DK-Em4PS

Instruction for DK-Em4PS Auto-dial testing Device

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Table of Contents

1、Overview

ＤＫ-Ｅｍ４ＰＳ Auto-dial testing Device is a Wireless Test Product based on Mobile communication network platform, this product is tested up to 4 channels embedded。Test channel can be configured according to test requirements. including 2 channels for GSM and 2 channels for TD-SCDMA. The device adopts standard design of industrial-grade, with English and Chinese SMS sending, voice and wireless data mode functions and etc.

Users can connect with PC by USB2.0 port & Ethernet Interface。This device can be widely used in monitoring for mobile network coverage。

2、Performance and Characteristics for products

2.1. Basic functions and features

2.1.1. Extend up to 4 test channels, reality a multi-channel for voice, data, wireless transmission function between different Signal System mobiles。

2.1.2. Testing Communication & test channel for 4 channels can be configured according to any requirement。

2.1.3.Support GSM Module, can be Transmit with 4 different Signal System channel,。

2.1.4. ARM11 Processor Embedded can carry on management of multi-channels & Switching Control；

2.2. Operation mode for Communication

2.2.1.USB port: This port can carry out High-Speed Communication between local computers, data dial, voice, SMS functions and etc.

2.2.2. Ethernet Interface: this interface supply connection between device and computers, is used for Configuration of device parameters and functions, it is easy to maintenance device。

3、Performance Indicators for all kinds of channel

Performance Indicators for GSM channel Module

Basic characteristics	Description	remark
Signal System	GSM	Default Configuration
Frequency band	850/900/1800/1900MHz	
Transmit Power	Class 4 (+33dBm ± 2dB) for EGSM850 Class 4 (+33dBm ± 2dB) for EGSM900 Class 1 (+30dBm ± 2dB) for GSM1800 Class 1 (+30dBm ± 2dB) for GSM1900 Class E2 (+27dBm ±3dB) for GSM 850 8-PSK Class E2 (+27dBm ±3dB) for GSM 900 8-PSK Class E2 (+26dBm +3 /-4dB) for GSM 1800 8-PSK Class E2 (+26dBm +3 /-4dB) for GSM 1900 8-PSK	

Data Transmission	GPRS：
	  Multislot Class 12
	  Full PBCCH support
	  Mobile Station Class B
	  Coding Scheme 1-4
	EGPRS：
	  Multislot Class 10
	  Mobile Station Class B
	  Modulation and Coding Scheme MCS 1-9
	CSD：
	  V.110, RLP, non-transparent
	  2.4, 4.8, 9.6, 14.4kbps
	  USSD：
	  PPP-stack for GPRS data transfer	

SMS	MT, MO, CB, Text and PDU mod SMS storage: SIM card Support transmission of SMS alter User can choose preferred mode.	
SIM card	Supported SIM card: 1.8V ,3V	
External antenna	Connected via 50 Ohm antenna connector or antenna pad	

4、 Performance Indicators for device

Type	DK-Em4PS
Power Supply of Module	
Power Supply	(10～30)V DC
	(85～264)V AC 50/60Hz　(Adapter)
Grounding	earthing of casing
System power	<20W
Case Size	290mm*190mm*45mm
Case design	Vibration、 Drop resistance 、 Waterproof
Specifications	
Mean Time Between Failure	≥10000 hours
Others	
Work Temperature	≥－10℃， ≤＋55℃
Storage temperature	≥－20℃， ≤＋65℃
Normal humidity	≤95%
Work atmosphere	≥62 kPa， ≤106kPa

5、Description for DK-Em4PS Installation

5.1. Antenna Installation

There are 4 SMA ports at the top of a device; users install Antenna with different Module Configurations according to channels and 1-4 Numerical order on it。As shown in Figure 5-1-1：

Figure 5-1-1 Location of Antenna installation

Note：The antenna must be installed before a device switched on! Otherwise, the module may be damaged!

