Revision History

Version	Date	Author	Description
1.0	2006.07.05	Jung Jae-young, Kim Ji-hoon, Noh Ji-hun, Kim Jae-mok	Initial documentation
2.0	2006.07.31	Jung Jae-young, Kim Ji-hoon	Write changes of Install method
3.0	2006.08.01	Jung Jae-young, Kim Ji-hoon	Reflect operator's request to Installer
4.0	2006.08.28	Jung Jae-young, Kim Ji-hoon, Noh Ji-hun, Kim Jae-mok	Final revision before supplying to KT
5.0	2007.08.07	Jung Jae-young, Kim Jae-mok, Lee Woo-jin	

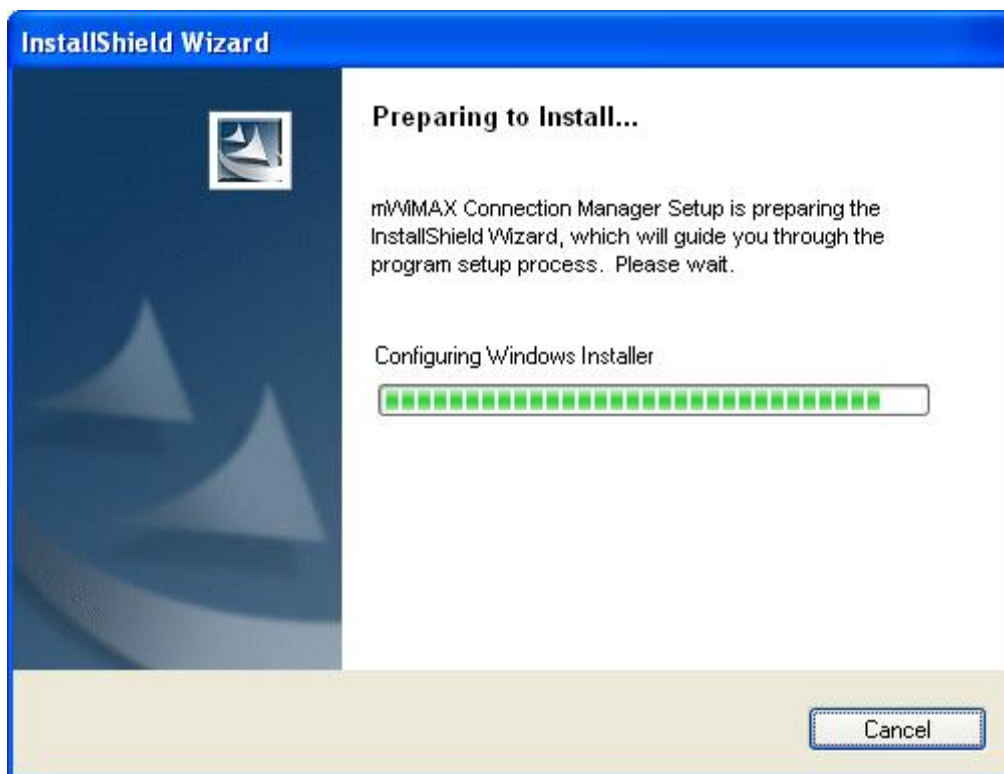
1. Install/Uninstall mWiMAX Connection Program

1.1. Install mWiMAX Connection Program

* Before installing mWiMAX Connection Program, insert mWiMAX Card into PCMCIA or PCI Express Slot on your laptop.

- To install, please select language [English (United States)].

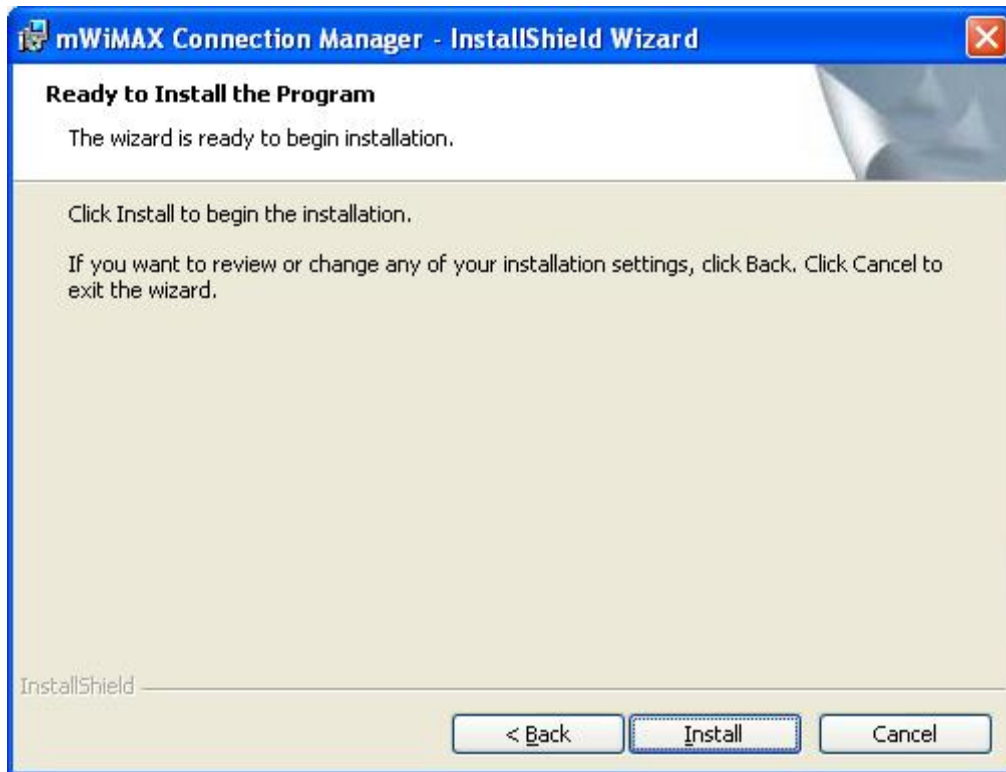




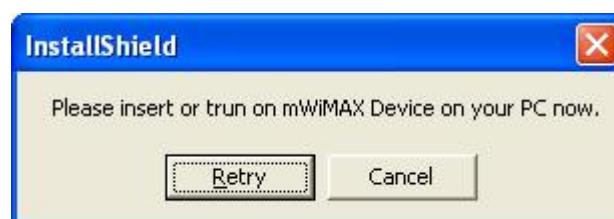
- Click [Next] to start installation.



- Please click [Install].



* When either the card is not inserted, or its LED is off, a message pops up as in the following picture. Click [Retry] after inserting the card. When LED is off, also hit [Retry] to continue installation.

