

GGB-Trio

GNSS/2.5G GSM/GPRS/Bluetooth Module

User Manual



Document history

Version	Date	Updates
0.1	Aug 29, 2016	Creation
0.2	Sep 02, 2016	Modify GGB-Trio software according to mentor's suggestion
0.3	Oct 20, 2016	Add Bluetooth node and Connection Management tab page Display GPS firmware version
1.0	Nov 25, 2016	First formal version

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1. Introduction

Together with the GGB-1916 module you will find utility software. The GGB-Trio software offers a graphical interface that helps you configure the GGB-1916 module.

1.1 System Hardware Configuration

You will need following items to complete your system hardware configuration.

1.1.1 System Requirements

Host Computer

- Microsoft Windows XP (32-bit) / 7 (32- or 64-bit) /10 (32- or 64-bit)
- At least 32 MB RAM
- 10 MB of hard disk space available
- VGA color monitor
- Mouse or other pointing devices
- Available USB port, USB 1.0 or higher

Note: Before opening software, you might need to install .NET Framework 4.0 or later.

1.1.2 Communication Interface

- USB A-Male to Mini-B cable

2. GGB-Trio Overview

The following guidelines will give you some brief instructions on how to use this software.

2.1 GGB-Trio Operation Window

Double click the GGB-Trio.exe that you should be able to see the operation window as Figure 1.

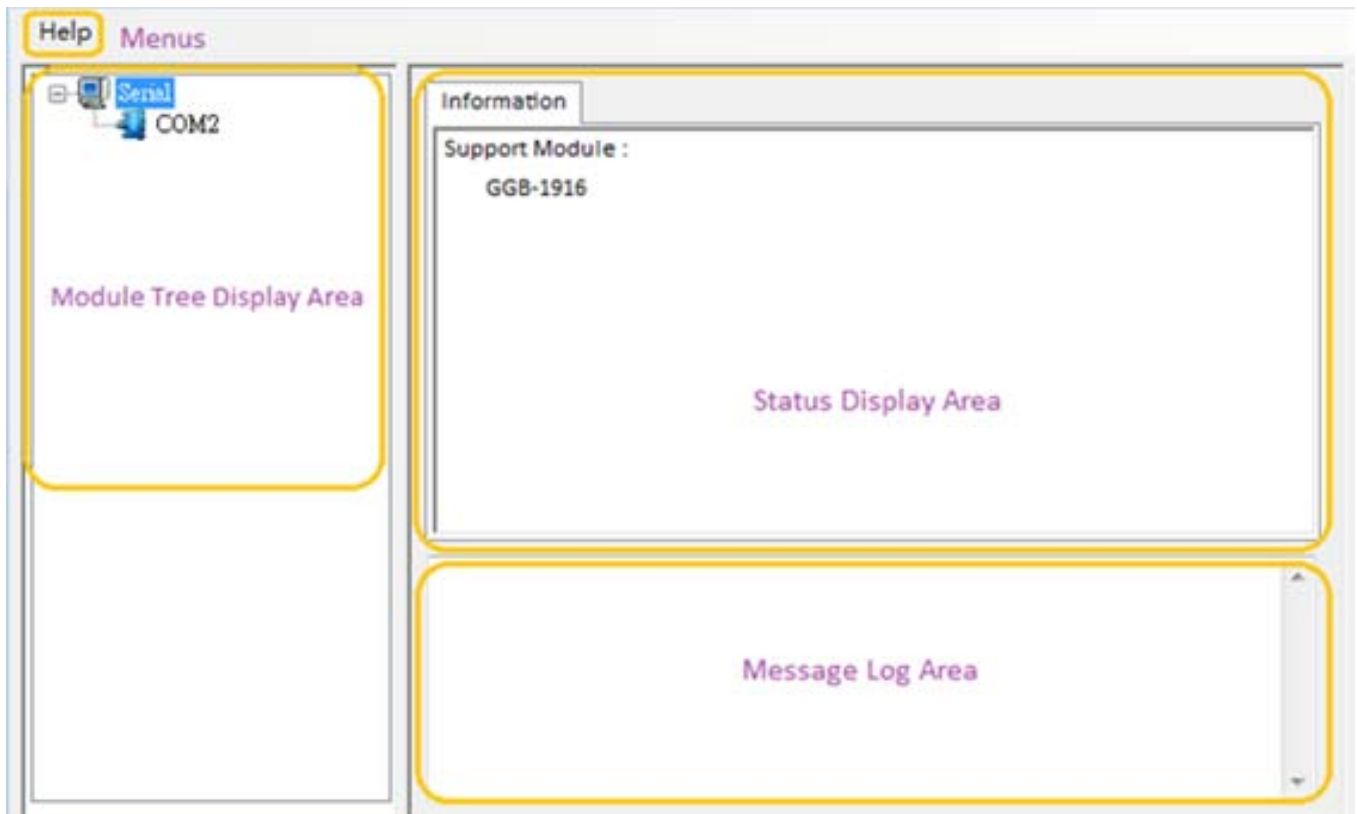


Figure 1: Operation Window

The operation window consists of four areas --- the Menu, the Module Tree Display Area, the Status Display Area and Message Log Area.

2.1.1 Menu

The menu at the top of the operation window only contains Help Menu. Choose this About option; you can see the version of GGB-Trio.

2.1.2 Module Tree Display Area

The Module Tree Display Area is on the left part of the operation window. The serial I/O Module (GGB-1916) connected to the host PC will be listed in this area.

2.1.3 Status Display Area


Status Display Area, on the right upper part of the operation window, is the main screen for operation. When you select different items in Module Tree Display Area, Status Display Area will change dependently. You can do all configurations and test in this area.

2.1.4 Message Log Area

Message Log Area is on the right lower part of the operation window. You can monitor the handshaking between host PC and GGB-1916 module in this area.

2.2 Search the installed module

After you have confirmed the hardware wiring between host PC and your GGB-1916 module, you can find that module on the Module Tree Display Area. Launch GGB-Trio. Select the

COM item on the Module Tree Display Area. Click the  button on the "Setting" tab to establish COM connection. Then right click your mouse on the COM item and select the "Search Module". GGB-Trio will then search the GGB-1916 module. Please do check the COM port and related settings are as follow.