5.2. Power Connection

Insert an Adapter into AC220V (different adapters for different counties) Power Line, then insert into an Outlet, finally a 12V output is connected with the power interface. When the output of an adapter is inserted into the power interface, a device will Open automatically。The position for a Power Interface as shown in Figure 5-2-1:

Figure 5-2-1 Power Interface

5.3. USB cable connection

One end of the USB cable is inserted into the device USB interface, the other end connected to a network。 It is used for Data transmission and control of DK-Em4PS Device。 USB port is shown in Figure 5-3-1：

Figure 5-3-1 Port

5.4. Networking

　　The RJ45 plug of one end of network cables is inserted into the network interface and the other end connected to the network switch。It is used for the Remote Control of DK-Em4PS device。An Interface is shown in Figure 5-3-1：

5.5. Indicator Description

Indicator	Normal	Abnormality
CH1	Light or flashing	Dim (No channel)
CH2	Light or flashing	Dim (No channel)
CH3	Light or flashing	Dim (No channel)
CH4	Light or flashing	Dim (No channel)
PWR	Light	Dim (No Power Input)

5.6. Case size

Shell adopts aluminum alloy with waterproof, impact resistant to, the size of case is 290mm*190mm*45mm, as shown in figure 5-6-1:
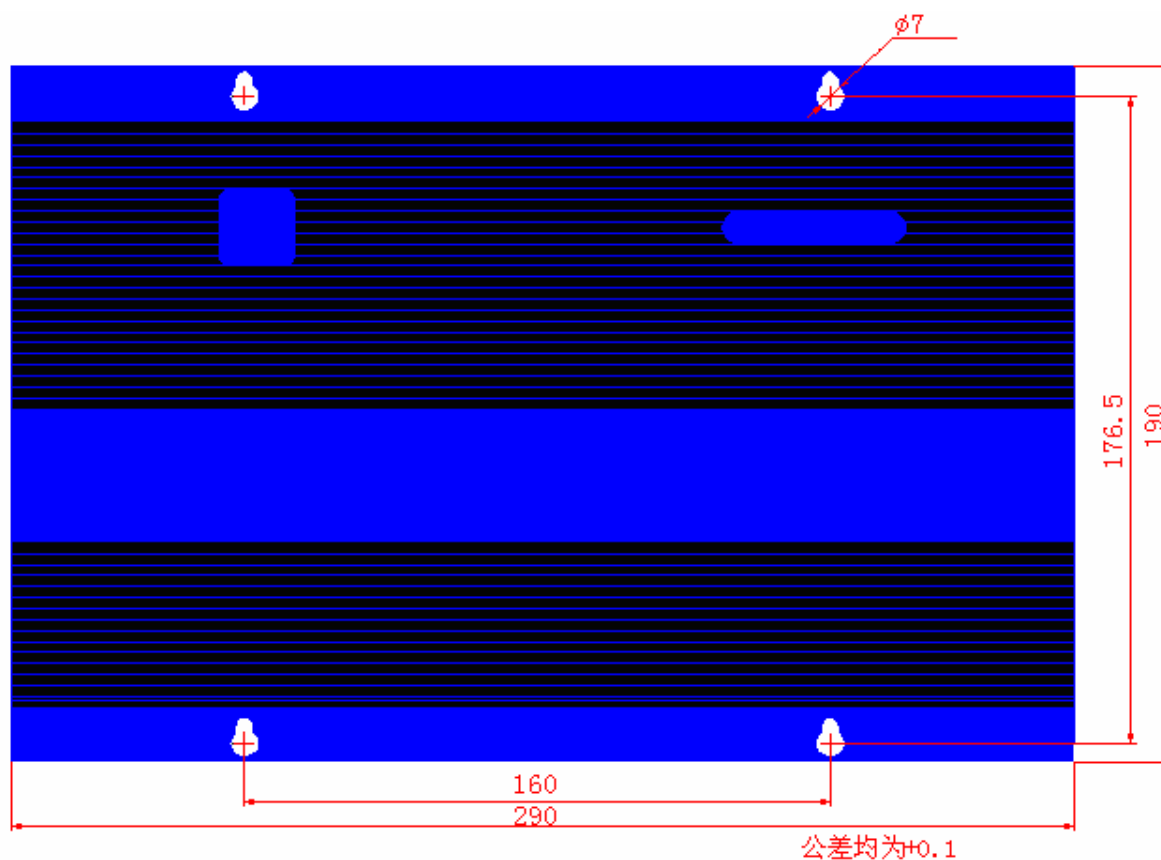

