

GSM/WCDMA Mobile Adaptor ADP-010-RU Operation Manual

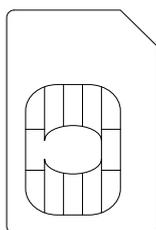


Change History

Edition	Date	Description
1.0	2013/12/25	First edition
1.1	2015/01/06	Caution on SIM insertion added
2.0	2015/01/22	Before using this product Device applications, export, overseas sales added
2.1	2015/01/26	4-4 Connection software (Watcher) added 5. Description of antenna added
2.2	2015/01/28	5. Description of antenna, MA201 deleted
2.3	2015/04/19	4-4-4 SMS Mail added
2.4	2018/01/10	Delete WCDMA Frequency 800 and 850Mhz. <ul style="list-style-type: none"> - 2-5-1 Wireless Frequency - Appendix 1 WWAN Tx Power : SL8084T - Appendix 1 Operation Frequency : WCDMA
2.5	2018/2/6	Appendix C Change Declaration of Conformity to RED (RE Directive) from R&TTE Directive.

Before using this product

- Before using the GSM/WCDMA Mobile Adaptor ADP-010-RU (hereafter called "this device"), read this Operation Manual thoroughly.
- This device is a M2M remote monitoring and data communication product for industrial use and not for general consumers. Therefore, it is not sold by retailers for general consumers.
- Exporting of this device and sales in the destination country (importing country)
This device is exported overseas to be built into an industrial machine to work as a component of the machine rather than to be sold in the destination country.
This device is not exported overseas to be sold to general consumers overseas or to be sold by retailers for general consumers.
- Overseas certifications obtained for this device are used for connection with a carrier network, not for sales in the respective country.
- To connect this device to a mobile network, a contract with a carrier and a SIM (Subscriber Identity Module) card or UIM (User Identity Module)/USIM (Universal Subscriber Identity Module) card issued by the carrier are required. Note that this device alone cannot be used for communication. In this document, these cards are collectively called "SIM cards" unless the type of card needs to be specified.
For a SIM card, contact your carrier.



SIM card

- All or part of this device including accessories and peripheral devices may be changed without prior notice.



Safety precautions - Please fully observe following precautions:

	Never attempt to disassemble or alter this device.
	Do not operate this device in any high temperature place, such as by the fire or any other heating equipment.
	Keep this device away from water or any other liquids to avoid the risk of heat, electric shock or fire hazard and device damage.
	Do not operate this device in any place where radio emission is prohibited, such as in airplane.
	Do not impact, drop or hurl this device to avoid device damage and a fire hazard.
	Do not put this device in cooking appliances like a microwave oven or a pressure pan to avoid heating, igniting or damaging this device.
	Do not operate this device in any high humidity place to avoid a fire and an electric shock caused by insulation degradation.
	Stop using this device immediately when you notice an unusual odor, heat, discolor or deformation of this device to avoid a fire hazard, an electric shock, and device damage.
	Stop using this device immediately if any liquids or foreign objects have got in this device to avoid a fire hazard and an electric shock.
	Do not short-circuit the terminals of this device to avoid injury and device damage.
	Do not operate this device near electronic equipment which processes for precise control or weak signals. Radio emissions from this device may affect the operations of such equipment.
	Do not operate this device in a flammable atmosphere such as propane gas or gasoline to avoid a fire hazard.
	Keep this device away from babies and children to avoid a danger of injury and suffocation.

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1. Product overview

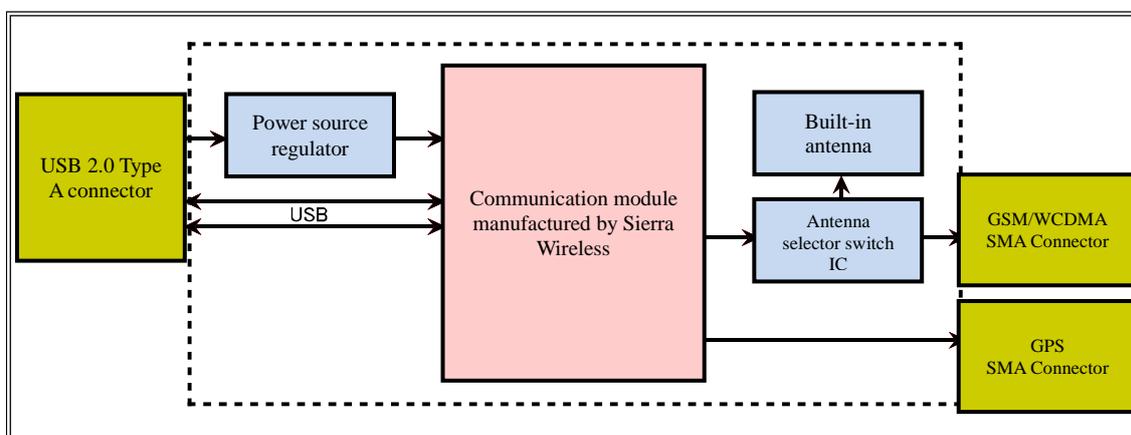
This device is a mobile adapter for cellular communication with the following features.

- 1) Equipped with Sierra Wireless's GSM/WCDMA communication module SL8084T
- 2) Communication speed of 384kbps uplink/3.6Mbps downlink (maximum values of the standard)
- 3) Equipped with one USB 2.0 interface
- 4) Controllable from the console by using AT commands
- 5) Network and field strength states displayed in LEDs via Open AT®
- 6) Equipped with an internal antenna for cellular. An external antenna can be selected by a switch.
- 7) Equipped with one external antenna terminal each for cellular and GPS (Global Positioning System)
- 8) GPS function by AT command control (to be supported in the next period)
- 9) PAD (Packet Assembly/Disassembly: TTY-IP conversion) function by AT command control (to be supported in the next period)
- 10) Multiple operating systems (Windows XP/7/CE and Linux Kernel 3.2) supported by the driver software
- 11) Certified in Japan, North America, and Europe
(certification of conformance to technical standards (Telecommunications Business Act)/certificate of construction type (Radio Act)/FCC/CE)
- 12) RoHS6 EU REACH compliant
- 13) USB power supply (+5VDC)
[Note] In the GSM mode, the standard 500mA power supply of USB may be insufficient under operating conditions where the transmission power of this device must be maximized continuously such as in a place with very weak radio waves from the base station.
- 14) Wide operating temperature/humidity ranges for industrial equipment
 - Operating temperature -20 to 65°C, humidity :15 to 85% (no condensation)
 - Storage temperature: -40 to 85°C, humidity :8 to 90% (no condensation)
- 15) Small and lightweight

2. Product specifications

2-1 Block diagram

The block diagram of this device is shown below.