- Bits per second – 115200
- Data Bits – 8
- Parity – None
- Stop bits – 1

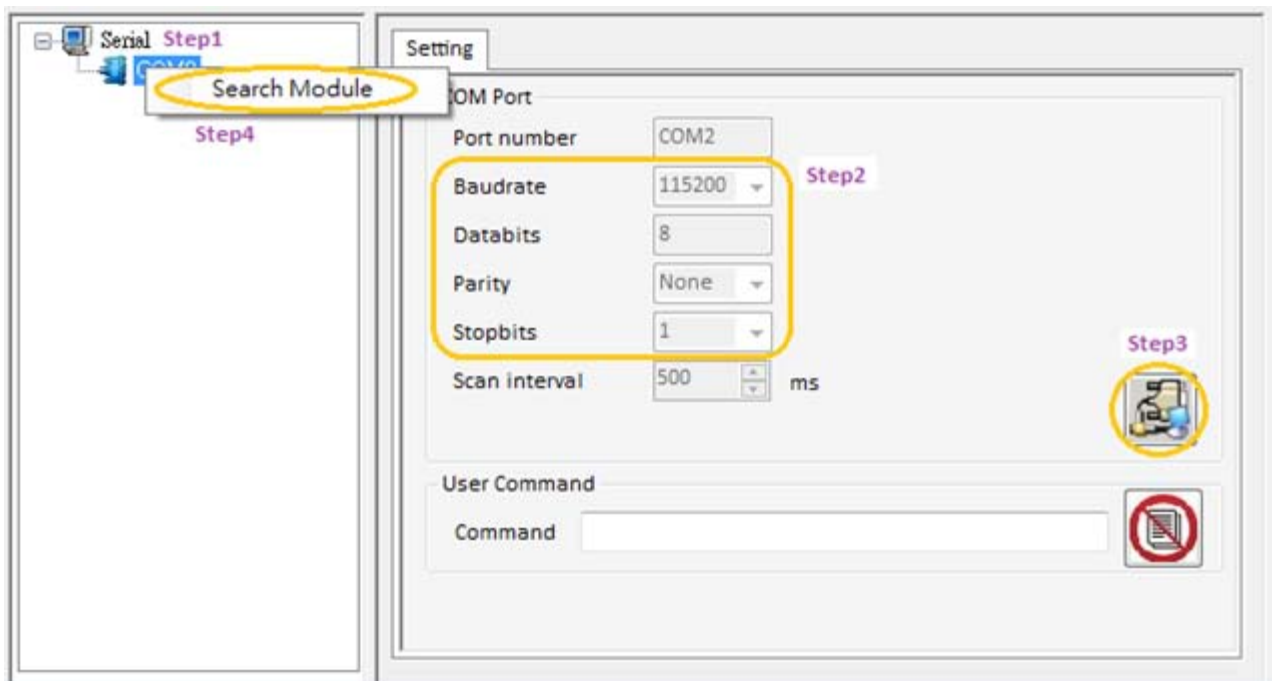





Figure 2: Search screen

Below is detailed information for the five nodes on the Module Tree Display Area and nine tabs on the Status Display Area.

2.2.1 COM Node

● Setting - tab

After the  button on the "Setting" tab is displayed indicating that the serial connection is established, you can send AT command to GGB-1916 module in the User Command Field. You can also click the  button to start the command log function and specify the file location to record the user commands. After the  button in the "User command" field is displayed indicating that the command log function is turned on, the full path of log file will be provided in the contextual hints.

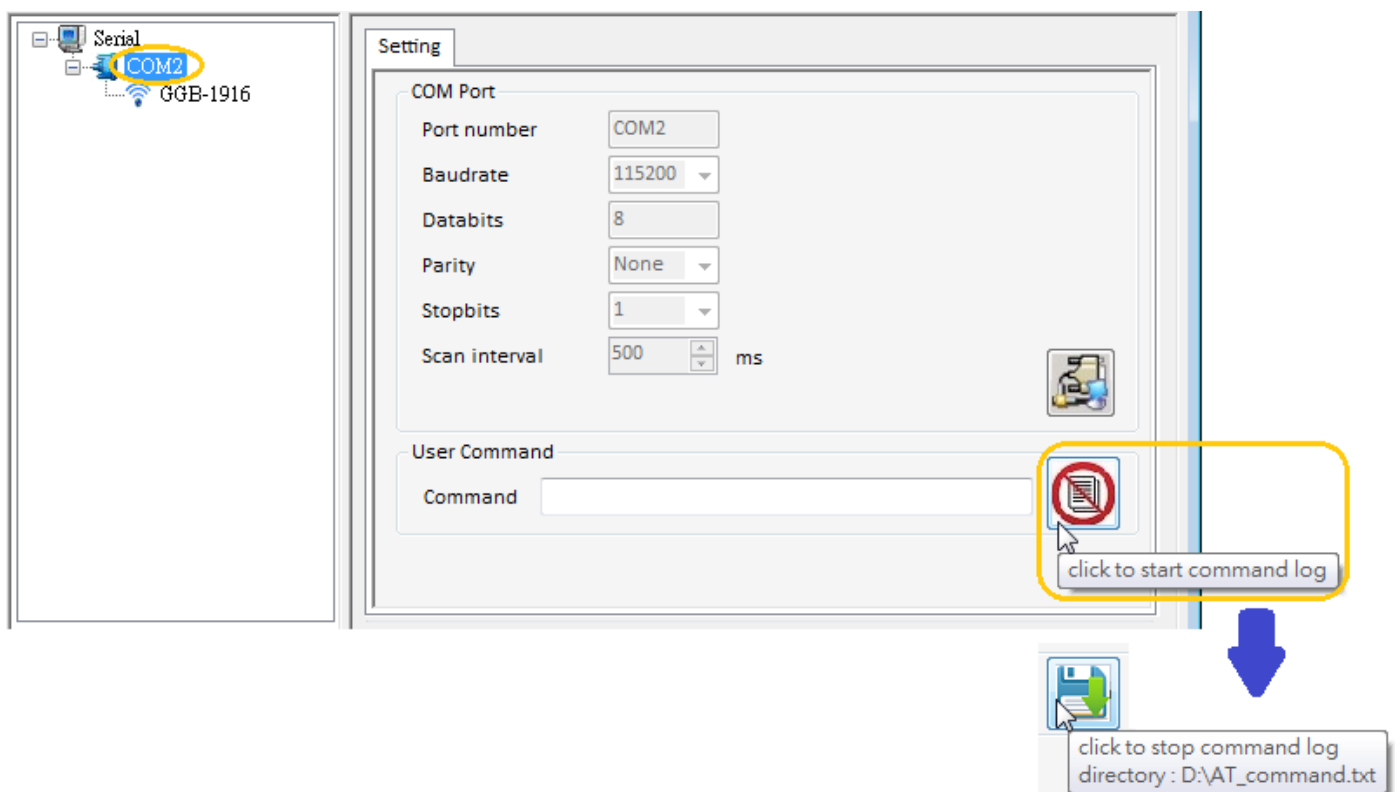


Figure 3: User Command Field

2.2.2 GGB-1916 Node

● Module - tab

You can see the following information in the Identification field.