Figure 5-6-1 shape and fixed pore size

6、Instruction for DK-Em4PS Device

6.1. Description for SIM card Installation

Use Triangular screwdriver to open the six triangular screws at the right baffle of DK-Em4PS device。Move off the right baffle of it, the corresponding relationship, between SIM card slot and module channels is shown in Figure 6-1-1：
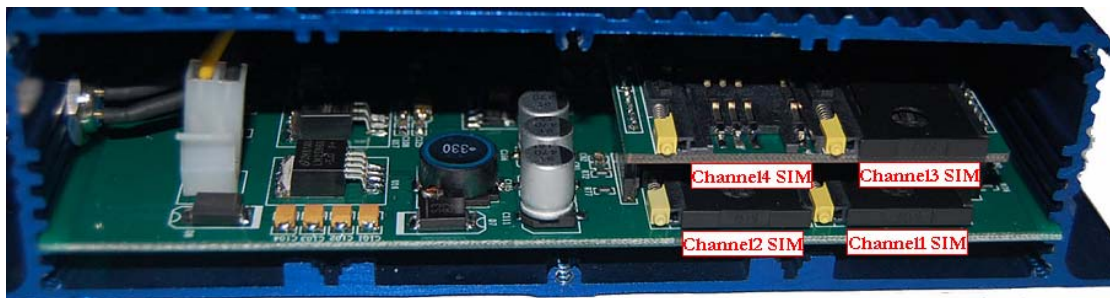

Figure 6-1-1

When install SIM card, just press the yellow button on the left of each slot, can pull out the SIM card sets of a corresponding channel, if need SIM card embedded , insert the card slot once again。

Driver Installation for Module

Let Device connect with a power supply firstly, operate it, and then insert one end of the USB cable into the Mini-USB port on the left side of the Mini-USB device, insert the USB A-type port of The USB cable into PC with Windows system。After all, Open the Device Manager，Will appear information of the device shown in Figure 6-2-1。
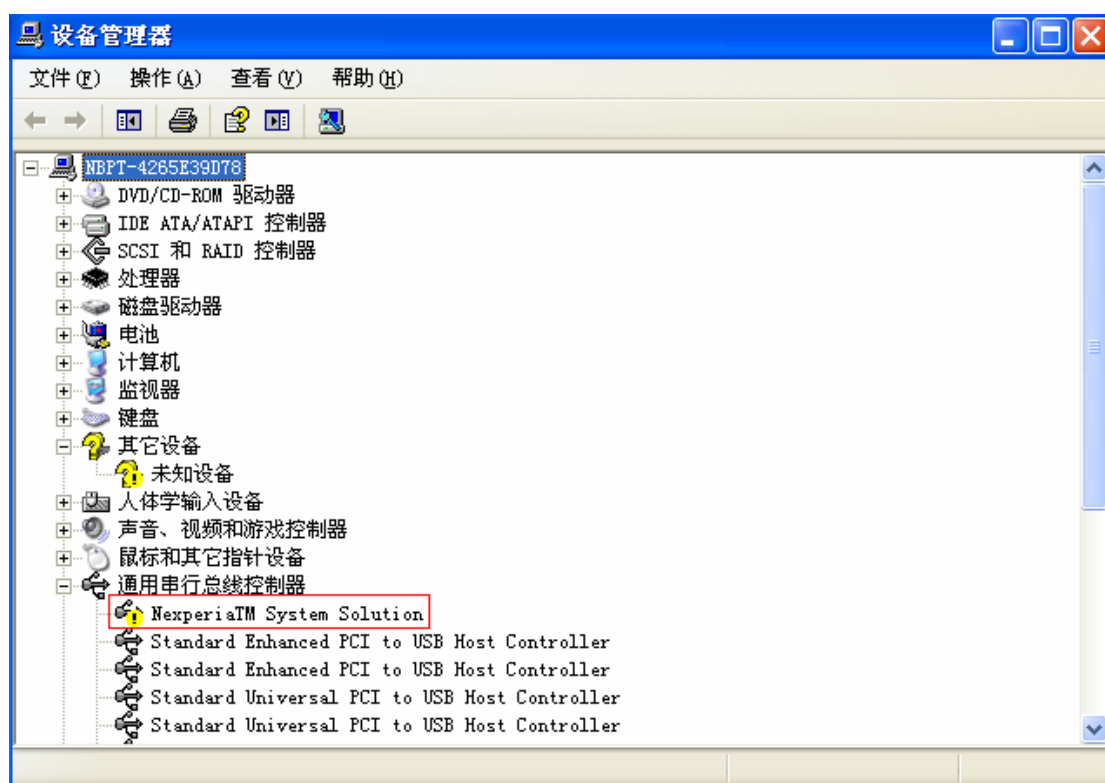
Figure 6-2-1 Device list before the driver is not installed