2-2 External specifications

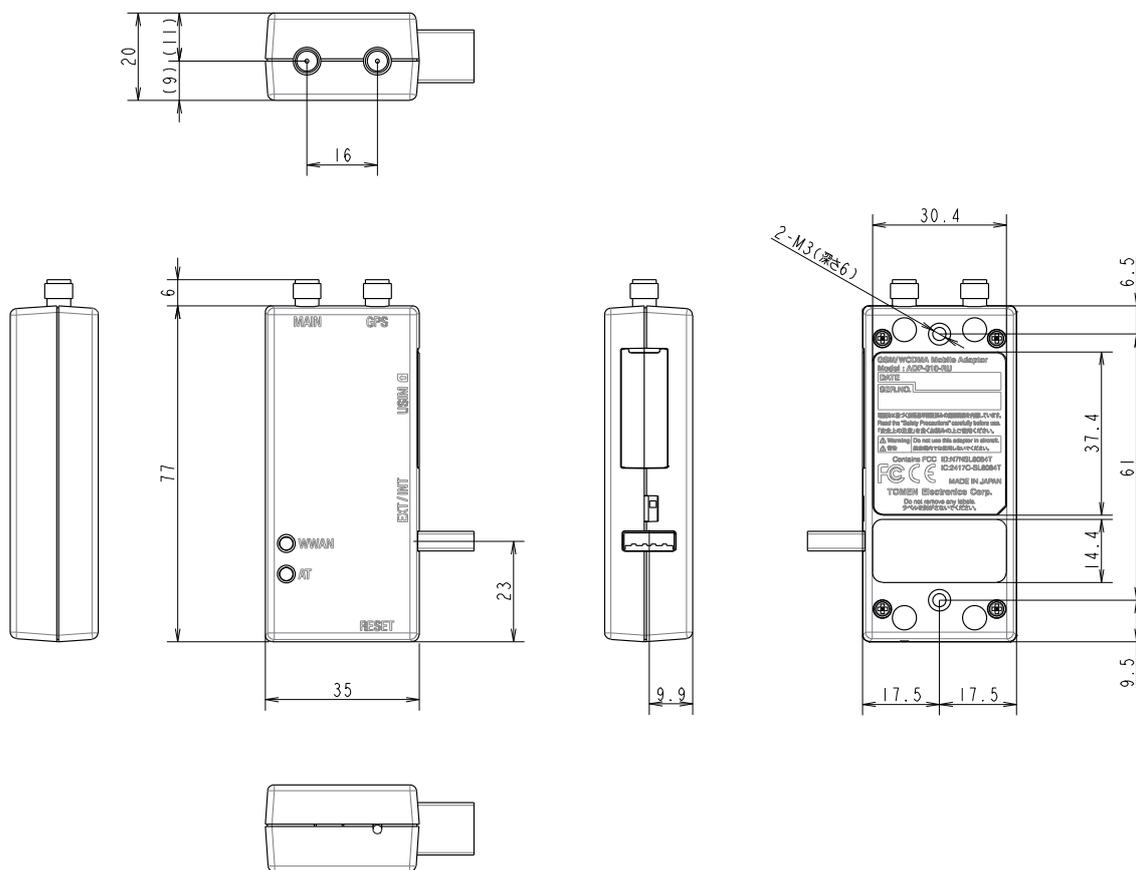
The major external specifications of this device are shown in the table below.

Item	Description
Dimensions	77mm(H)×35mm(W)×20mm(D) (not including protrusions such as connectors)
Weight	Approximately 48g

2-3 Dimensional drawing

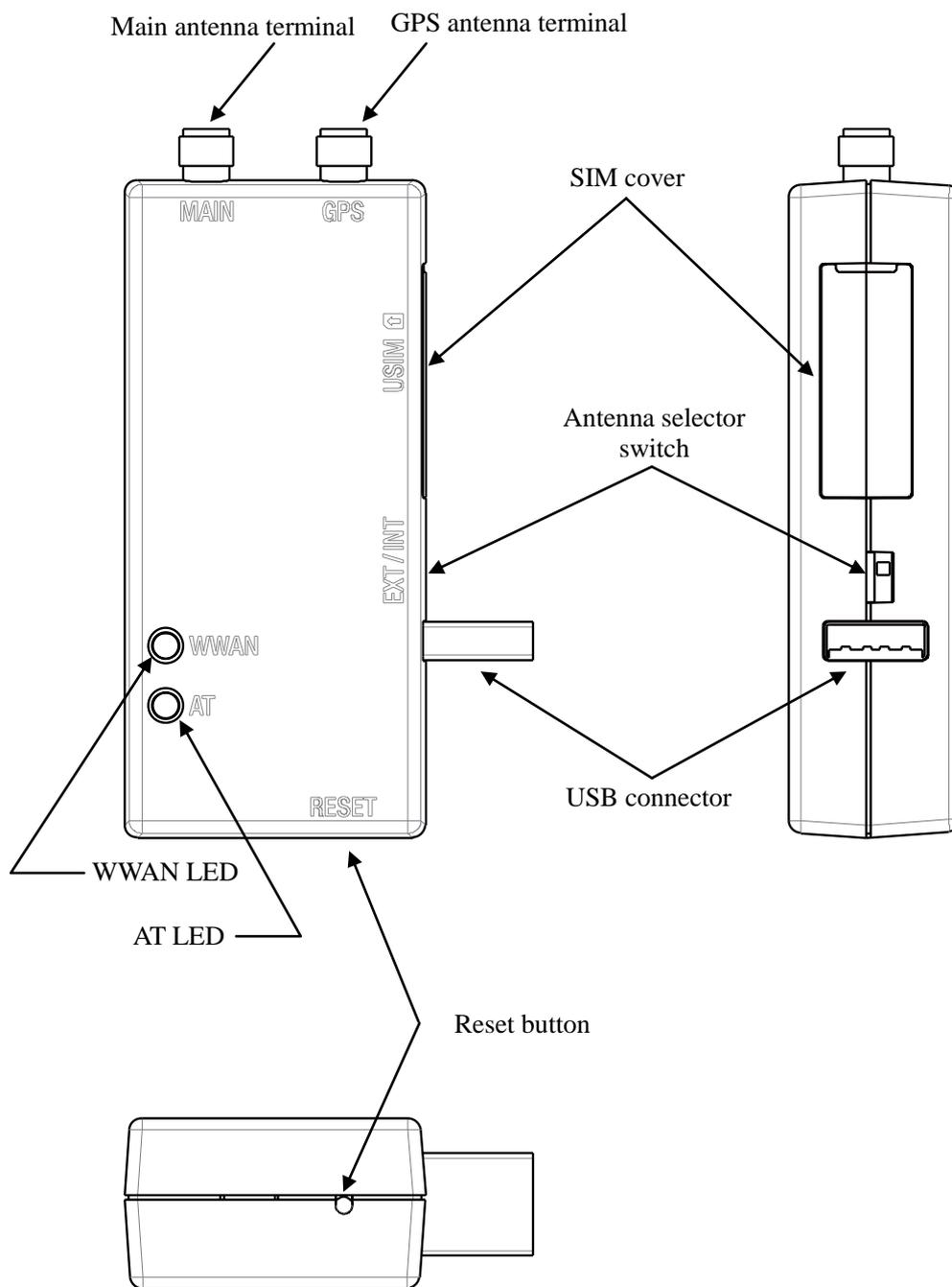
The detailed dimensions of the parts of this device are shown in the figure below.

(Unit: mm)



2-4 Part names

The names of the parts of this device are shown in the figure below.



2-5 External interface

The parts of this device are described below.

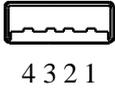
2-5-1 Main antenna terminal

Item		Description
Connector shape		SMA receptacle
Pin arrangement		1 
Pin specification	1 pin	Signal name: GSM, WCDMA Connected to: External cellular antenna
Wireless frequency/ Access method		2100 MHz (WCDMA) 850 / 900 / 1800 / 1900 MHz (GSM / GPRS / EDGE)
Communication speed		Uplink: 384kbps (maximum value of communication standard) Downlink: 3.6Mbps (maximum value of communication standard)

2-5-2 GPS antenna terminal

Item		Description
Connector shape		SMA receptacle
Pin arrangement		1 
Pin specification	1 pin	Signal name: GPS Connected to: External GPS antenna (active antenna)
Wireless frequency/ Access method		1572.42MHz Standalone/ gpsOne

2-5-3 USB connector

Item		Description
Connector shape		USB Type A plug
Pin arrangement		
Pin specification	1 pin	Signal name: USB V _{BUS} terminal Connected to: Host controller
	2 pin	Signal name: USB D - terminal Connected to: Host controller
	3 pin	Signal name: USB D + terminal Connected to: Host controller
	4 pin	Signal name: USB GND terminal Connected to: Host controller
Applicable standard		USB 2.0 (High Speed)

2-5-4 Antenna selector switch

Item		Description
Slide switch		EXT / INT 
Polarity		Selector switch for external/internal antennas EXT side: Use the external antenna (external antenna connection required) INT side: Use the internal antenna

2-5-5 Reset button

Item		Description
Push button		RESET 
Function		Resets this device. Push with a rod with a fine point, etc.