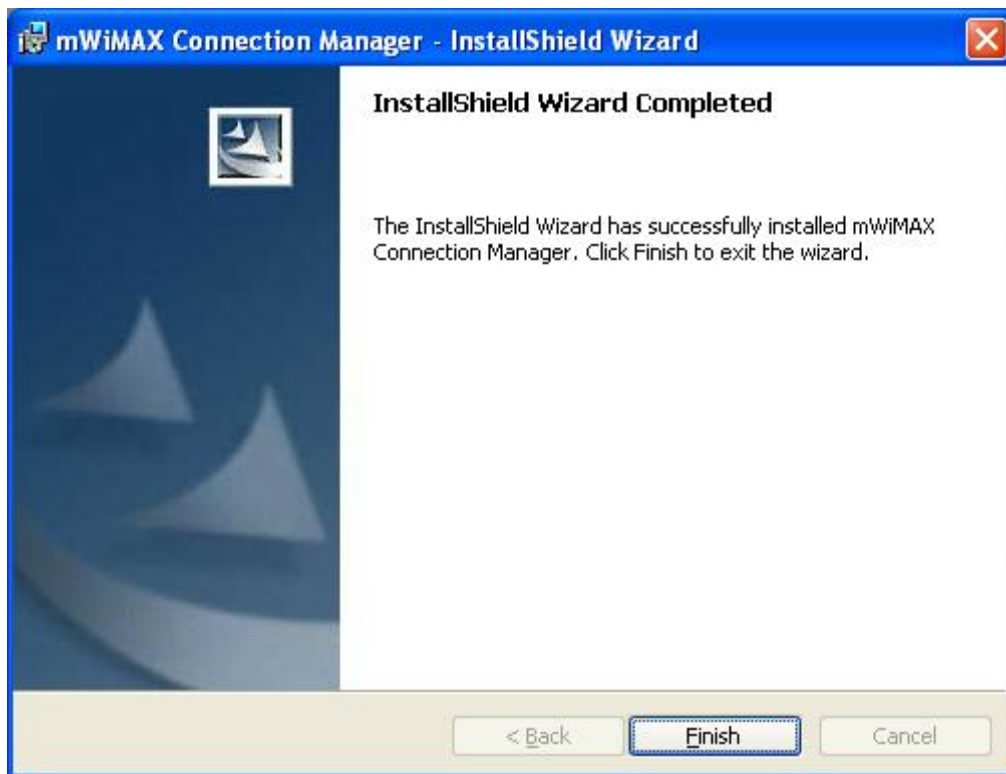




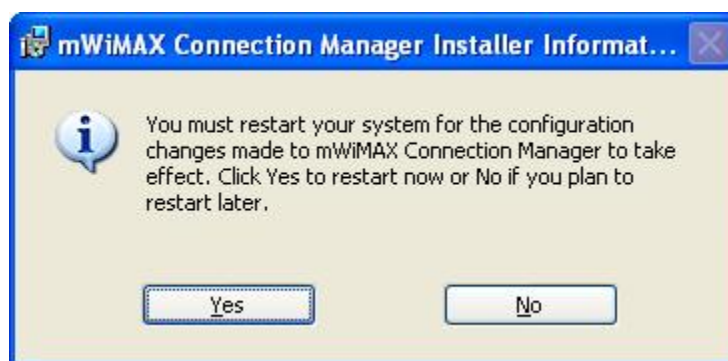
- mWiMAX PCMCIA device driver and mWiMAX virtual serial port driver are installed first. After this, mWiMAX Connection Manager is installed.

* Driver installation process might cause some screen blinks.

- Click [Finish] to end installation.



- Click [Yes] on Windows restart popup and restart the system. Then the installation of new mWiMAX Connection Program is completed.

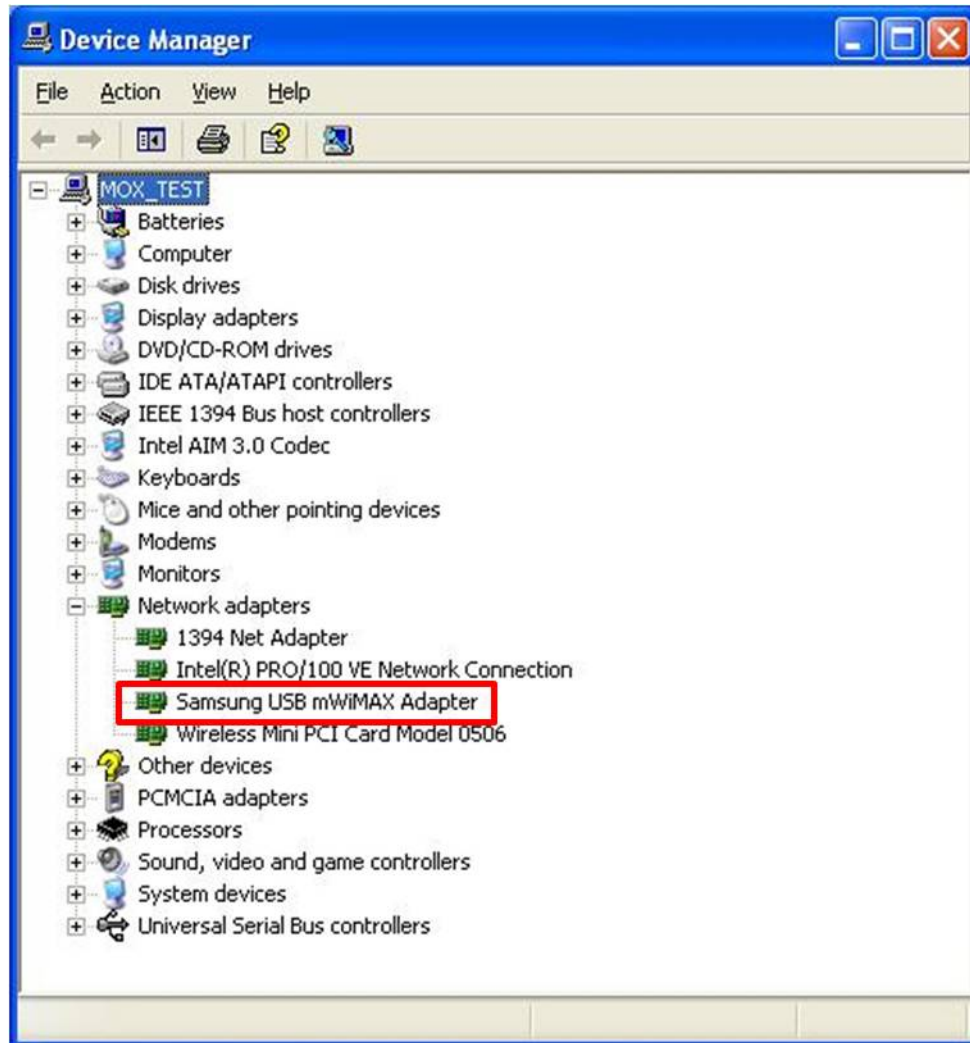


1.1.1.1. Installation Checkup

Select [Start] - [Control Panel] - [System] - [Hardware] - [Device Manager].