A device connects with a PC at the first time; the system will be prompted to install a module driver。Will appear a tip to install a module driver in Figure 6-2-2 interface。
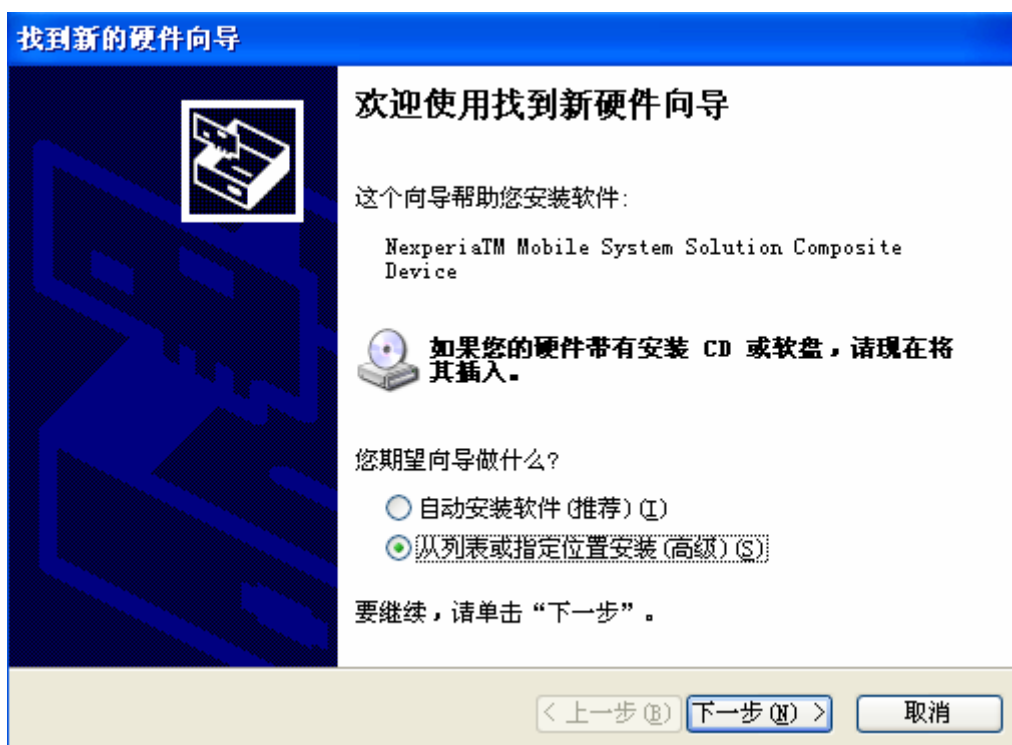
Figure 6-2-2 a tip to install a module driver

Select "Installation from a list or a specific location", click next。Browse and select the directory where a installation files is in, click "OK" button
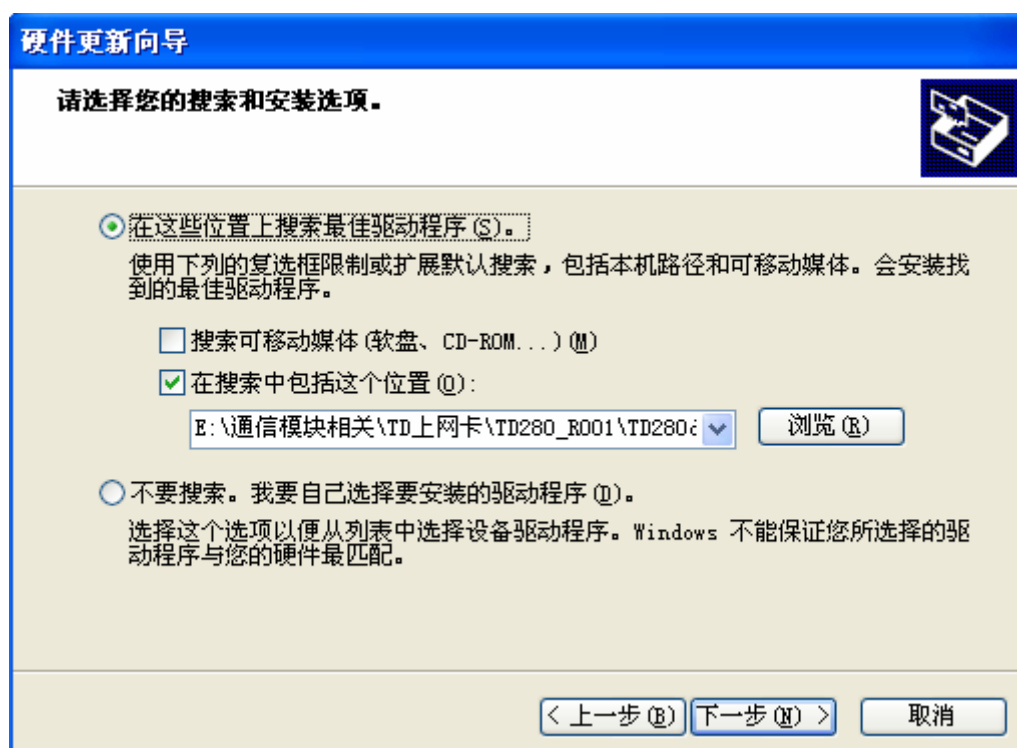