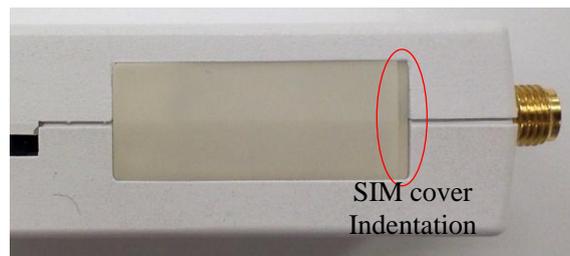
3. Using the terminal part and operation part

3-1 Inserting a SIM card

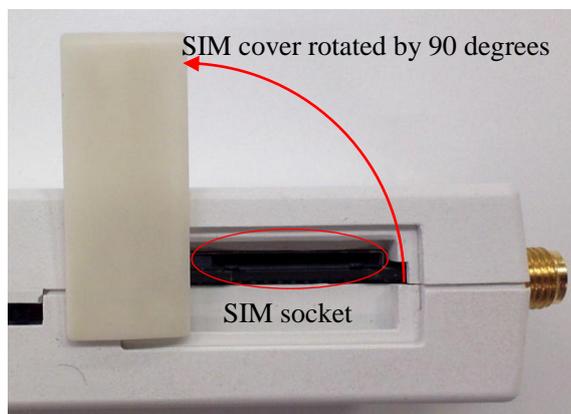
To use this device for communication, a SIM card is required. Ask your carrier to issue a standard-sized (15mm×25mm) SIM card and insert it into this device according to the following procedure.

If you insert or remove a SIM card while the power is being supplied, the SIM card may be damaged. Before inserting or removing a SIM card, make sure that no power is supplied to this device.

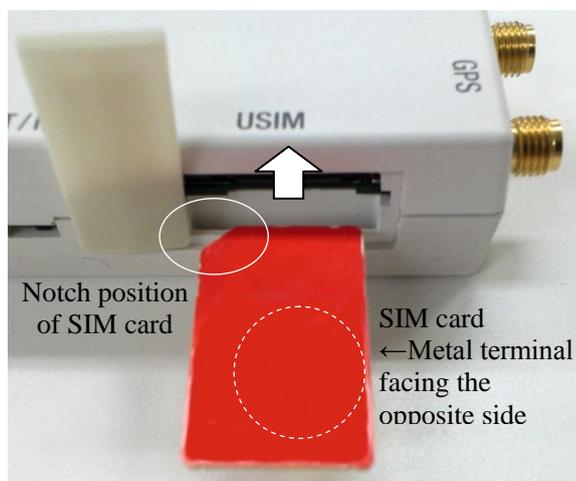
Lift the SIM cover (made of elastic resin) on the side of this device by using the indentation on one of the shorter sides.



Rotate the SIM cover by 90 degrees from the direction of lifting to expose the SIM socket.



Insert the SIM card into the socket as indicated by the arrow in the figure below, and push it in fully until it clicks. The SIM is locked after it clicks. Do not push in any further (doing so may damage this device and SIM card).

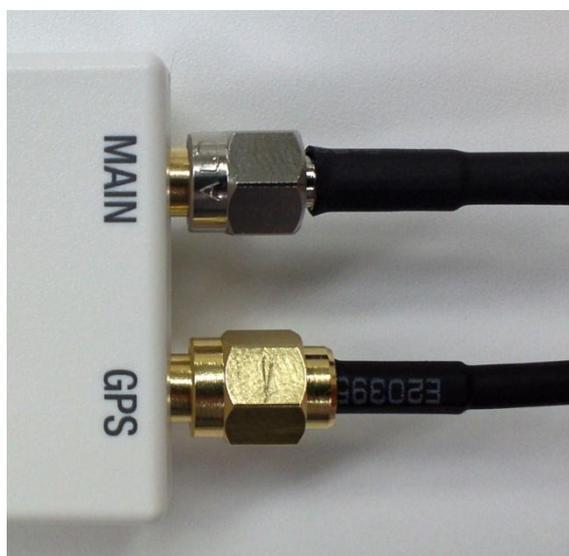
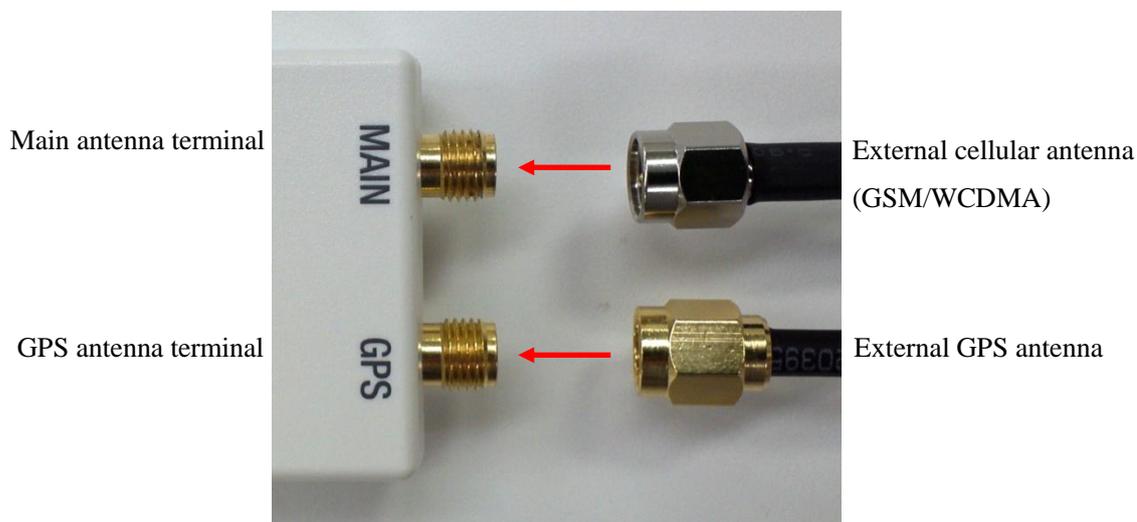


If you release your hand halfway, the SIM card may eject abruptly to injure you or other people. Be extremely careful.

After the SIM card is locked, rotate the SIM cover by 90 degrees to the opposite direction of step 2, and push it in the opposite direction of step 1 to return it to the original position.

3-2 Connecting the external antenna

To use the external cellular antenna, connect it to the main antenna terminal marked as "MAIN". To use the external GPS antenna, connect it to the GPS antenna terminal marked as "GPS". Be careful to avoid an incorrect connection because the antenna terminal shapes are identical.



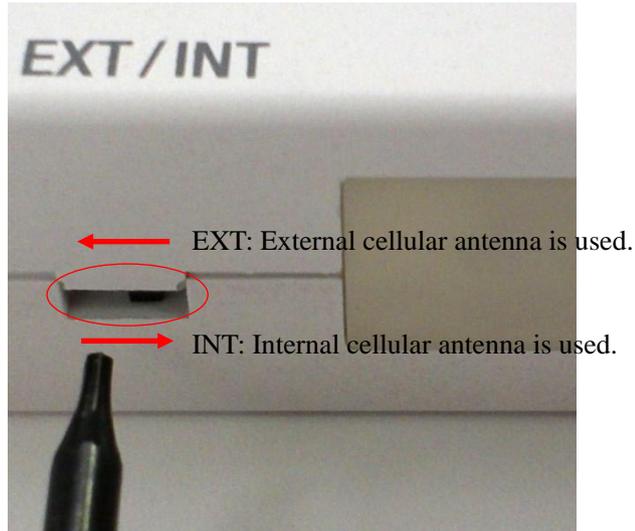
Cautions

- The appearance, shape, and color of the external antenna are just examples. (Silver connector plating may not necessarily be the cellular antenna, and gold connector plating may not necessarily be the GPS antenna. The shape may be different from the one shown above.)
- When using an external cellular antenna, make sure to connect one specified by TOMEN. Using any other antenna violates the Radio Act in Japan and faces a penalty.