- International Mobile Equipment Identity (IMEI)
- Serial Number

- Manufacturer Identification
- Model Name
- Firmware Version
- Bluetooth MAC address

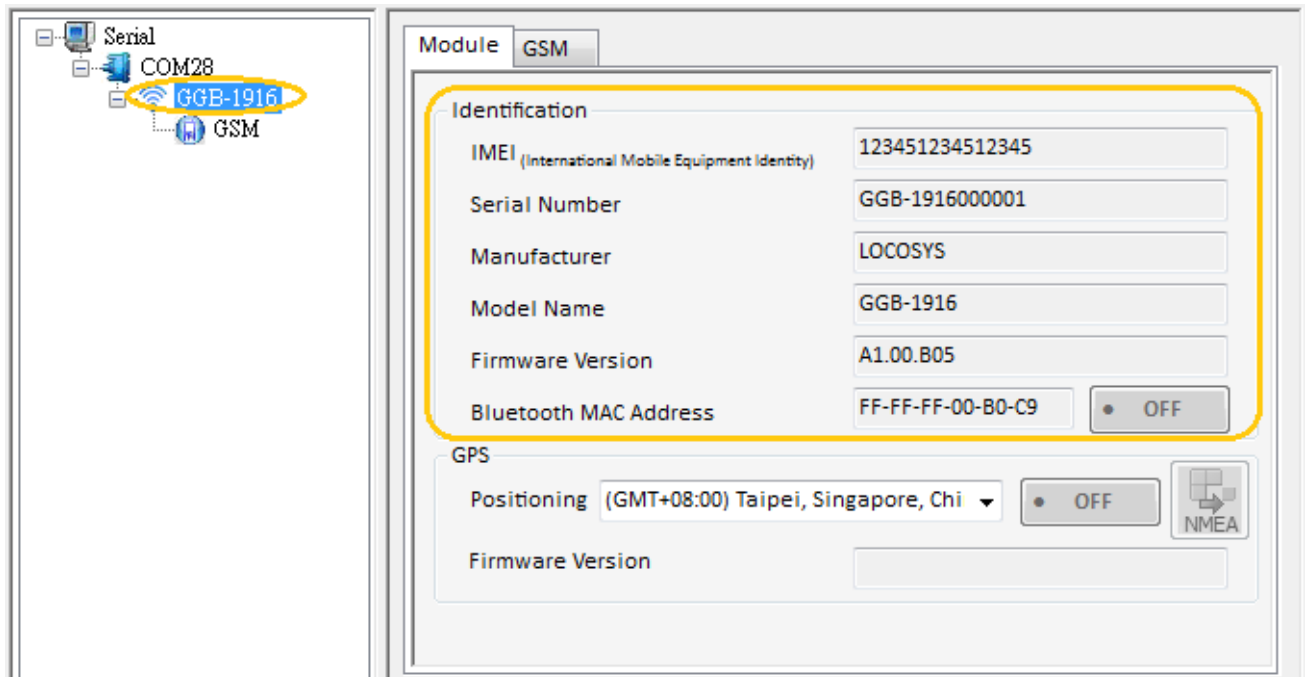






Figure 4: Identification Information Field

You can obtain a position fix through a GPS connection. In the GPS setting field, click the  button to establish the GPS connection. After the  button is displayed indicating that the function is turned on, there is a GPS node shown on the Module Tree Display Area and the GPS firmware version is displayed in the GPS setting field. Then you can click the GPS node to evaluate the GPS function. If you want to display NMEA sentences, please click the  button. After the  button is displayed, you can see the NMEA sentences on the Message Log Area.

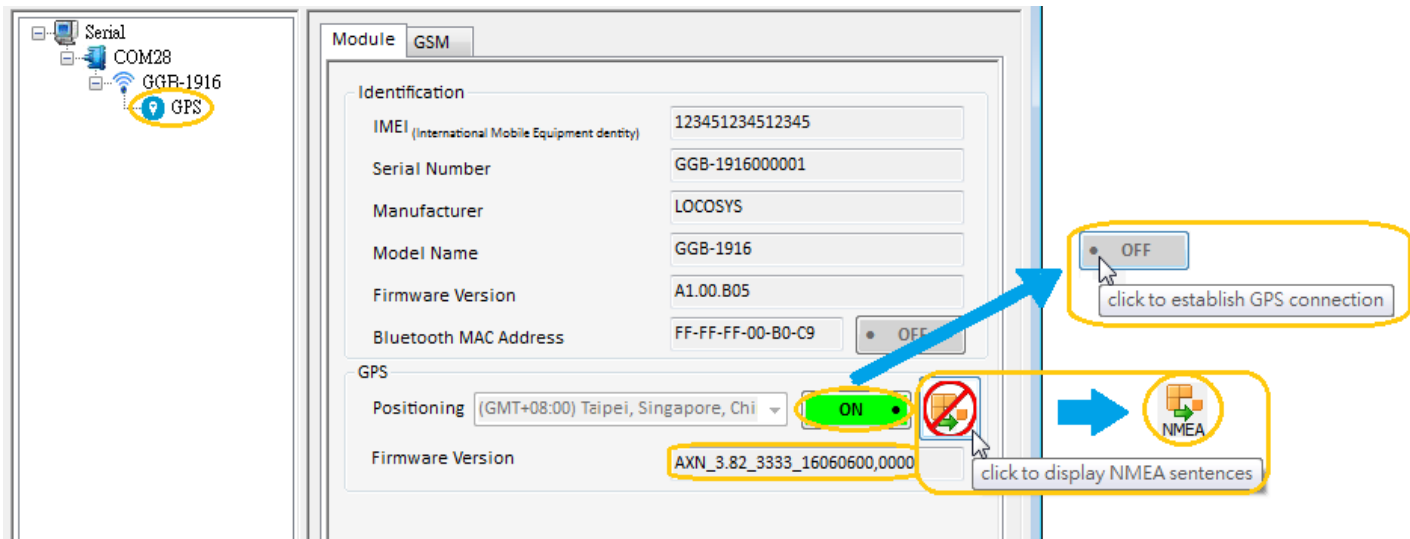


Figure 5: GPS Setting Field

GSM - tab

You can see the following information in the Operator Registered information field.