Figure 6-2-3

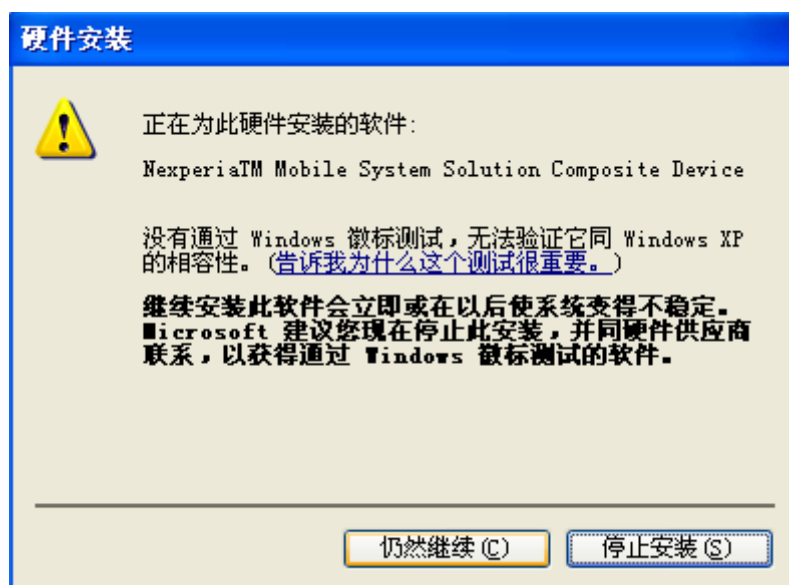When performing as shown in Figure 6-2-3, click on "Next" to start a drive installation。

Figure 6-2-4

You will be suggested that drivers did not pass Windows test (Figure 6-2-4) during the installation process。Select "continue", in the following process to install drivers, if encounter same suggestion, always select "continue"。
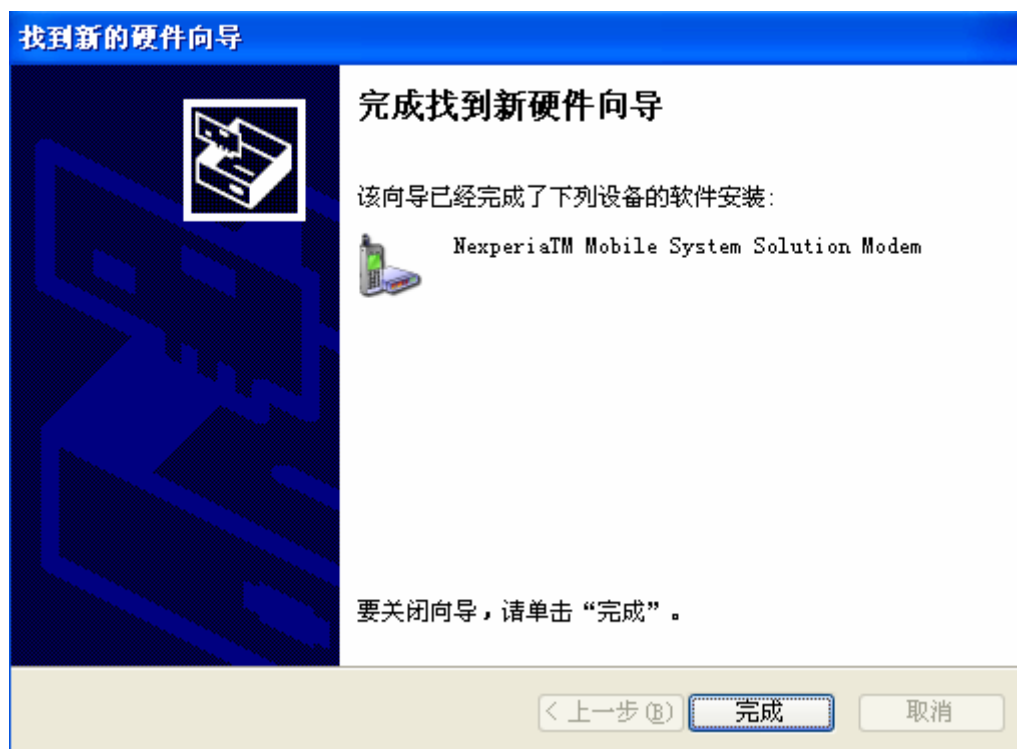