3-3 Operating the antenna selector switch

The antenna selector switch is a slide switch that selects between the internal cellular antenna of this device and external cellular antenna. Operate it with a rod with a fine point, etc.

When it is turned in the "EXT" direction (left in the figure below), the external cellular antenna (the antenna connected to the main antenna terminal) is used. When it is turned in the "INT" direction (right in the figure below), the internal antenna is used.



If the switch is turned to the EXT side, make sure to install the external cellular antenna to the "main antenna terminal". If it is not installed properly, communication may fail.

3-4 Connecting to the host device

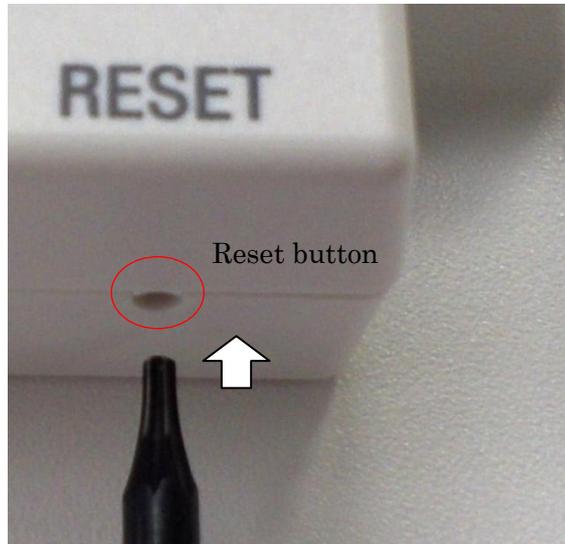
Connect the USB connector (Type A plug) of this device to the USB connector (Type A receptacle) of the host device. For the orientation, refer to the figure below.

Before connecting it to the host device, install the USB driver to the host device.



3-5 Operating the reset button

To reset this device while the power is on for any reason, press the reset button on the side of the device by using a rod with a fine point, etc.



4. Initial setting

This section describes how to install the USB driver for Windows or the dedicated connection software "Watcher", how to set up an access point, how to connect/disconnect from the network, and how to connect to the Internet. Before installing the USB driver or the dedicated connection software "Watcher", install the terminal software "Tera Term".

4-1 Installing the USB driver

The USB driver can be obtained from Contact on TOMEN's website. Visit the following page, and provide the required information to request the USB driver.

<http://www.tomen-ele.co.jp/products/contact/input/49>

After obtaining the driver, execute DriverInst.exe, and perform installation by following the instructions.

To uninstall the USB driver, enter "DriverInst.exe -r" in the Command Prompt window.

4-2 Connecting peripheral devices (reprint)

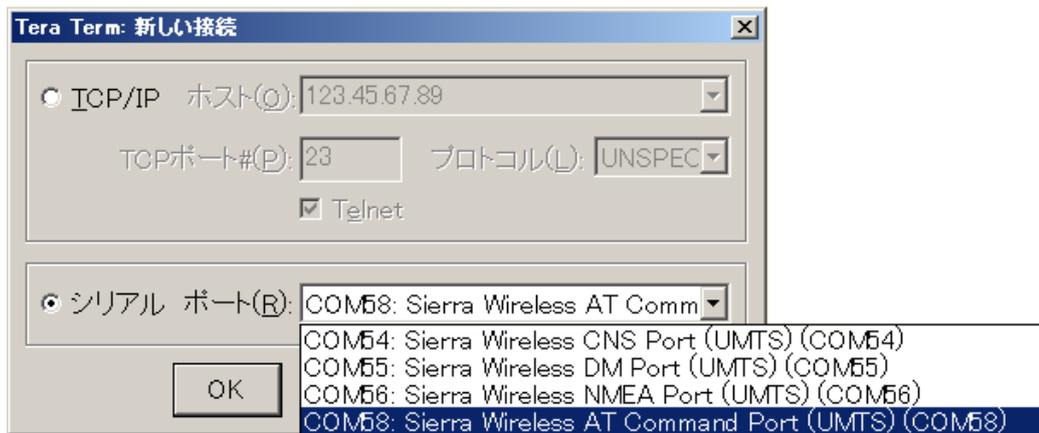
Install the SIM card and external antenna (if required) according to the procedure described in Chapter 3. In addition, change the antenna selector switch to the proper direction depending on whether the external cellular antenna is installed.

4-3 Examples of control by using AT commands

This section shows examples of control of this device by using AT commands. In this explanation, the terminal software (Tera Term) installed in the Windows PC is assumed to be the host.

1) Starting the terminal software (Tera Term)

When Tera Term starts up, the "New connection" window is displayed. Select the "Serial port (R):" radio button, select the COM port "Sierra Wireless AT Command Port (UMTS)" from the drop-down list, and click OK. (The COM port numbers are examples. The values may be different from the ones shown below.)



2) Entering a command

The main window of Tera Term is displayed. You can enter strings with the PC keyboard. When you enter "ATI9" and press the "Enter" key, the settings and firmware version of this device are displayed.

("ATI9" is called an AT command because it starts with the string "AT".)

```
ATI9
"DWL"," S4_1_0_7DBT R1474 CNSZXD00000155 2013/04/0716:16:47","
","Sierra Wireless",0,"","00000000","00000000"
"FW","FW_750_20_A1.2_2.SL808Fx","R7.50.2.A1.201305210920.SL808
4T","Sierra Wireless",1670256,"052113 09:20","f41d4e4a","10002
020"
"MODEM 3G+","Revision: S4_1_0_7DAP R1474 CNSZXD00000155 2013/04
/07 16:16:47"
"OAT","1.0.0.20131007201610","LED Application","TOMEN ELECTRONI
CS CORPORATION",73136,"100713 20:16","a14b7bf1","10700000
-"Open AT Application Framework package","2.50.0.A1.2013021311
45"
-"Firmware Package","7.50.0.A1.201302131100"
-"ExtendedATApplication Library Package","1.20.0.A1.2013021309
31"
"ROM","8400000"
"OATRAM","b000000"
```

"DWLNAME", "SL808x"

OK

"ATI9" is used to check if any reply is returned in response to a command entry to this device. It does not affect the subsequent operation of this device. (It is not required for actual operation.)

3) Setting the connection profile

Before performing data communication with this device, an APN (Access Point Name) must be set for this device. APN is a string comprising alphanumeric characters and symbols specified by the carrier issuing the SIM card.

A set of settings with setting values related to APN such as PDP (Packet Data Protocol) context type is called a "connection profile" (or simply "profile"). It is identified with a number (profile number) starting from 1. For this device, only profile number 1 is used.

Enter the following AT commands to set up and check the profile.