When mWiMAX Connection Program is normally installed, Device Manager is shown as

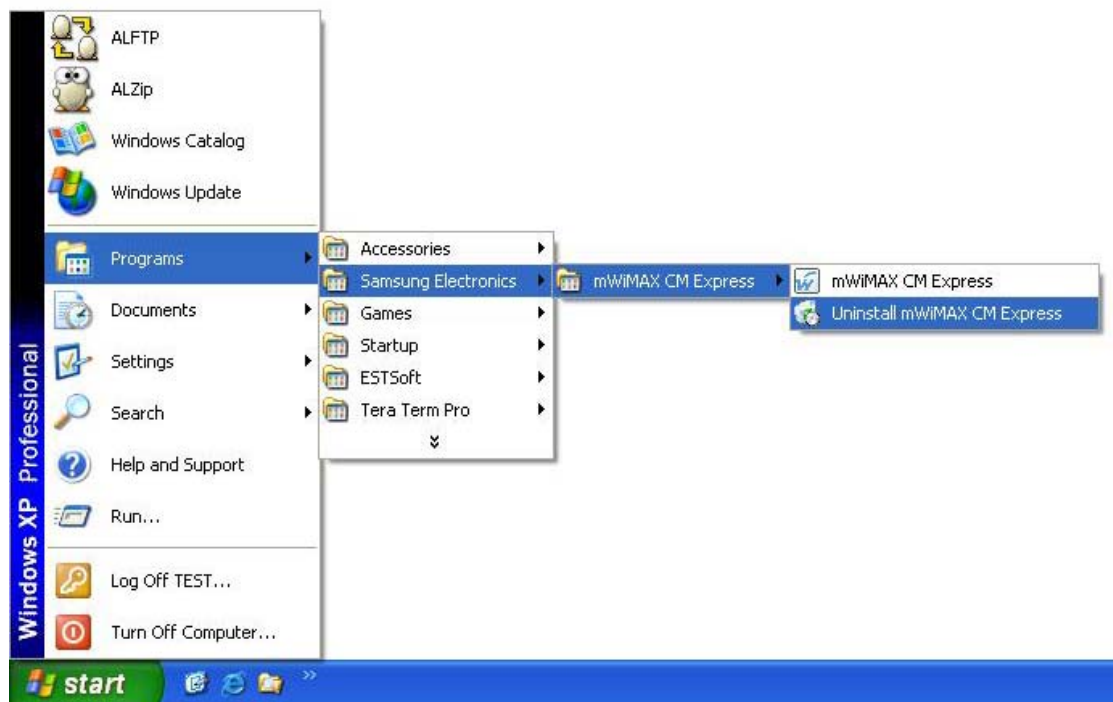
the following picture.



1.2. Uninstall mWiMAX Connection Program

1.2.1. Uninstall on Start menu

Click [Start] menu, then select [Program] - [SAMSUNG ELECTRONICS] - [mWiMAX CM Express] → [Uninstall mWiMAX CM Express].



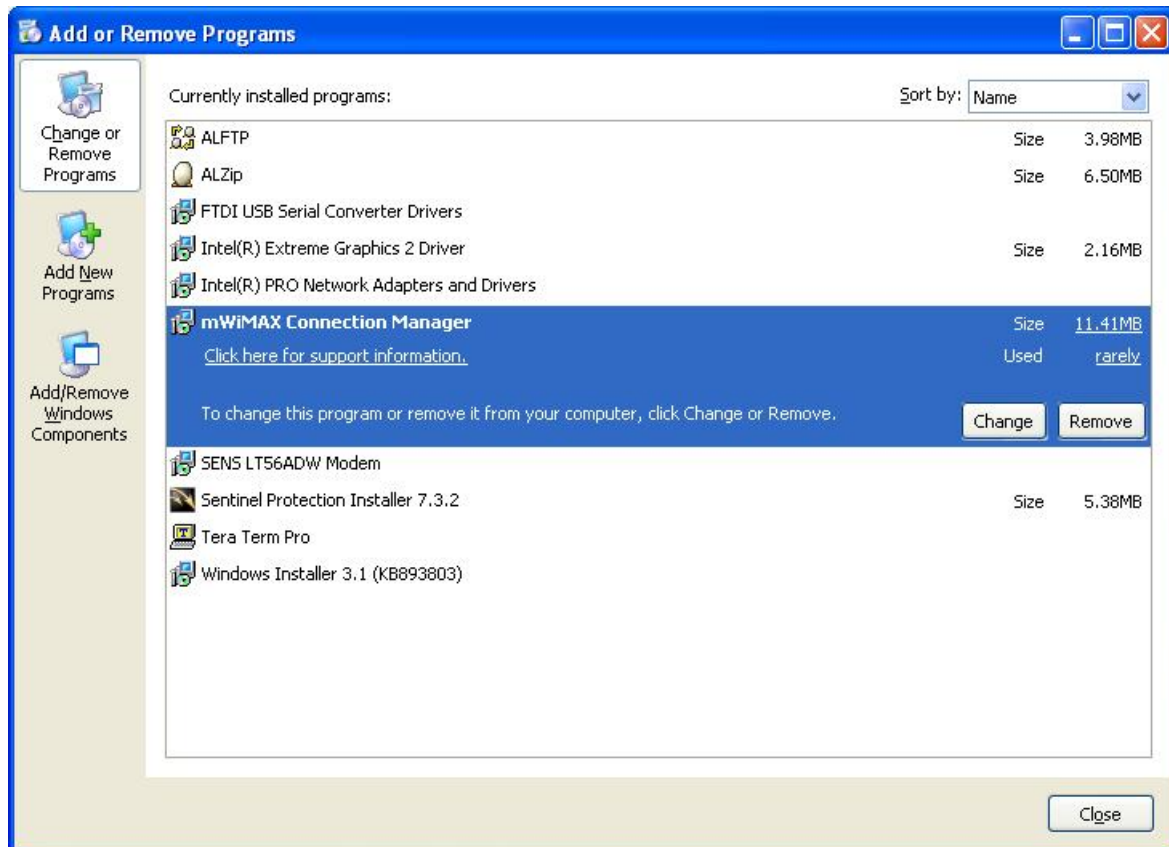
1.2.2. Uninstall on [Control Panel]

Select [Start] - [Control Panel].