Figure 6-2-5 Device installation is completed

In the driver installation process, you will be repeatedly asked to install drivers, follow the prompts to install the driver, various drivers for the different modules, but a basically process of installation is the same。

After a successful installation, in the Device Manager, you can see as shown in Figure 6-2-6。
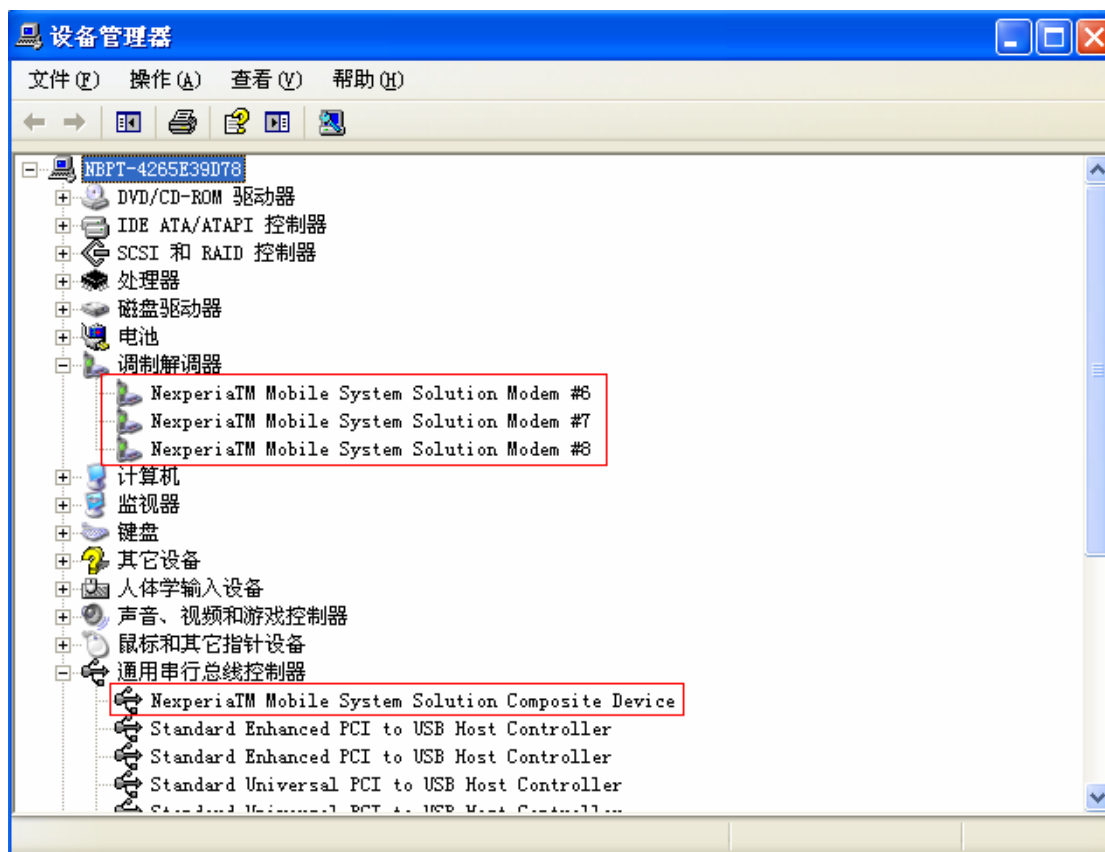

Figure 6-2-6 interface after driver installation is succeed

6.2. Description for Application program Installation

Note: DK-Em4PS software needs to run Microsoft. NET Framework 2.0 or later, can not run properly in the version Windows 7 operating system now。 The best platform to run for this software is the PC installed a Microsoft. NET Framework 2.0 of Window XP system。

Note: originally installed this software before, if need to update a newer version, you will uninstall the software at first in the Add-Remove Programs and delete a directory at C: \ Program Files \ nbpt, and then install the software again。

Double-click at DevicesDemoSetup.msi to begin a installation for DK-Em4PS Software。

A Setup starts later, will appear a interface as shown in Figure 6-3-1, then click on Next。

Figure 6-3-1

Enter a interface for installation path selection (as shown in Figure 6-3-2), click on the "Browse" button to choose the installation path, also can click on the "Next", choose a default installation path to install。

Enter a interface, as shown in Figure 6-3-3, just click "Next" to begin the installation of a software。