#	Item	AT command
1	Profile setting	<p>AT+CGDCONT=<pid>, [<pdp_type>, <apn>, [<ipaddr>]]</p> <p>(It cannot be executed when no SIM card is connected. For a SIM card locked with a PIN, it cannot be executed until the correct PIN is entered.)</p> <p>Set up the PDP context type and APN.</p> <p>For <pid>, enter the profile number to set up.</p> <p>(The brackets "<" and ">" do not have to be entered. The same applies hereafter.)</p> <p>For <pdp_type>, specify the PDP context type. Specify "IP". (The quotation marks are required.)</p> <p>For <apn>, enter the APN string to use with quotation marks.</p> <p>For [<ipaddr>], enter "0.0.0.0" (optional) for dynamic IP address assignment, or an appropriate IP address within the range specified by the carrier in the format of "xxx.xxx.xxx.xxx" for static IP address assignment.</p> <p>(A parameter in square brackets can be omitted. The same applies hereafter.)</p> <p>(Example)</p> <pre>AT+CGDCONT=1, "IP", "tomen", "0.0.0.0" AT+CGDCONT=1, "IP", "tomen" AT+CGDCONT=1, "IP", "tomen.ne.jp", "123.45.67.89"</pre> <p>For <pid>, only 1 is allowed. The device may not operate if any other number is specified.</p>

2	Profile check	<p>AT+CGDCONT?</p> <p>The profile currently set to this device can be checked.</p> <p>(Example)</p> <p>AT+CGDCONT?</p> <p>+CGDCONT:1,"IP","tomen",,0,0</p> <p>OK</p>
3	Profile deletion	<p>The profile can be deleted by specifying AT+CGDCONT=1 .</p>

4) Authentication parameter setting

If the authentication method is specified by the carrier, set up the authentication parameter by using the following commands in addition to profile setting.

1	Authentication parameter setting	<p>AT!!AT\$QCPDPP=<pid>,<auth_type>,<password>,<username></p> <p>The profile authentication <password and user name> can be specified.</p> <p>(It cannot be executed when no SIM card is connected. For a SIM card locked with a PIN, it cannot be executed until the correct PIN is entered.)</p> <p>For <pid>, enter the profile number to set up.</p> <p>For <auth_type>, enter the value indicating the authentication method.</p> <p>0: (none)-Password and user name are not used.</p> <p>1: (PAP)-Password and user name are sent as is (in plain text).</p> <p>2: (CHAP)-Password and user name are sent after encryption.</p> <p>For <password>, enter the password specified by the carrier. It is not required if "0" is specified for <auth_type>.</p> <p>For <username>, enter the user name specified by the carrier. It is not required if "0" is specified for <auth_type>. No user name is required if <auth_type> is "0".</p> <p>(Example) Setting "none" (<auth_type> of 0) to the profile of profile number 1</p> <pre>AT!!AT\$QCPDPP=1,0</pre> <p>(Example) Setting the authentication method "CHAP", user name "tomen_user", and password "tomen_pass" to the profile of profile number 1</p> <pre>AT!!AT\$QCPDPP=1,2,"tomen_pass","tomen_user"</pre>
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2	Authentication parameter check	<p>AT!!AT\$QCPDPP?</p> <p>The setting specified in 1 can be checked. The password is not displayed even if it is set.</p> <p>(Example) AT!!AT\$QCPDPP?</p> <p>\$QCPDPP: 1,2,"tomen_user"</p> <p>\$QCPDPP: 2,0</p> <p>\$QCPDPP: 3,0</p> <p>\$QCPDPP: 4,0</p> <p>\$QCPDPP: 5,0</p> <p>\$QCPDPP: 6,0</p> <p>\$QCPDPP: 7,0</p> <p>\$QCPDPP: 8,0</p> <p>\$QCPDPP: 9,0</p> <p>\$QCPDPP: 10,0</p> <p>\$QCPDPP: 11,0</p> <p>\$QCPDPP: 12,0</p> <p>\$QCPDPP: 13,0</p> <p>\$QCPDPP: 14,0</p> <p>\$QCPDPP: 15,0</p> <p>\$QCPDPP: 16,0</p> <p>OK</p>
3	Authentication parameter deletion	<p>AT!!AT\$QCPDPP=1</p> <p>The authentication parameter is deleted.</p>

5) Packet connection and disconnection

After setting up the profile and authentication parameter, start and end packet connection by using the following commands.

1	Packet connection	<p>AT!SCACT=1 [, <pid>]</p> <p>Start packet connection.</p> <p>For <pid>, enter the profile number used for packet connection. If <pid> is omitted, the profile of the profile number 1 is used for packet connection.</p> <p>(Example)</p> <p>AT!SCACT=1, 1</p> <p>OK</p> <p>(At this time, only 1 can be used as the value of <pid>.)</p>
2	Packet disconnection	<p>AT!SCACT=0 [, <pid>]</p> <p>Disconnect packet connection.</p> <p>For <pid>, enter the profile number used for packet connection. If <pid> is omitted, the packet connection using the profile of the profile number 1 is disconnected.</p> <p>(Example)</p> <p>AT!SCACT=0, 1</p> <p>OK</p> <p>(At this time, only 1 can be used as the value of <pid>.)</p>

6) Example of AT command

Access point, Authentication inputs, Connection and disconnection.

No.	Operation	Example
1	APN input	AT+CGDCONT=1,"IP","plus.acs.jp","0.0.0.0" OK
2	APN check	AT+CGDCONT? +CGDCONT: 1,"IP","plus.acs.jp",,0,0
3	Parameters input For authentication	AT!!AT\$QCPDPP=1,1,"pass","user" OK
4	Parameter check	AT!!AT\$QCPDPP? \$QCPDPP: 1,1,"user" \$QCPDPP: 2,0 \$QCPDPP: 3,0 \$QCPDPP: 4,0 \$QCPDPP: 5,0 \$QCPDPP: 6,0 \$QCPDPP: 7,0 \$QCPDPP: 8,0 \$QCPDPP: 9,0 \$QCPDPP: 10,0 \$QCPDPP: 11,0 \$QCPDPP: 12,0 \$QCPDPP: 13,0 \$QCPDPP: 14,0 \$QCPDPP: 15,0 \$QCPDPP: 16,0 OK
5	Packet connection	AT!SCACT=1,1 OK

6	Packet connection check	AT!SCACT? !SCACT: 1,1 OK
7	Packet disconnection	AT!SCACT=0,1 OK
8	Packet disconnection check	AT!SCACT? !SCACT: 1,0 OK

4-4 Connection software (Watcher)

The connection software can be obtained from Contact on TOMEN's website. Visit the following page, and provide the required information to request the connection software (Watcher).

<http://www.tomen-ele.co.jp/products/contact/input/49>

Obtain the driver, execute Watcher_Generic_Bxxxx.msi, and perform installation by following the instructions.

The connection software can be obtained from Contact on TOMEN's website. Visit the following page, and provide the required information to request the connection software (Watcher).

<http://www.tomen-ele.co.jp/products/contact/input/49>

After obtaining the connection software (Watcher), execute Watcher_Generic_Bxxxx.msi, and perform installation by following the instructions.

To uninstall the connection software (Watcher), use "Programs and Features" in the Control Panel.

4-4-1 Connecting peripheral devices (reprint)

Install the SIM card and external antenna (if required) according to the procedure described in Chapter 3. In addition, change the antenna selector switch to the proper direction depending on whether the external cellular antenna is installed.

4-4-2 Run Watcher and configuration

1) Run Watcher

If an icon of Watcher is clicked, Watcher is run and the modem will search the base station following SIM carrier information. (At this point, the data packet network is not connected.) Please note, there is a case that the searching of carrier network may take few minutes.