On [Control Panel] menu, select [Add/Delete Program].

On [Add/Delete Program], select [mWiMAX Connection Manager] and hit [Delete] button on the right, then a message is displayed asking if you want to delete the program.

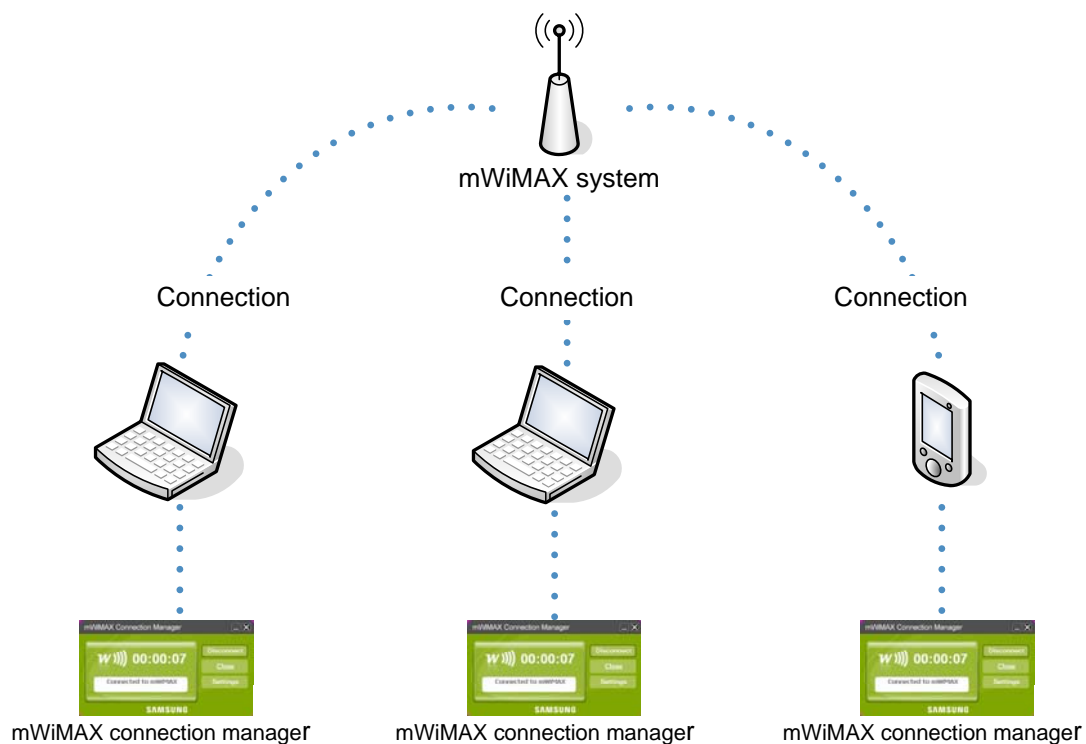
By selecting [Yes], the program is deleted.



2. mWiMAX Connection Manager

2.1. mWiMAX Connection Manager Overview

mWiMAX Connection Manager is Windows OS-based application supporting mWiMAX connection and features mWiMAX system connection and disconnection and other mWiMAX-related functions.



2.1.1 Product Mix

- Installation CD
- mWiMAX(Mobile WiMAX) PCI Express Card
- Easy Installation Guide

2.1.2. mWiMAX Connection Manager User Interface

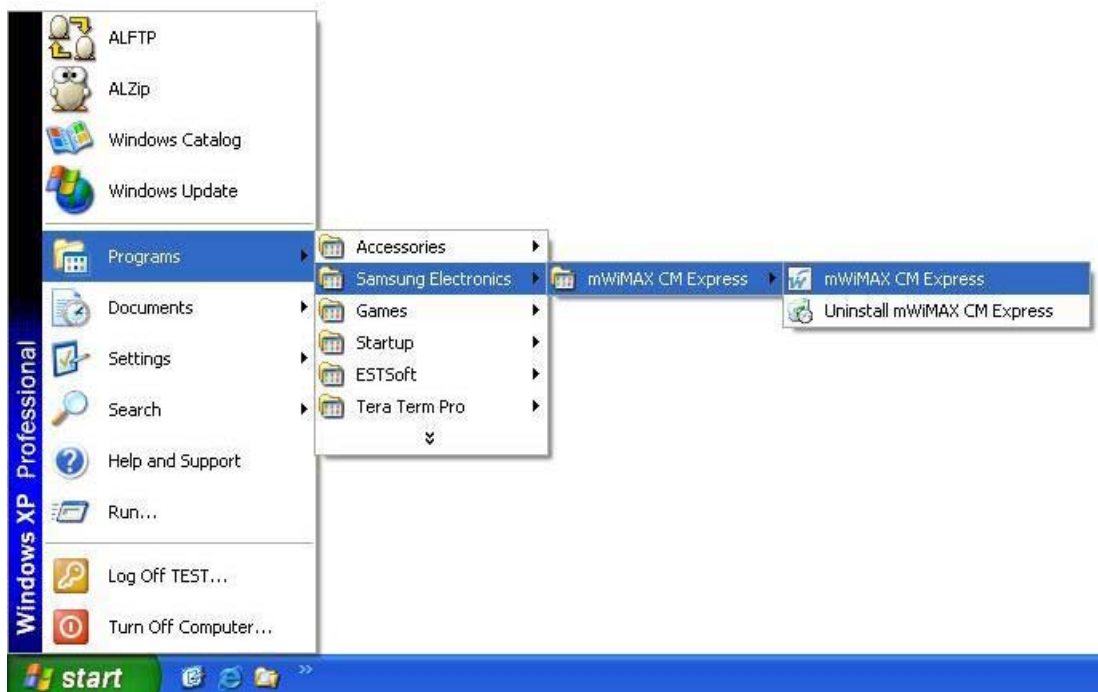
OS	Microsoft Windows XP
CPU	Intel Pentium 1.7 GHz or above recommended
Memory	512MB or above recommended
CD-ROM	4xSpeed or above recommended

2.2. To Use mWiMAX Connection Manager

2.2.1. Run mWiMAX Connection Manager

2.2.1.1 Run on [Start] Menu

Click [Start] menu, then select [Program] → [SAMSUNG ELECTRONICS] → [mWiMAX CM Express] → [mWiMAX CM Express].



2.2.1.2. Run on Desktop

Execute [mWiMAX CM Express] icon on Desktop.