- Operator name
- Location Area Code
- Tower Cell ID
- Signal Strength (RSSI)

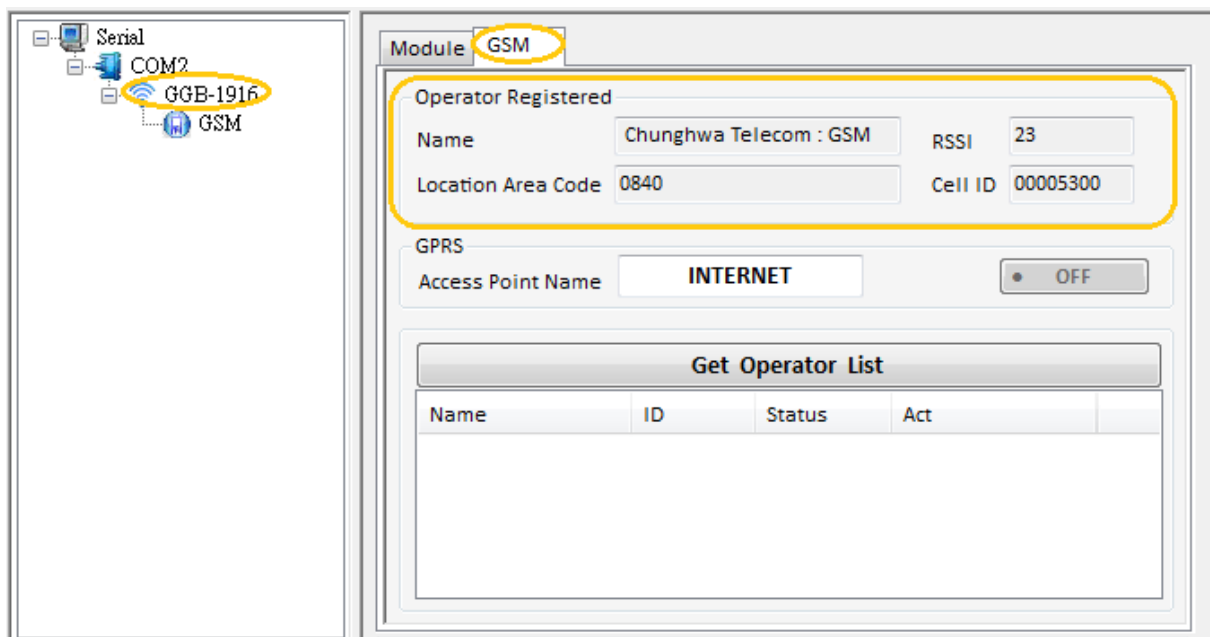


Figure 6: Operator Registered Field

You can also click 「Get Operator List」 button to detect the operators in GSM networks.

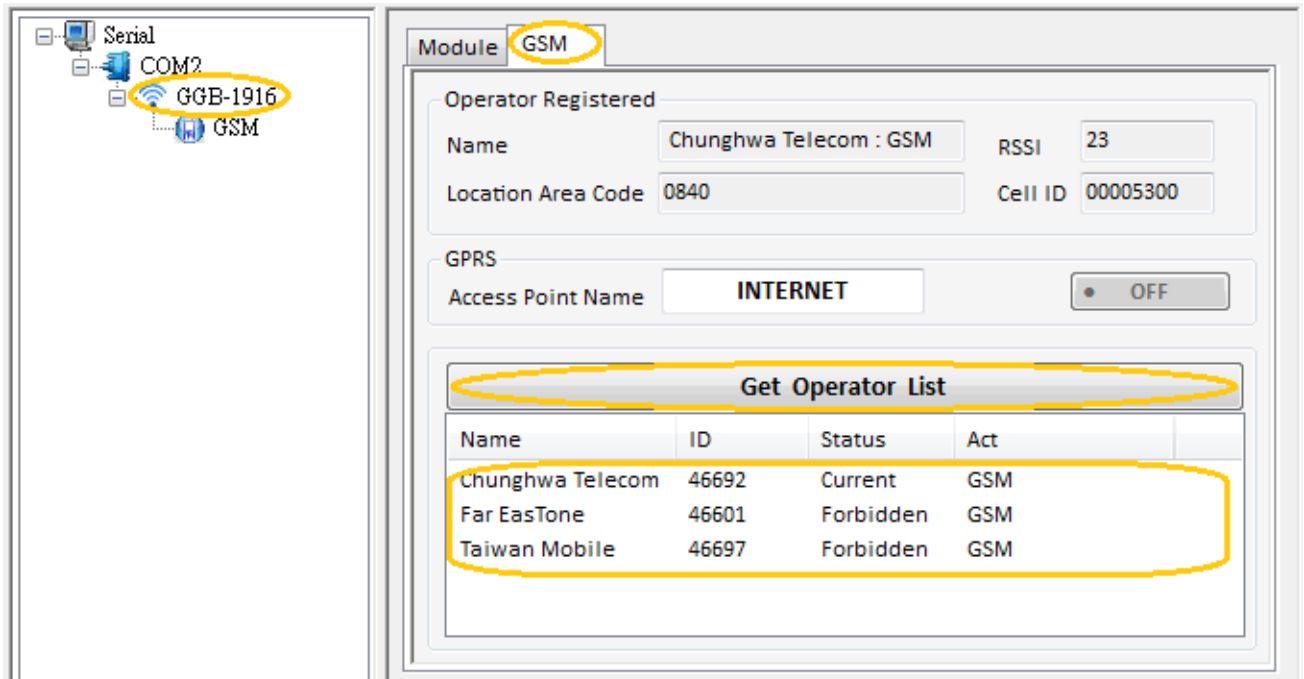
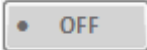



Figure 7: Operator List Field

You can access the Internet through a GPRS connection. In the GPRS setting field, provide Access Point Name and click the  button to establish the GPRS connection. After the  button is displayed indicating that the connection is established, there is a GPRS node shown on the Module Tree Display Area. Then you can click the GPRS node to evaluate the GPRS function.