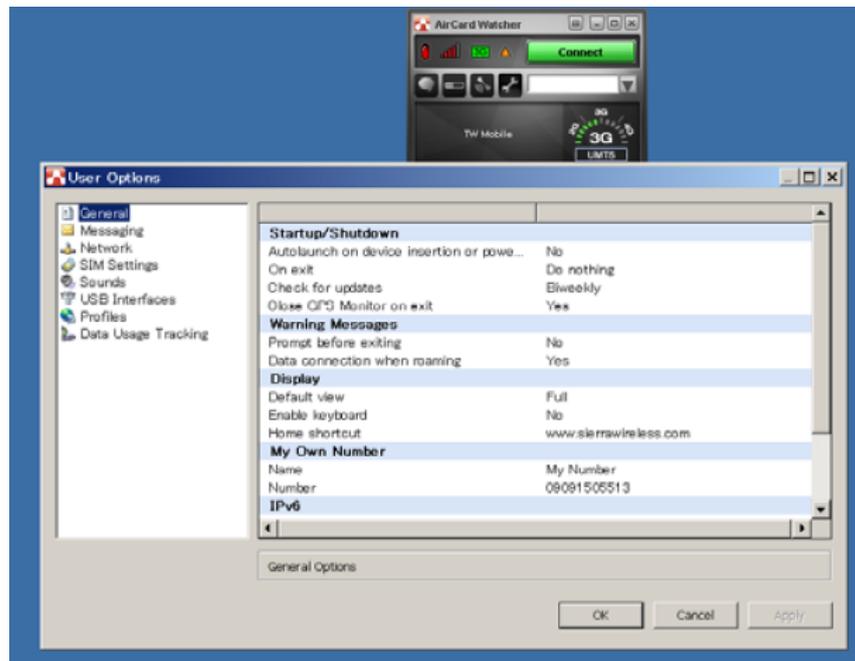


2) Configuration of Profile and Authentication setting

Press Option:



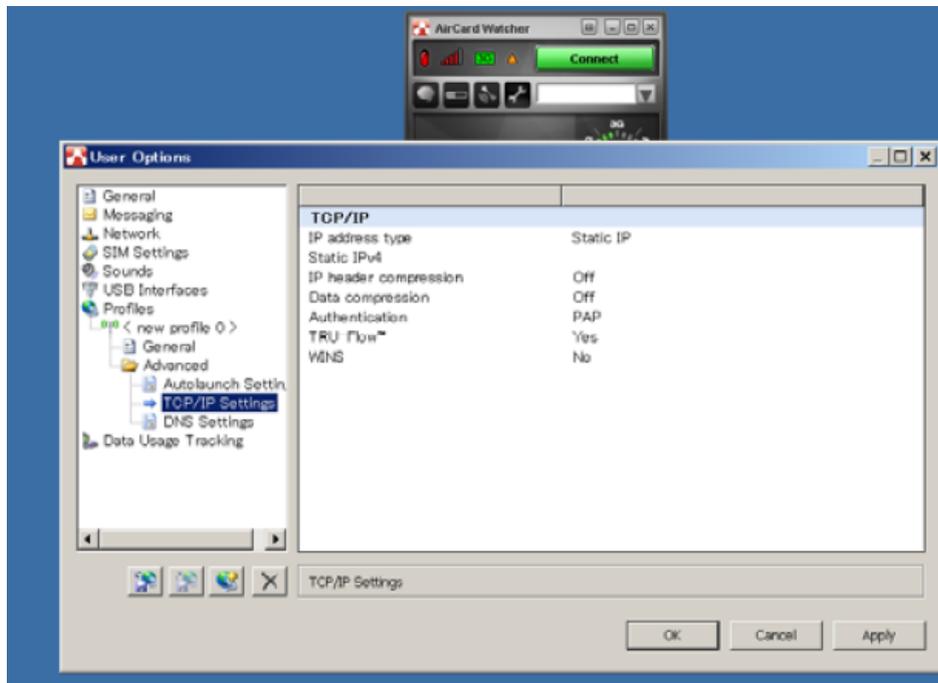
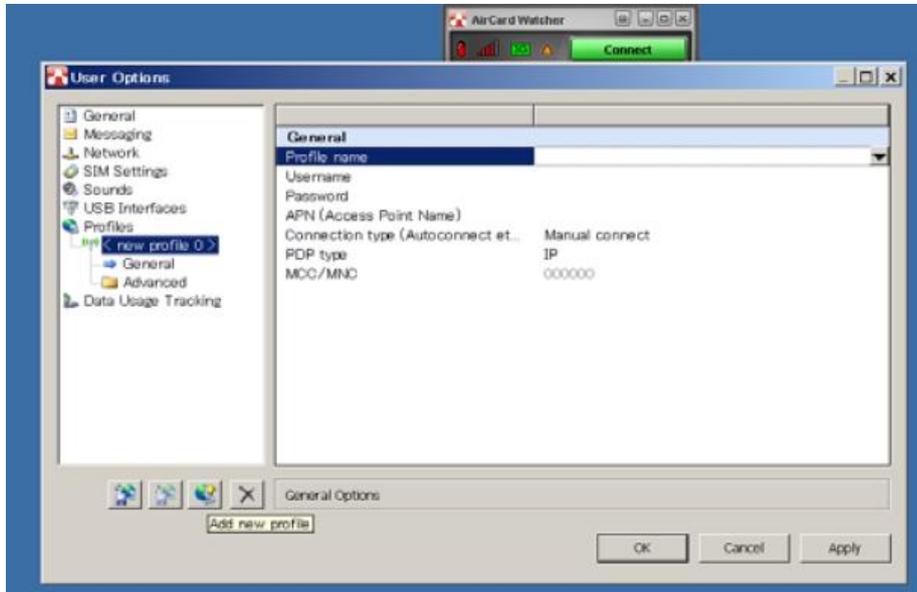
Then you see the followings:



Press Profile.

Input Profile name, User name, Pass word, APN, PDP type (IP only), then press Apply.

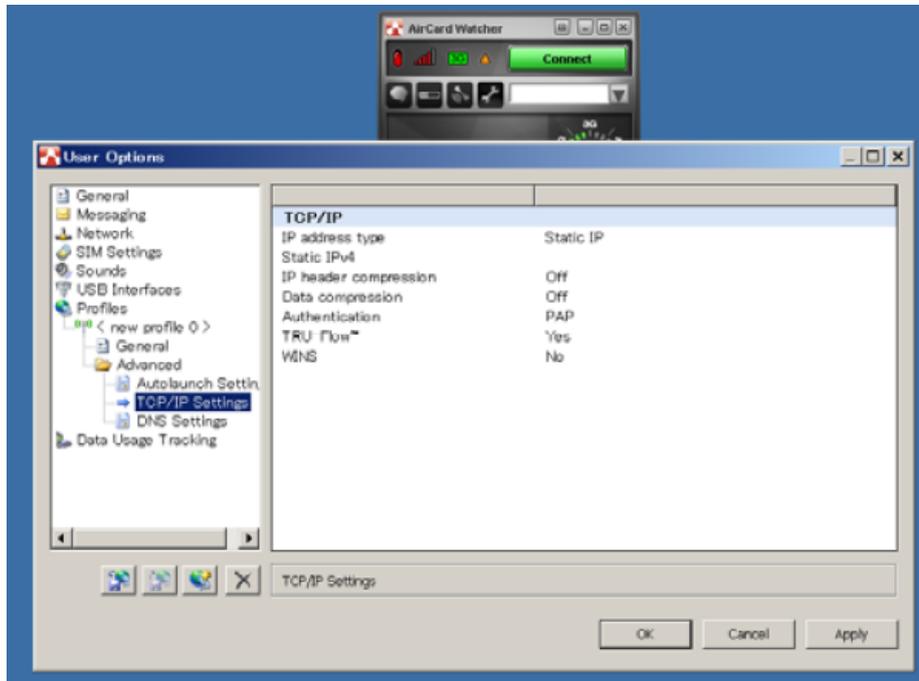
If there is no User name and Password unassigned, you can skip those input.



Press Advanced, Press TCP/IP Setting, select Authentication.

If no Authentication is used, select none.

If no Username and Password are necessary, you can skip this.