Software installation is successful, enter the interface as shown in Figure 3-4, click "Close" to complete a installation。

Software installation is completed later; a shortcut called "DK-Em4PS"will be created on the desktop。

Figure 6-3-2

Figure 6-3-3

Figure 6-3-4

6.4. Description for Application program's use

Double-click an icon called "DK-Em4PS" on the desktop to run the program。

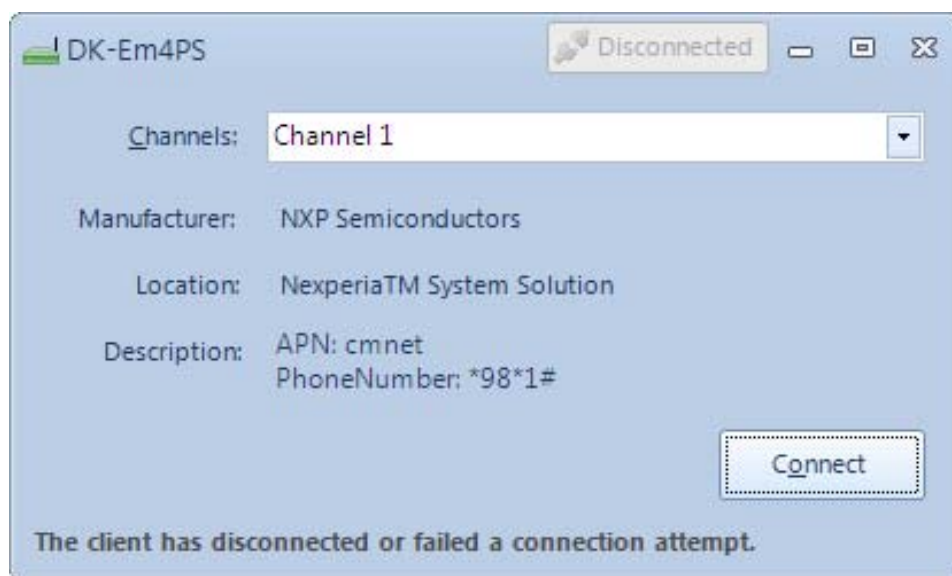Program interface is shown in Figure 6-4-1:

Figure 6-4-1

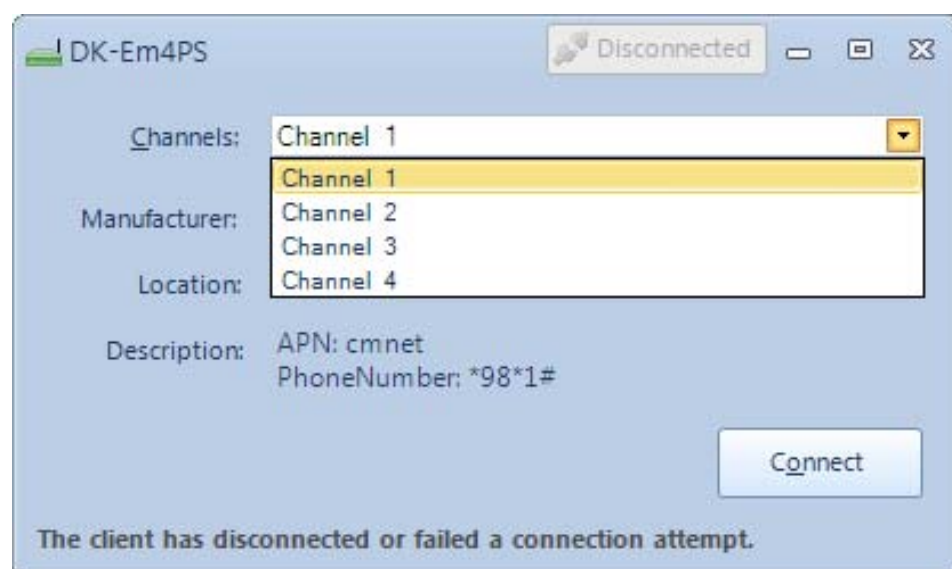Click a drop-down menu of "Channels", you can choose the device channel (as shown in Figure 6-4-2),