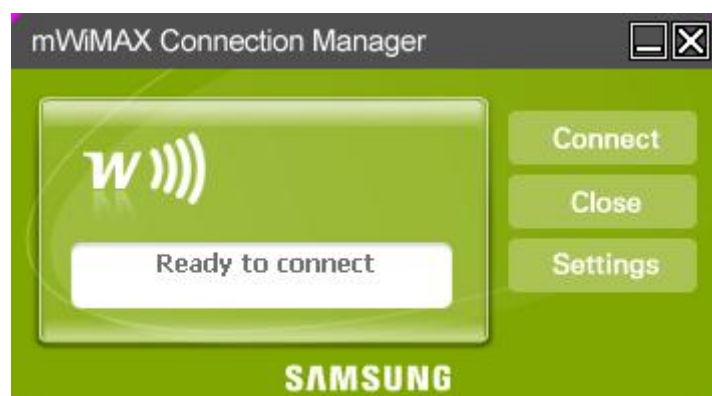
2.2.2. Screen Configuration

2.2.2.1. Main Screen

Main screen appears when mWiMAX Connection Manager is run.

- In the upper left is an antenna showing receive sensitivity and to its right is a message box informing connection status.

At the right side of the screen there are [Connect], [Close] and [Settings] button for mWiMAX connection.



2.2.2.2. Settings Screen

The following screen is displayed by clicking [Settings] button and it shows

- [Configuration].



The screenshot shows the 'mWiMAX Connection Manager Settings' dialog box with the 'Configuration' tab selected. The dialog has a title bar with a close button. Below the title bar are four tabs: 'Configuration', 'Connect Info.', 'Net Info.', and 'About mWiMAX CM'. The 'Configuration' tab contains two sections. The first section, labeled 'Connect', has two radio buttons: 'Enable Auto Connect' (unselected) and 'Disable Auto Connect' (selected). The second section, labeled 'Alert', has a checkbox 'Alert mWiMAX Zone In / Out' (unchecked) and a 'Set Alert' button. At the bottom of the dialog are the 'SAMSUNG | mWiMAX' logo and two buttons: 'Save' and 'Cancel'.

- [Connection Info]



The screenshot shows the 'mWiMAX Connection Manager Settings' dialog box with the 'Connect Info.' tab selected. The dialog has the same title bar and tabs as the previous screen. The 'Connect Info.' tab displays connection details in a table format. The table has two columns: 'Status' and 'Value'. The rows are: 'Status' with value 'mWiMAX Connection Succeeds', 'Connected At' with value '08/07/2007 Tue AM 08:18:12', and 'Duration' with value '00:00:13'. Below this table is another table with three columns: 'Data', 'Send', and 'Receive'. The 'Data' row shows '91' for Send and '15' for Receive. At the bottom of the dialog are the 'SAMSUNG | mWiMAX' logo and an 'OK' button.

Status	mWiMAX Connection Succeeds	
Connected At	08/07/2007 Tue AM 08:18:12	
Duration	00:00:13	

	Send	Receive
Data	91	15

- [Network Info]



- [About mWiMAX CM].



2.2.2.3. Tray Screen

When you click [Close] or [Minimize] button in the top-right corner on Main Screen, Main screen disappears and the program runs as a Tray icon.



2.2.3. Connect to mWiMAX

On the Main screen, press [Connect] button.



Connecting to mWiMAX' message is displayed as in the following picture.



* For maximum performance, please upright antenna from Express Card.

- Connection Success

If the connection to mWiMAX succeeds, the following screen is displayed.



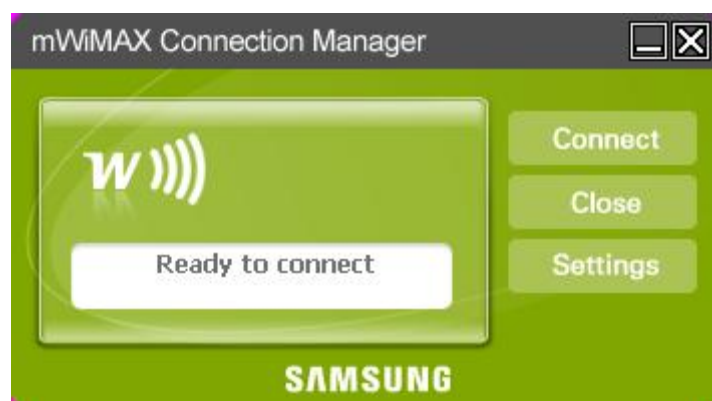
- Connection Failure

If the connection to mWiMAX fails, the following screen is displayed.



2.2.4. Disconnect mWiMAX

When you press [Disconnect] button on Main screen, connection is cut off and the status changes to 'waiting for connection'.



2.2.5. Show Settings

Select [Settings] on Main screen.

- Then [Configuration], [Connection Info], [Network Info], [About mWiMAX CM] tabs

are appeared same as in Settings Screen on page 15.



2.2.6. Exit

Right-click on Tray screen to see a pop-up menu.

Select [Exit].














2.2.7. Use Tray

Switch Tray screen to Main screen

Right-click on Tray screen to see a pop-up menu. Select [mWiMAX View].



2.2.8. Tray Icon Description

	Signal strength is low	Standby
	Signal strength is weak	
	Signal strength is good	
	Signal strength is very good	
	Signal strength is best	
	Signal strength is low	Online
	Signal strength is weak	
	Signal strength is good	
	Signal strength is very good	
	Signal strength is best	
	No service area	

3. Health and safety information

Exposure to Radio Frequency (RF) Signals

Certification Information (SAR)

Your wireless express card is a radio transmitter and receiver. It is designed and manufactured not to exceed the exposure limits for radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. government. These FCC exposure limits are derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurement (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF energy. The exposure limit set by the FCC for wireless mobile express cards employs a unit of measurement known as the Specific Absorption Rate (SAR).

The SAR is a measure of the rate of absorption of RF energy by the human body expressed in units of watts per kilogram (W/ kg). The FCC requires wireless express cards to comply with a safety limit of 1.6 watts per kilogram (1.6 W/kg). The FCC exposure limit incorporates a substantial margin of safety to give additional protection to the public and to account for any variations in measurements.

SAR tests are conducted using standard operating positions accepted by the FCC with the express card 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 express card while operating can be well below the maximum value. This is because the express card 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.

Before a new model express card is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC. Tests for each model express card are performed in positions and locations (e.g. worn on the body) as required by the FCC.

This express card was tested for SAR in a body-worn configuration.