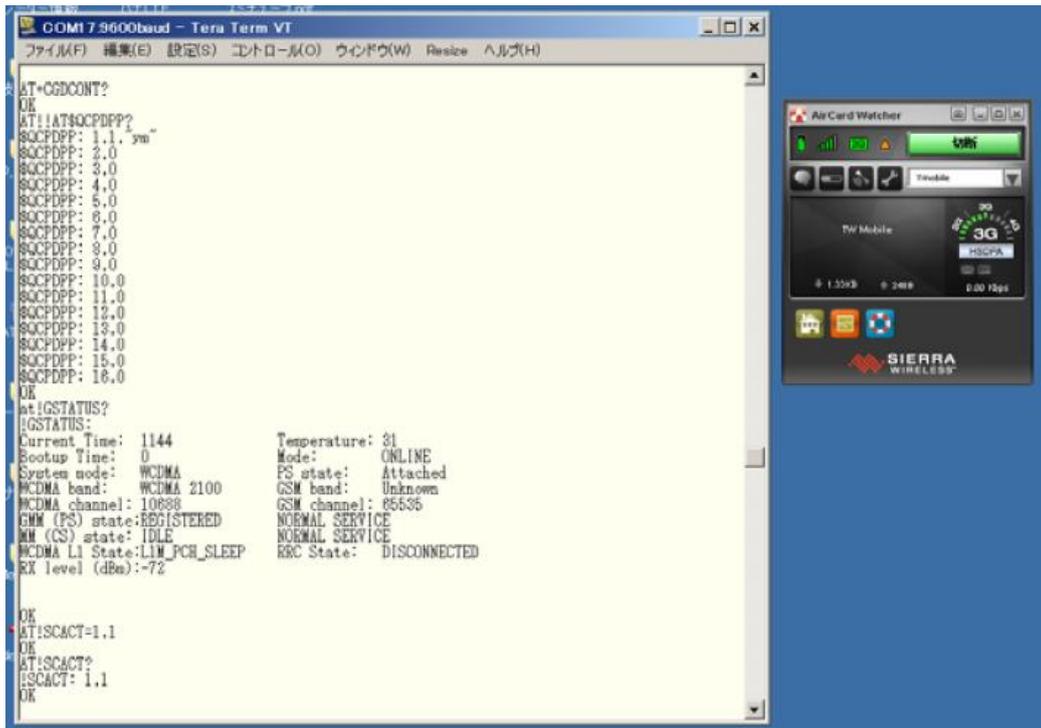
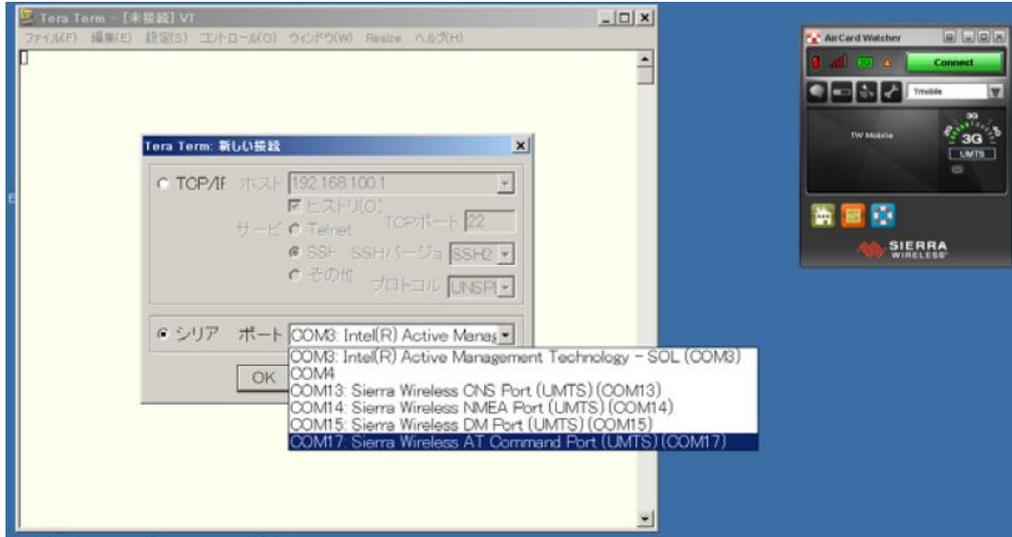
Press connect

The modem is connected to the network, the status connect is changed to disconnect.



4-4-3 Control the modem using AT command

If Watcher is installed, USB driver also is also installed. Following the Chapter 4-3 description, the modem can be controlled by AT command over the terminal soft Tera term.



4-4-4SMS Mail

1) SMS Mail receive

Send SMS mail from your mobile phone or smart phone to ADP-010-RU, the phone # depends on your SIM set to ADP-010-RU



When the mail is received, an alarm window with received message will be appeared as above.

2) SMS mail send

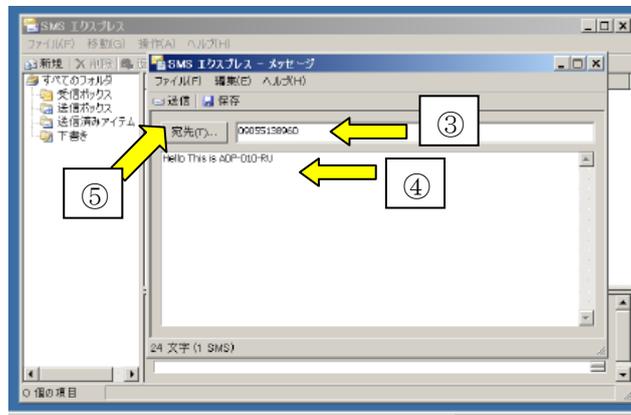
① Press SMS express SW



② Press new message



- ③Input Phone # you want to send SMS mail to.
- ④Write your message.
- ⑤Press send



You will see the message from ADP-010-RU on your mobile phone.

5. Description of antenna

The antennas of this device include attached antennas and separately sold optional antennas. This section describes manufacturers, part number, and features of the antennas.

For the detailed data of antennas, refer to the antenna data sheets.

For the antenna data sheets, contact the sales department of TOMEN.

5.1 Attached antenna

Attached antennas include an internal antenna built into the device and external antenna.

Internal/External	Maker	Part No,	Features
Internal antenna	Taoglas	FXP14B.07.008A	Hexa-Band Cellular Antenna 850/900/1700/1800/1900/2100MHz
External antenna	SAGA DENSHI KOGYO CO., LTD.	RTA/MG827-X-SMAP	GSM/ UMTS/Wireless LAN 730-940、 900-960、 1660-2500MHz

FXP14B.07008A



RTA827-X-SMAP



MG827-X-SMAP



For selecting the internal and external antennas, refer to "3-3 Operating the antenna selector switch".

External antennas include different part numbers depending on cable length and installation method, but they are basically the same with the same characteristics and performance. When ordering, check the part number according to the desired cable length and installation method.

Part No.	Mounting	Cable length
MG827-X-SMAP	Magnet mount	X: 1=1m, 3=3m, 5=5m
RTA827-X-SMAP	Screw mount	X: 1=1m, 3=3m, 5=5m

5-2 Optional antennas

For this device, separately sold optional antennas can be purchased for your application.

Maker	Part No.	Features	Application
Taoglas	TG.09.0113	800 MHz to 2200MHz GSM/CDMA/HSPA/UMTS	No RF cable
Taoglas	GA.107	800MHz to 2200MHz magnetic mount antenna for 2G/3G.	No water proof
Taoglas	MA.301	GPS - High gain LNA up to 32dB 850/900/1800/1900/2100 MHz	GPS, cellular combination antenna

Appendix A.

FCC

Date: February 19, 2015

Federal Communication Commission Declaration of Conformity

(DoC) Statement



Model No: ADP-010-RU

Trade name:	TOMEN
Responsible party:	TOMEN Electronics America, Inc
Address:	1798 Technology Drive Suite 210, San Jose, CA95110, U.S.A.
Telephone number:	+1 (408) 248-2520

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 not 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 host machine of this 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.

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:

Any changes or modification not expressly approved by the party responsible for product compliance could void the user's authority to operate the equipment.