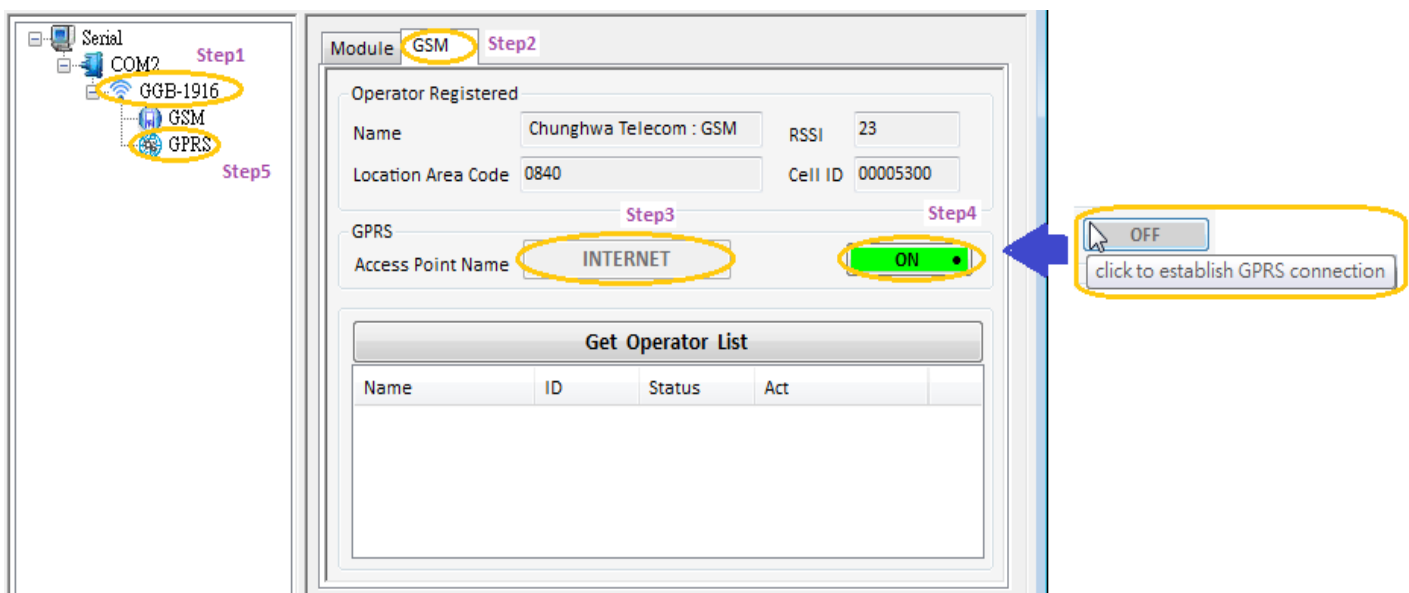



Figure 8: GPRS Setting Field

2.2.3 GSM Node

Call - tab

Click the GSM node shown on the Module Tree Display Area and select Call tab, the dialing interface is displayed. Enter the phone number in the Phone Number Field and click the  button to start the voice call. After the voice call is initiated, the contact information is auto saved to the Recent Contact Field.

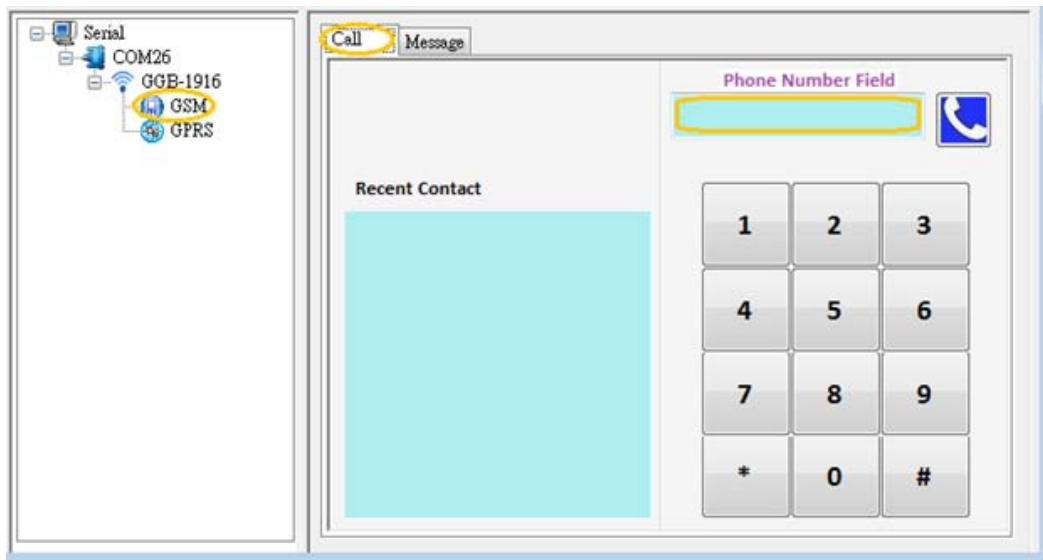


Figure 9: Start a Voice Call

To end the call, click the  button.

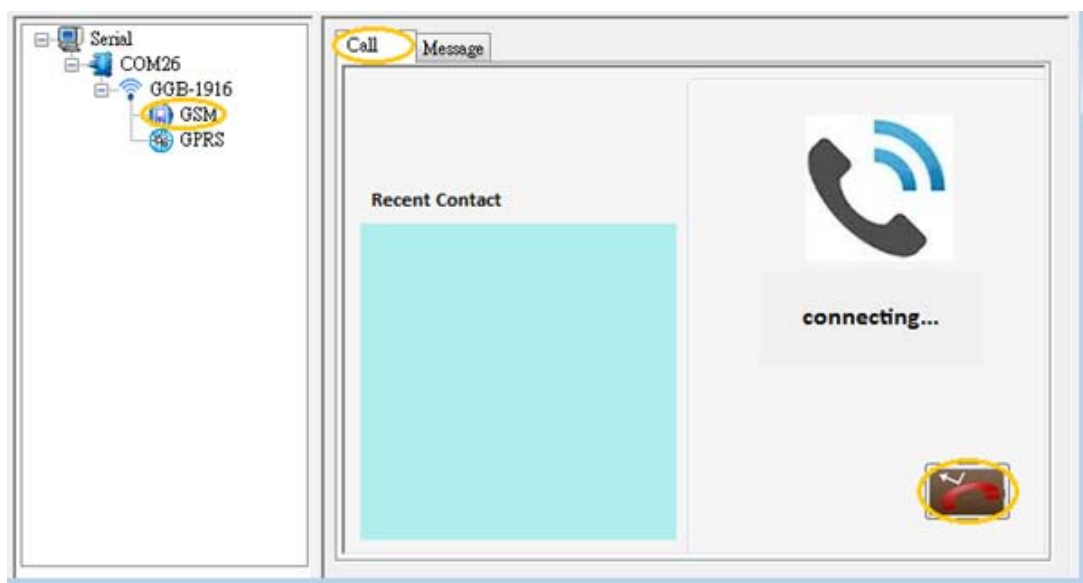



Figure 10: End a Voice Call

Message - tab

Click the GSM node shown on the Module Tree Display Area and select Message tab, the SMS interface is displayed. Enter the phone number in the Phone Number Field and write the SMS message in the Message Content Field. Click the  button to send the message. After the message is sent, the contact information is auto saved to the Recent Contact Field