The device was found to comply with the FCC requirements for RF exposure when used in notebook computer with at least a 1.2 cm gap between the card slot and the lap of the user. Maximum measured SAR levels for this device were:



Body SAR: 0.468 W/kg

Non-compliance with the above restrictions may result in violation of FCC RF exposure guidelines. SAR information on this and other model express cards can be viewed on-line at www.fcc.gov/oet/fccid. [This site uses the express card FCC ID number, A3LSWCE100](#). Sometimes it may be necessary to remove the battery pack to find the number. Once you have the FCC ID number for a particular express card, follow the instructions on the website and it should provide values for typical or maximum SAR for a particular express card. Additional product specific SAR information can also be obtained at www.fcc.gov/cgb/sar.

Consumer Information on Wireless Express cards

The U.S. Food and Drug Administration (FDA) has published a series of Questions and Answers for consumers relating to radio frequency (RF) exposure from wireless express cards. The FDA publication includes the following information:

What kinds of express cards are the subject of this update?

The term wireless express card refers here to hand-held wireless express cards with built-in antennas, often called "cell," "mobile," or "PCS" express cards. These types of wireless express cards can expose the user to measurable radio frequency energy (RF) because of the short distance between the express card and the user's head. These RF exposures are limited by Federal Communications Commission safety guidelines that were developed with the advice of FDA and other federal health and safety agencies. When the express card is located at greater distances from the user, the exposure to RF is drastically lower because a person's RF exposure decreases rapidly with increasing distance from the source. The so-called "cordless express cards," which have a base unit connected to the teleexpress card wiring in a house, typically operate at far lower power levels, and thus produce RF exposures well within the FCC's compliance limits.

Do wireless express cards pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless express cards. There is no proof, however, that wireless express cards are absolutely safe. Wireless express cards emit low levels of radio frequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the stand-by mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have

suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

What is FDA's role concerning the safety of wireless express cards?

Under the law, FDA does not review the safety of radiation-emitting consumer products such as wireless express cards before they can be sold, as it does with new drugs or medical devices. However, the agency has authority to take action if wireless express cards are shown to emit radio frequency energy (RF) at a level that is hazardous to the user. In such a case, FDA could require the manufacturers of wireless express cards to notify users of the health hazard and to repair, replace or recall the express cards so that the hazard no longer exists.

Although the existing scientific data do not justify FDA regulatory actions, FDA has urged the wireless express card industry to take a number of steps, including the following:

- "Support needed research into possible biological effects of RF of the type emitted by wireless express cards;
- "Design wireless express cards in a way that minimizes any RF exposure to the user that is not necessary for device function; and
- "Cooperate in providing users of wireless express cards with the best possible information on possible effects of wireless express card use on human health.

FDA belongs to an interagency working group of the federal agencies that have responsibility for different aspects of RF safety to ensure coordinated efforts at the federal level. The following agencies belong to this working group:

- "National Institute for Occupational Safety and Health
- "Environmental Protection Agency
- "Federal Communications Commission
- "Occupational Safety and Health Administration
- "National Telecommunications and Information Administration

The National Institutes of Health participates in some interagency working group activities, as well.

FDA shares regulatory responsibilities for wireless express cards with the Federal Communications Commission (FCC). All express cards that are sold in the United States must comply with FCC safety guidelines that limit RF exposure. FCC relies on

FDA and other health agencies for safety questions about wireless express cards. FCC also regulates the base stations that the wireless express card networks rely upon. While these base stations operate at higher power than do the wireless express cards themselves, the RF exposures that people get from these base stations are typically thousands of times lower than those they can get from wireless express cards. Base stations are thus not the primary subject of the safety questions discussed in this document.

What are the results of the research done already?

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of radio frequency energy (RF) exposures characteristic of wireless express cards have yielded conflicting results that often cannot be repeated in other laboratories. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. However, many of the studies that showed increased tumor development used animals that had been genetically engineered or treated with cancer-causing chemicals so as to be pre-disposed to develop cancer in absence of RF exposure. Other studies exposed the animals to RF for up to 22 hours per day. These conditions are not similar to the conditions under which people use wireless express cards, so we don't know with certainty what the results of such studies mean for human health.

Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless express cards and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects from wireless express cards RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of express card use in these studies was around three years.

What research is needed to decide whether RF exposure from wireless express cards poses a health risk?

A combination of laboratory studies and epidemiological studies of people actually using wireless express cards would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human populations, but ten or more years' follow-up may be

needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop - if they do - may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless express cards. Many factors affect this measurement, such as the angle at which the express card is held, or which model of express card is used.

What is FDA doing to find out more about the possible health effects of wireless express card RF?

FDA is working with the U.S. National Toxicology Program and with groups of investigators around the world to ensure that high priority animal studies are conducted to address important questions about the effects of exposure to radio frequency energy (RF).

FDA has been a leading participant in the World Health Organization international Electromagnetic Fields (EMF) Project since its inception in 1996. An influential result of this work has been the development of a detailed agenda of research needs that has driven the establishment of new research programs around the world. The Project has also helped develop a series of public information documents on EMF issues.

FDA and Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research and Development Agreement (CRADA) to do research on wireless express card safety. FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts to independent investigators. The initial research will include both laboratory studies and studies of wireless express card users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

What steps can I take to reduce my exposure to radio frequency energy from my wireless express card?

If there is a risk from these products - and at this point we do not know that there is - it is probably very small. But if you are concerned about avoiding even potential risks, you can take a few simple steps to minimize your exposure to radio frequency energy (RF). Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless express card will reduce RF exposure.

"If you must conduct extended conversations by wireless express card every day,

you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless express card away from your body or use a wireless express card connected to a remote antenna.

Again, the scientific data do not demonstrate that wireless express cards are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless express card use.

What about children using wireless express cards?

The scientific evidence does not show a danger to users of wireless express cards, including children and teenagers. If you want to take steps to lower exposure to radio frequency energy (RF), the measures described above would apply to children and teenagers using wireless express cards. Reducing the time of wireless express card use and increasing the distance between the user and the RF source will reduce RF exposure.

Some groups sponsored by other national governments have advised that children be discouraged from using wireless express cards at all. For example, the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000. They noted that no evidence exists that using a wireless express card causes brain tumors or other ill effects. Their recommendation to limit wireless express card use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

Do hands-free kits for wireless express cards reduce risks from exposure to RF emissions?

Since there are no known risks from exposure to RF emissions from wireless express cards, there is no reason to believe that hands-free kits reduce risks. Hands-free kits can be used with wireless express cards for convenience and comfort. These systems reduce the absorption of RF energy in the head because the express card, which is the source of the RF emissions, will not be placed against the head. On the other hand, if the express card is mounted against the waist or other part of the body during use, then that part of the body will absorb more RF energy. Wireless express cards marketed in the U.S. are required to meet safety requirements regardless of whether they are used against the head or against the body. Either configuration should result in compliance with the safety limit.