Caution: Exposure to radio frequency radiation

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm (8 inches) must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Appendix B.
Industry Canada
Canada Regulatory Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003, Issue 5.

Cet appareil numérique de la classe B est conformé à la norme NMB-003 du Canada.

For Customers in Canada

This device complies with RSS 132 Issue 2 and RSS 133 Édition 5 of Industry Canada (IC).

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of this device.

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes:

- (1) Il ne doit pas produire de brouillage, et*
- (2) L'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.*

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Antenna list

Name of antenna	Antenna type	Impedance [Ohm]	Comment
MG827-1-SMAP	Magnetic antenna 1/4 wave	50	Vendor: Saga Denshi
MG827-3-SMAP	Magnetic antenna 1/4 wave	50	Vendor: Saga Denshi
MG827-5-SMAP	Magnetic antenna 1/4 wave	50	Vendor: Saga Denshi
MG827-10-SMAP	Magnetic antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-1-SMAP	Roof top type antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-3-SMAP	Roof top type antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-5-SMAP	Roof top type antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-10-SMAP	Roof top type antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-1-MG-SMAP	Roof top & magnetic type antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-3-MG-SMAP	Roof top & magnetic type antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-5-MG-SMAP	Roof top & magnetic type antenna 1/4 wave	50	Vendor: Saga Denshi
RTA827-10-MG-SMAP	Roof top & magnetic type antenna 1/4 wave	50	Vendor: Saga Denshi
821B-1-SMAP	Small antenna 1/2 wave dipole	50	Vendor: Saga Denshi
821B-2.5-SMAP	Small antenna 1/2 wave dipole	50	Vendor: Saga Denshi
827-1-SMAP	Window mount type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
827-3-SMAP	Window mount type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
827-5-SMAP	Window mount type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
827-10-SMAP	Window mount type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
MG827L-1-SMAP	Magnetic antenna 1/2 wave dipole	50	Vendor: Saga Denshi

Name of antenna	Antenna type	Impedance [Ohm]	Comment
MG827L-3-SMAP	Magnetic antenna 1/2 wave dipole	50	Vendor: Saga Denshi
MG827L-5-SMAP	Magnetic antenna 1/2 wave dipole	50	Vendor: Saga Denshi
MG827L-10-SMAP	Magnetic antenna 1/2 wave dipole	50	Vendor: Saga Denshi
RTA827L-1-SMAP	Roof top type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
RTA827L-3-SMAP	Roof top type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
RTA827L-5-SMAP	Roof top type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
RTA827L-10-SMAP	Roof top type antenna 1/2 wave dipole	50	Vendor: Saga Denshi
TG.22.0112	Monopole antenna	50	Vendor: Taoglas
TG.22.0111	Monopole antenna	50	Vendor: Taoglas
TG.09.0113	Monopole antenna	50	Vendor: Taoglas
FXP14.07.0100A	Flexible PCB hexaband antenna	50	Vendor: Taoglas
FXP14B.07.0088A	Flexible PCB hexaband antenna	50	Vendor: Taoglas
GA.107	Cellular phone 5 band magnetic telemetric antenna	50	Vendor: Taoglas
GSA.8821.B30111	Cellular phone 5 band I-bar antenna	50	Vendor: Taoglas
MA.203W.A.A301111.B301111	GPS and cellular phone 5 band adhesive antenna	50	Vendor: Taoglas
MA.301.A.A.301111.B301111	GPS and cellular phone 5 band magnetic antenna	50	Vendor: Taoglas
FMM800W	Multiband available built-in antenna	50	Vendor: Nissei Limited
MA111.C.LB.001	GPS/GLONASS and cellular phone 5 band screw antenna	50	Vendor: Taoglas

Caution: Exposure to Radio Frequency Radiation

To comply with RSS 102 RF exposure compliance requirements, for mobile configurations, a separation instance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Appendix C.

For Users in the EU and EFTA:

Date: 6th February, 2018

Declaration of Conformity

We, the under signed, NEXTY ELECTRONICS CORPORATION, hereby declare that the following Product

Manufacturer: NEXTY ELECTRONICS CORPORATION

Product: GSM/WCDMA Mobile Adaptor

Model: ADP-010-RU

Brand: NEXTY Electronics

is in conformity with all the provisions of the following EU directive with meeting the related test standards:

2014/53/EU (RE Directive).

EN 301 511 V9.0.2

EN 301 908-1 V11.1.1

EN 301 908-2 V11.1.1

EN 301 489-1 V2.1.1

EN 301 489-3 V2.1.1

EN 301 489-52 V1.1.0(Draft)

EN 303 413 V1.1.1

EN 55032: 2015+AC :2016 Class B

EN 55024: 2010

EN60950-1: 2006 + Amd.11: 2009 + Amd.1: 2010 + Amd.12:2011+Amd.2 :2013

EN62311: 2008

2011/65/EU (RoHS Directive)

EN 50581 : 2012

Notified Body performed an EU-type examination in accordance with the requirements of Annex III of RE Directive and issued the EU-type examination certificate (Certificate No: ULAR1712397).

Notified Body:

UL Japan, Inc. (No. 1731)

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021, Japan

We hereby declare that the above named product is in conformity to all the essential requirements of RE Directive (2014/53/EU).

NEXTY ELECTRONICS CORPORATION

3-13, Konan 2-chome, Minato-ku, Tokyo, 108-8510 Japan

M. Kagata

Mitsuru Kagata

Specialist, Sales Group J3, Information & Communication Sales Dept.

Appendix 1

- Manufacturer

Company Name: NEXTY ELECTRONICS CORPORATION

Address: 2-3-13, Konan, Minato-ku, Tokyo, 108-8510, Japan

- Importer

Company Name: IHI Europe Ltd.

Address: 2nd Floor, America House, 2 America Square, London EC3N 2LU, U.K.

- WWAN Tx Power

Band	Frequencies (MHz)	SL8080T/ SL808BT/ SL8080BTA	SL8082T/ SL8082BT/ SL8082BTA	SL8084T/ SL8084BT/ SL8084BTA	Conducted Tx Power	
					Average (dBm)	Notes
GSM Bands						
GSM 850	Tx: 824–849 Rx: 869–894	✓	✓	✓	+33 ± 2	GMSK (Class 4)
					+27 ± 3	8PSK (Class E2)
EGSM 900	Tx: 880–915 Rx: 925–960	✓	✓	✓	+33 ± 2	GMSK (Class 4)
					+27 ± 3	8PSK (Class E2)
DCS 1800	Tx: 1710–1785 Rx: 1805–1880	✓	✓	✓	+30 ± 2	GMSK (Class 1)
					+26 ± 3	8PSK (Class E2)
PCS 1900	Tx: 1850–1910 Rx: 1930–1990	✓	✓	✓	+30 ± 2	GMSK (Class 1)
					+26 ± 3	8PSK (Class E2)
WCDMA Bands						
Band I WCDMA 2100	Tx: 1920–1980 Rx: 2110–2170		✓	✓	+24 +1/-3	(Class 3) Nominal conditions
Band II WCDMA 1900	Tx: 1850–1910 Rx: 1930–1990	✓				
Band V WCDMA 850	Tx: 824–849 Rx: 869–894	✓				
Band VI WCDMA 800	Tx: 830–840 Rx: 875–885					
Band VIII WCDMA 900	Tx: 880–915 Rx: 925–960		✓			

- Operation Frequency

- GSM

- [Up Link]

- EGSM: 880-915MHz
 - DCS: 1710-1785MHz

- [Down Link]

- EGSM: 925-960MHz
 - DCS: 1805-1880MHz

- W-CDMA

- [Up Link]

- Band I: 1920-1980MHz

- [Down Link]

- Band I: 2110-2170MHz

- GPS

- 1575.42 MHz