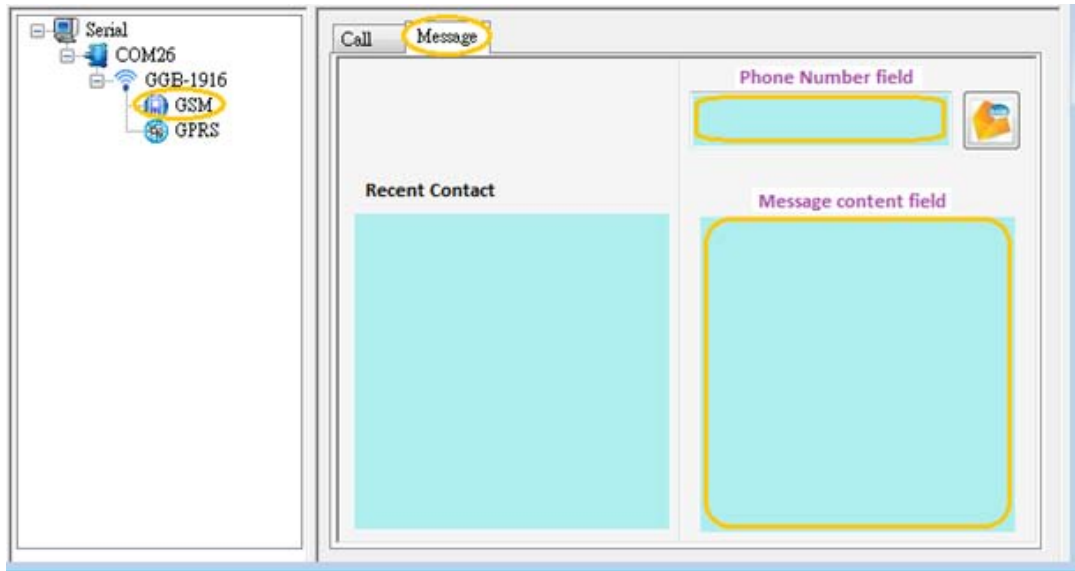




Figure 11: Send a Message

Answer - tab

When a call comes in, the software will be locked to the Answer tab automatically and the RING string is shown in the Message Log Area. You can click the  button to answer the voice call or  button to reject the voice call.

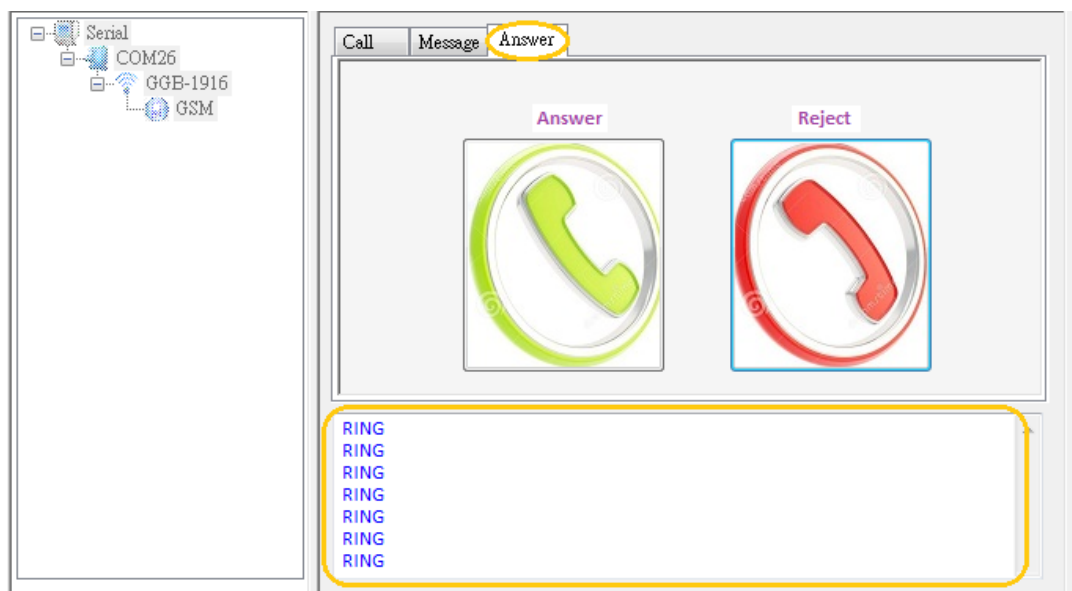


Figure 12: Answer or Reject a Voice Call

2.2.4 GPS Node

Position - tab

Click the GPS node shown in the Module Tree Display Area and select Position tab, the interface contains following information:

- 1) The status of the GPS.
- 2) Your current location on the earth shown as text. When position fixed, you can also click the hyperlink "Show Map" to see your position in Google Maps.
- 3) Your current speed and altitude shown as text.
- 4) The current time read from the GPS and the local time in your current time zone.

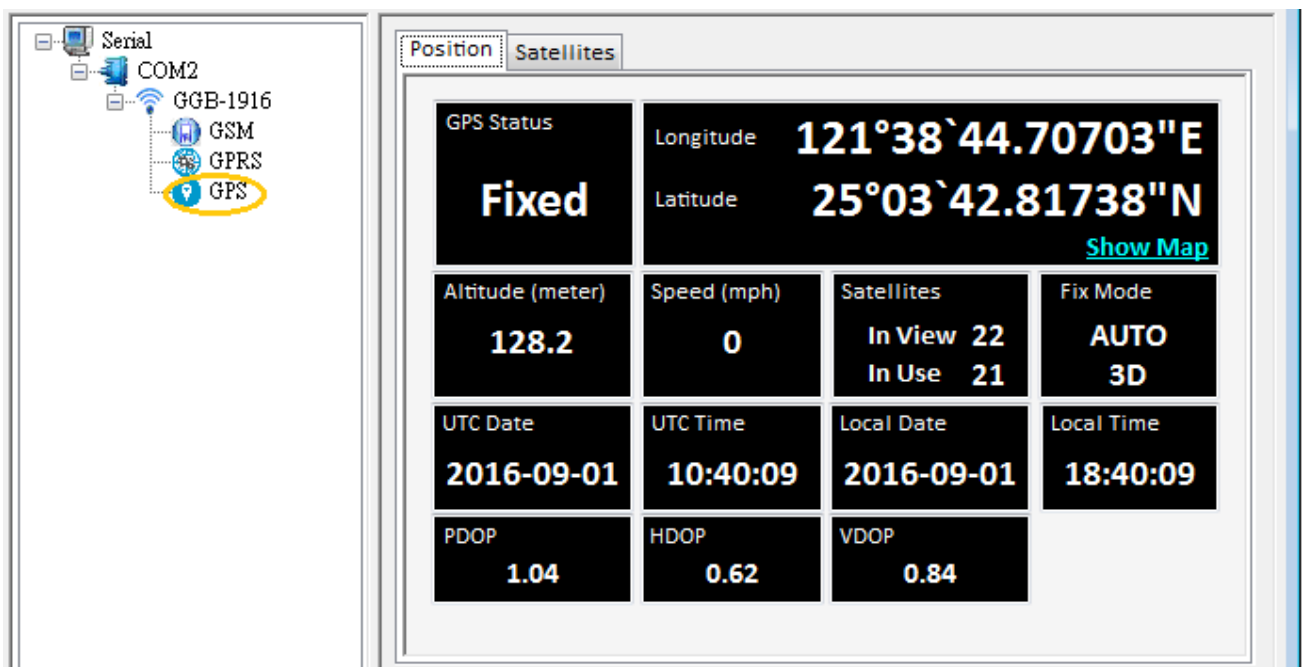


Figure 13: Position Information

Satellites - tab

On Satellite tab, the bar chart shows the signal strength and identification for each satellite. The bar color of the satellite status is:

Color	Description
Light green	Satellites being used in the position solution
Light blue	Satellites being tracked but not used

The label color of the satellite type is:

Color	Description
Light blue	GPS
Orange	GLONASS
Light red	BeiDou

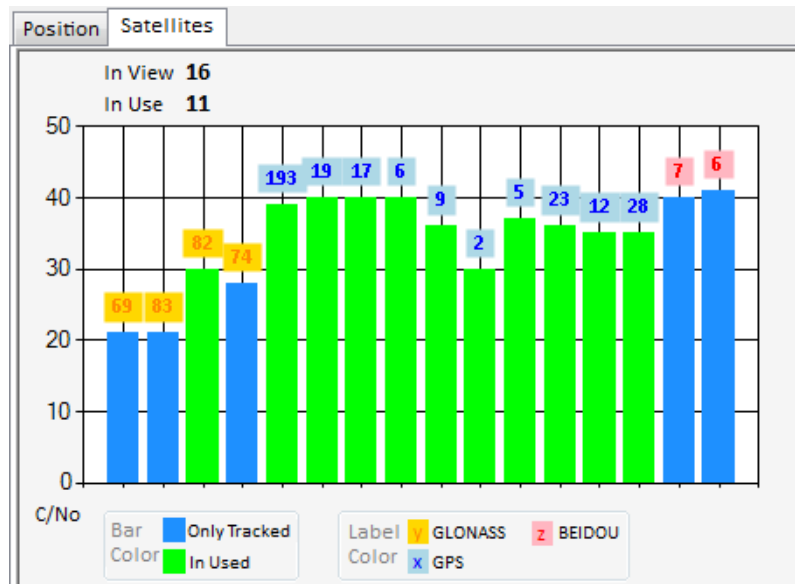


Figure 14: Satellites Information

2.2.5 GPRS Node

SNTP - tab

Click the GPRS node shown in the Module Tree Display Area and select SNTP tab, the GPRS evaluation function is displayed. You can change the time zone according to location. To change the current server, click on drop down and the list of servers will appear. The server pool.ntp.org is the default one. The other two servers are time-nw.nist.gov and tick.stdtime.gov.tw. Choose any one of the given servers. All are equally recommended. Click on "Time Sync" button and then GGB-1916 will communicate with NTP server through GPRS network to get the date and clock information.

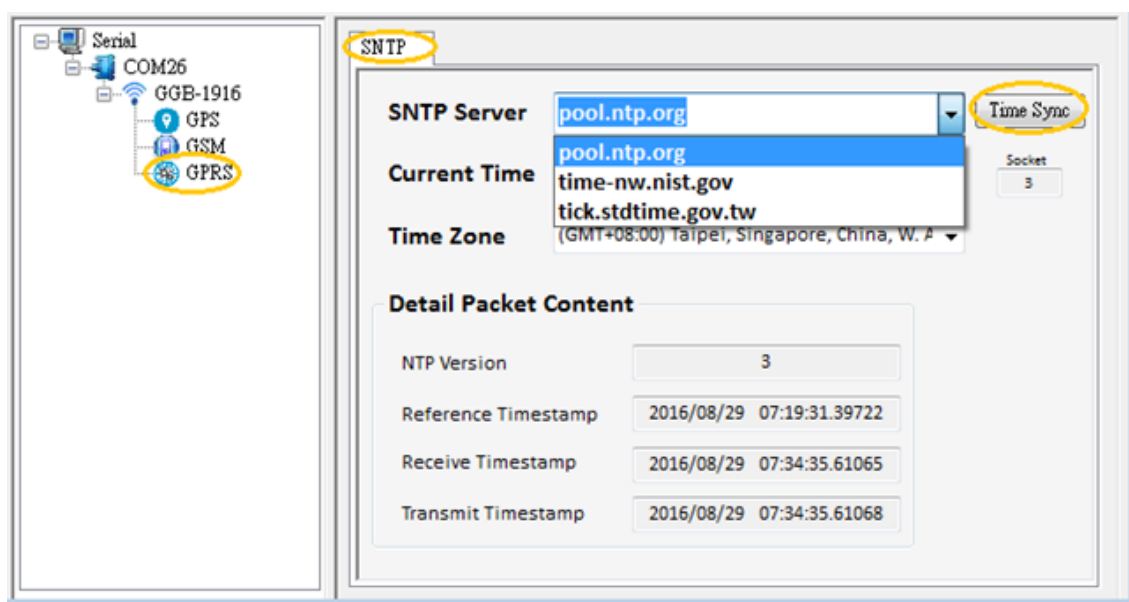


Figure 15: SNTP Evaluation

2.2.6 Bluetooth Node

Management - tab

Click the BT node shown in the Module Tree Display Area and select Management tab, the Bluetooth connection management interface is displayed. You can see the default local device name "GGB1916-BT" displayed in the Local Information field. You can also modify the local device name and then click the change button.