Do wireless express card accessories that claim to shield the head from RF radiation work?

Since there are no known risks from exposure to RF emissions from wireless express cards, there is no reason to believe that accessories that claim to shield the head from those emissions reduce risks. Some products that claim to shield the user from RF absorption use special express card cases, while others involve nothing more than a metallic accessory attached to the express card. Studies have shown that these products generally do not work as advertised. Unlike "hand-free" kits, these so-called "shields" may interfere with proper operation of the express card. The express card may be forced to boost its power to compensate, leading to an increase in RF absorption. In February 2002, the Federal Trade Commission (FTC) charged two companies that sold devices that claimed to protect wireless express card users from radiation with making false and unsubstantiated claims. According to FTC, these defendants lacked a reasonable basis to substantiate their claim.

What about wireless express card interference with medical equipment?

Radio frequency energy (RF) from wireless express cards can interact with some electronic devices. For this reason, FDA helped develop a detailed test method to measure electromagnetic interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless teleexpress cards. This test method is now part of a standard sponsored by the Association for the Advancement of Medical Instrumentation (AAMI). The final draft, a joint effort by FDA, medical device manufacturers, and many other groups, was completed in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless express card EMI. FDA has tested wireless express cards and helped develop a voluntary standard sponsored by the Institute of Electrical and Electronic Engineers (IEEE). This standard specifies test methods and performance requirements for hearing aids and wireless express cards so that no interference occurs when a person uses a compatible express card and a compatible hearing aid at the same time. This standard was approved by the IEEE in 2000.

FDA continues to monitor the use of wireless express cards for possible interactions with other medical devices. Should harmful interference be found to occur, FDA will conduct testing to assess the interference and work to resolve the problem.

Additional information on the safety of RF exposures from various sources can be obtained from the following organizations:

FCC RF Safety Program:

<http://www.fcc.gov/oet/rfsafety/>

Environmental Protection Agency (EPA):



<http://www.epa.gov/radiation/>

Occupational Safety and Health Administration's (OSHA):

<http://www.osha.gov/SLTC/radiofrequencyradiation/index.html>

National institute for Occupational Safety and Health (NIOSH):

<http://www.cdc.gov/niosh/emfpg.html>

World health Organization (WHO):

<http://www.who.int/peh-emf/>

International Commission on Non-Ionizing Radiation Protection:

<http://www.icnirp.de>

National Radiation Protection Board (UK):

<http://www.nrpb.org.uk>

Updated 4/3/2002: US food and Drug Administration

http://www.fda.gov/cellexpress_cards

Road Safety

Your wireless express card gives you the powerful ability to communicate by voice, almost anywhere, anytime. But an important responsibility accompanies the benefits of wireless express cards, one that every user must uphold.

When driving a car, driving is your first responsibility. When using your wireless express card behind the wheel of a car, practice good common sense and remember the following tips:

Get to know your wireless express card and its features, such as speed dial and redial. If available, these features help you to place your call without taking your attention off the road.

When available, use a hands-free device. If possible, add an additional layer of convenience and safety to your wireless express card with one of the many hands free accessories available today.

Position your wireless express card within easy reach. Be able to access your wireless express card without removing your eyes from the road. If you get an incoming call at an inconvenient time, let your voice mail answer it for you.

Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice and even heavy traffic can be hazardous.

Do not take notes or look up express card numbers while driving. Jotting down a "to do" list or flipping through your address book takes attention away from your



primary responsibility, driving safely.

Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan calls when your car will be stationary. If you need to make a call while moving, dial only a few numbers, check the road and your mirrors, then continue.

Do not engage in stressful or emotional conversations that may be distracting.

Make people you are talking with aware you are driving and suspend conversations that have the potential to divert your attention from the road.

Use your wireless express card to call for help. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless express card!

Use your wireless express card to help others in emergencies. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.

Call roadside assistance or a special non-emergency wireless assistance number when necessary. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured, or a vehicle you know to be stolen, call roadside assistance or other special non-emergency number.

"The wireless industry reminds you to use your express card safely when driving."

For more information, please call 1-888-901-SAFE, or visit our web-site www.wow-com.com

Provided by the Cellular Telecommunications & Internet Association

Operating Environment

Remember to follow any special regulations in force in any area and always switch your express card off whenever it is forbidden to use it, or when it may cause interference or danger. When connecting the express card or any accessory to another device, read its user's guide for detailed safety instructions. Do not connect incompatible products.

As with other mobile radio transmitting equipment, users are advised that for the satisfactory operation of the equipment and for the safety of personnel, it is recommended that the equipment should only be used in the normal operating position (held to your ear with the antenna pointing over your shoulder).

Using Your Express card Near Other Electronic Devices

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, certain electronic equipment may not be shielded against the RF signals from your wireless express card. Consult the manufacturer to discuss alternatives.

Pacemakers

Pacemaker manufacturers recommend that a minimum distance of 15 cm (6 inches) be maintained between a wireless express card and a pacemaker to avoid potential interference with the pacemaker.

These recommendations are consistent with the independent research and recommendations of Wireless Technology Research.

Persons with pacemakers:

should always keep the express card more than 15 cm (6 inches) from their pacemaker when the express card is switched on.

should not carry the express card in a breast pocket.

should use the ear opposite the pacemaker to minimize potential interference.

If you have any reason to suspect that interference is taking place, switch your express card off immediately.

Hearing Aids

Some digital wireless express cards may interfere with some hearing aids. In the event of such interference, you may wish to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices

If you use any other personal medical devices, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information. Switch your express card off in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities



Switch your express card off in any facility where posted notices require you to do so.

Potentially Explosive Environments

Switch your express card off when in any area with a potentially explosive atmosphere and obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Users are advised to switch the express card off while at a refueling point (service station). Users are reminded of the need to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.

Areas with a potentially explosive atmosphere are often but not always clearly marked. They include 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 grain, dust or metal powders, and any other area where you would normally be advised to turn off your vehicle engine.

Emergency Calls

This express card, like any wireless express card, operates using radio signals, wireless and landline networks as well as user programmed functions, which cannot guarantee connection in all conditions. Therefore, you should never rely solely on any wireless express card for essential communications (medical emergencies, for example).

Remember, to make or receive any calls the express card must be switched on and in a service area with adequate signal strength. Emergency calls may not be possible on all wireless express card networks or when certain network services and/or express card features are in use. Check with local service providers.