Figure 6-4-2

Choose the first channel, and press "Connect" button to start a dial-up of the GSM network at the first channel。Will appear a dial-up interface as shown in Figure 4-4-3。
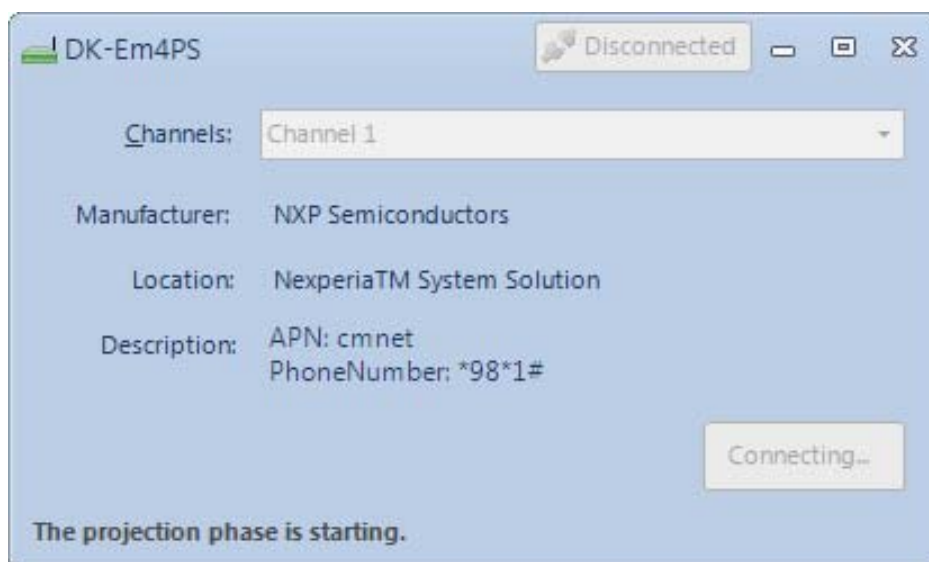

Figure 4-4-3

Dial-up is successful, will appear the interface as shown in Figure 6-4-4, will also appear networking connected in the right column of a system。
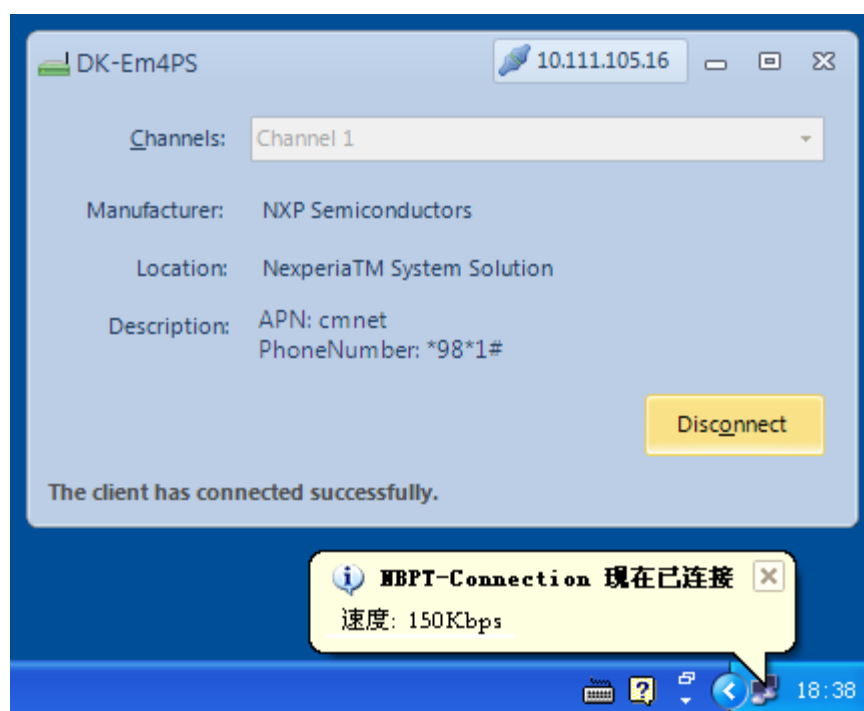

Figure 6-4-5

To disconnect the network connection, simply click the "Disconnect" button on the Lower right of software, you can disconnect。

6.5. Notes

6.5.1. put SIM card into the SIM card slot firstly, and put it into modem based on the correspond slot number。

Note: when charge, do not plug SIM card! Otherwise, it may damage SIM card。

6.5.2. When it's in use, the procedure or the machine occurs instability, may try restarting the machine or the PC-end programs.

6.5.3. Attachments:

1．	Antenna	4
2．	SIM Cato	4
3．	Power Line	1
4．	12V power adapter	1
5．	Triangle Screwdriver	1

7、FCC Statement

NOTE 1:

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. Note: The manufacturer is not responsible for ANY interference, for example RADIO or TV interference, caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

NOTE 2:

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.

- 22 -

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