If certain features are in use (call barring, for example), you may first need to deactivate those features before you can make an emergency call. Consult this document and your local cellular service provider.

When making an emergency call, remember to give all the necessary information as accurately as possible. Remember that your express card may be the only means of communication at the scene of an accident; do not cut off the call until given permission to do so.

Restricting Children's access to your Express card

Your express card is not a toy. Children should not be allowed to play with it



because they could hurt themselves and others, damage the express card or make calls that increase your express card bill.

FCC Notice and Cautions

FCC Notice

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.

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 express card may cause TV or radio interference if used in close proximity to receiving equipment. The FCC can require you to stop using the express card if such interference cannot be eliminated.

Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (NFPA-58). For a copy of this standard, contact the National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269, Attn: Publication Sales Division.

Cautions

Changes or modifications made in the radio express card, not expressly approved by Samsung, will void the user's authority to operate the equipment.

Only use approved batteries, antennas and chargers. The use of any unauthorized



accessories may be dangerous and void the express card warranty if said accessories cause damage or a defect to the express card.

Although your express card is quite sturdy, it is a complex piece of equipment and can be broken. Avoid dropping, hitting, bending or sitting on it.

Other Important Safety Information

Only qualified personnel should service the express card or install the express card in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty applicable to the device.

Check regularly that all wireless express card equipment in your vehicle is mounted and operating properly.

Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the express card, its parts or accessories.

For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If wireless equipment is improperly installed and the air bag inflates, serious injury could result.

Switch your express card off before boarding an aircraft. The use of wireless express card in aircraft is illegal and may be dangerous to the aircraft's operation.

Failure to observe these instructions may lead to the suspension or denial of teleexpress card services to the offender, or legal action, or both.

Product Performance

Getting the Most Out of Your Signal Reception

The quality of each call you make or receive depends on the signal strength in your area. Your express card informs you of the current signal strength by displaying a number of bars next to the signal strength icon. The more bars displayed, the stronger the signal.

If you're inside a building, being near a window may give you better reception.

Understanding the Power Save Feature

If your express card is unable to find a signal after 15 minutes of searching, a Power Save feature is automatically activated. If your express card is active, it periodically rechecks service availability or you can check it yourself by pressing any key.

Anytime the Power Save feature is activated, a message displays on the screen.



When a signal is found, your express card returns to standby mode.

Maintaining Your Express card's Peak Performance

For the best care of your express card, only authorized personnel should service your express card and accessories. Faulty service may void the warranty.

There are several simple guidelines to operating your express card properly and maintaining safe, satisfactory service.

Hold the express card with the antenna raised, fully-extended and over your shoulder.

Try not to hold, bend or twist the express card's antenna.

Don't use the express card if the antenna is damaged.

Speak directly into the express card's receiver.

Avoid exposing your express card and accessories to rain or liquid spills. If your express card does get wet, immediately turn the power off and remove the battery. If it is inoperable, call Customer Care for service.

Availability of Various Features/Ring Tones

Many services and features are network dependent and may require additional subscription and/or usage charges. Not all features are available for purchase or use in all areas. Downloadable Ring Tones may be available at an additional cost. Other conditions and restrictions may apply. See your service provider for additional information.

Battery Standby and Talk Time

Standby and talk times will vary depending on express card usage patterns and conditions. Battery power consumption depends on factors such as network configuration, signal strength, operating temperature, features selected, frequency of calls, and voice, data, and other application usage patterns.

Battery Precautions

Never use any charger or battery that is damaged in any way.

Use the battery only for its intended purpose.

If you use the express card near the network's base station, it uses less power; talk and standby time are greatly affected by the signal strength on the cellular network and the parameters set by the network operator.

Battery charging time depends on the remaining battery charge and the type of battery and charger used. The battery can be charged and discharged hundreds of times, but it will gradually wear out. When the operation time (talk time and

standby time) is noticeably shorter than normal, it is time to buy a new battery. If left unused, a fully charged battery will discharge itself over time.

Use only Samsung-approved batteries and recharge your battery only with Samsung-approved chargers. When a charger is not in use, disconnect it from the power source. Do not leave the battery connected to a charger for more than a week, since overcharging may shorten its life.

Extreme temperatures will affect the charging capacity of your battery: it may require cooling or warming first.

Do not leave the battery in hot or cold places, such as in a car in summer or winter conditions, as you will reduce the capacity and lifetime of the battery. Always try to keep the battery at room temperature. A express card with a hot or cold battery may temporarily not work, even when the battery is fully charged. Li-ion batteries are particularly affected by temperatures below 0 °C (32 °F).

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes a direct connection between the + and - terminals of the battery (metal strips on the battery), for example when you carry a spare battery in a pocket or bag. Short-circuiting the terminals may damage the battery or the object causing the short-circuiting.

Dispose of used batteries in accordance with local regulations. In some areas, the disposal of batteries in household or business trash may be prohibited. For safe disposal options for Li-Ion batteries, contact your nearest Samsung authorized service center. Always recycle. Do not dispose of batteries in a fire.

Care and Maintenance

Your express card is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you fulfill any warranty obligations and allow you to enjoy this product for many years.

Keep the express card and all its parts and accessories out of the reach of small children.

Keep the express card dry. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.

Do not use the express card with a wet hand. Doing so may cause an electric shock to you or damage to the express card.

Do not use or store the express card in dusty, dirty areas, as its moving parts may be damaged.

Do not store the express card in hot areas. High temperatures can shorten the life

of electronic devices, damage batteries, and warp or melt certain plastics.

Do not store the express card in cold areas. When the express card warms up to its normal operating temperature, moisture can form inside the express card, which may damage the express card's electronic circuit boards.

Do not drop, knock or shake the express card. Rough handling can break internal circuit boards.

Do not use harsh chemicals, cleaning solvents or strong detergents to clean the express card. Wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.

Do not paint the express card. Paint can clog the device's moving parts and prevent proper operation.

Do not put the express card in or on heating devices, such as a microwave oven, a stove or a radiator. The express card may explode when overheated.

When the express card or battery gets wet, the label indicating water damage inside the express card changes color. In this case, express card repairs are no longer guaranteed by the manufacturer's warranty, even if the warranty for your express card has not expired.

If your express card has a flash or light, do not use it too close to the eyes of people or animals. This may cause damage to their eyes.

Use only the supplied or an approved replacement antenna. Unauthorized antennas or modified accessories may damage the express card and violate regulations governing radio devices.

If the express card, battery, charger or any accessory is not working properly, take it to your nearest qualified service facility. The personnel there will assist you, and if necessary, arrange for service.