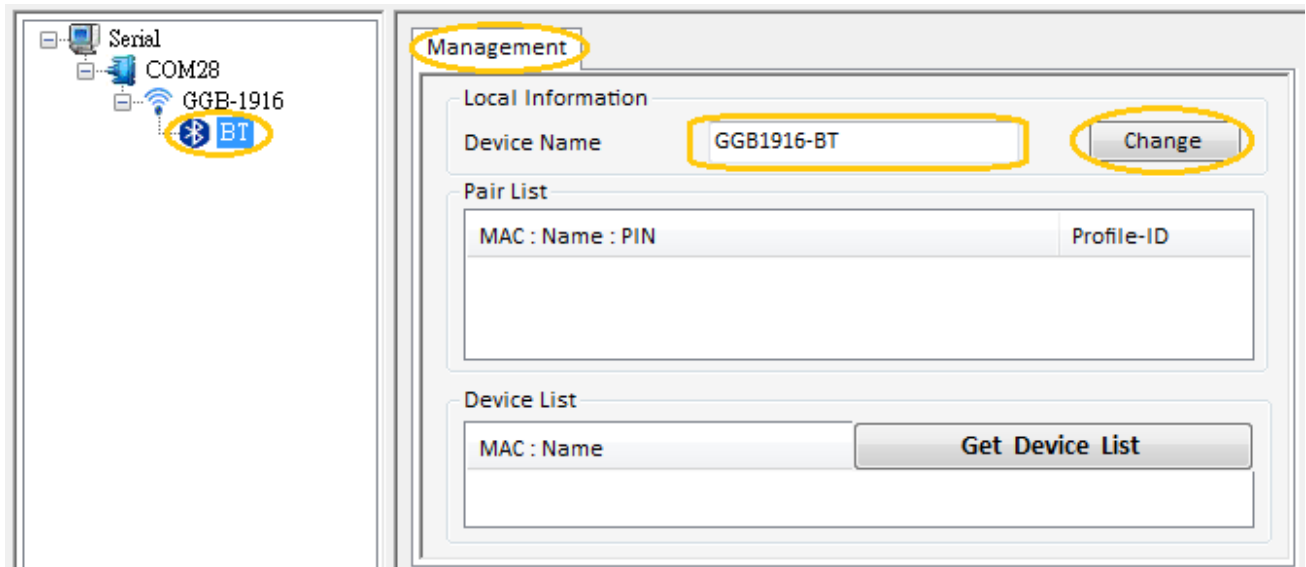


Figure 16: Local Device Name Modification

You can also click 「Get Device List」 button to detect the remote devices in Bluetooth networks. If you want to stop querying device, please click 「Cancel Query Device」 button. This Device List screen will display a list of nearby Bluetooth devices that are in discovery mode.

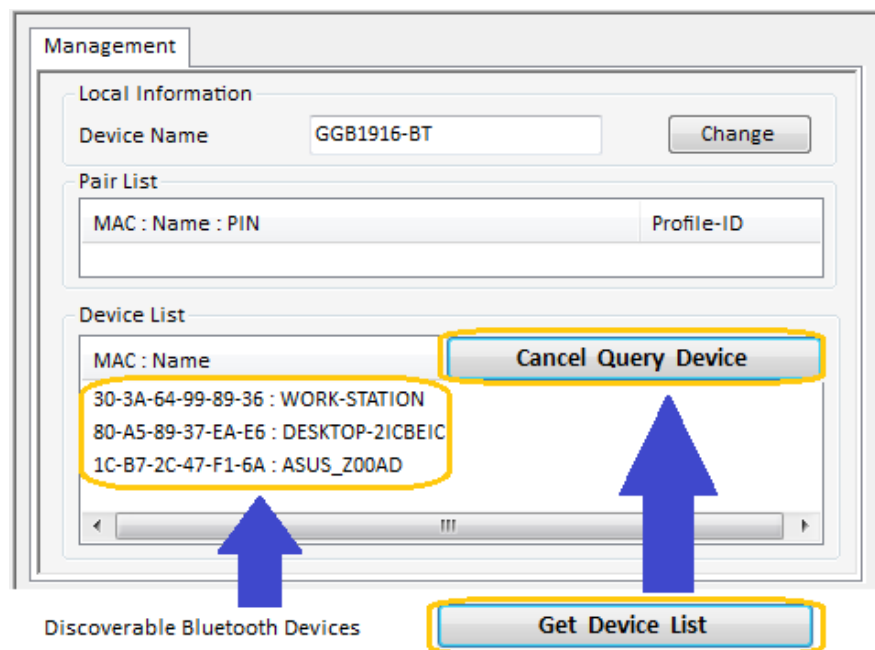


Figure 17: Bluetooth Device List Field

If the remote Bluetooth device that you want to pair is discoverable in the Device List screen. You can right click your mouse on the selected item and select the "Pair Device". You may not have to type the PIN. Instead, you may simply see the PIN displayed in Pair List screen. Just ensure each device shows the same PIN code before continuing. In Pair List screen, you can also right click your mouse on the selected item and select the "Delete Device" to edit the Pair List information.

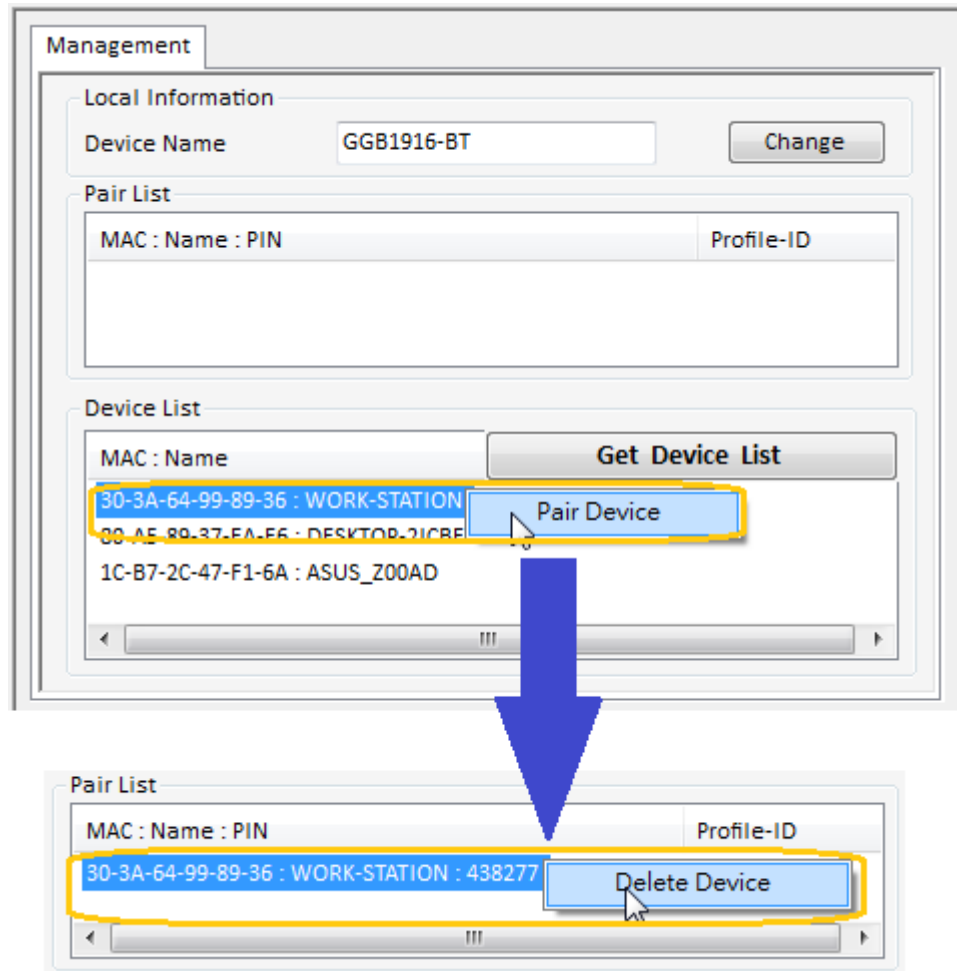


Figure 18: Pair the Device

If GGB1916 accepts the pairing passively, you can also see the paired device in the Pair List screen.

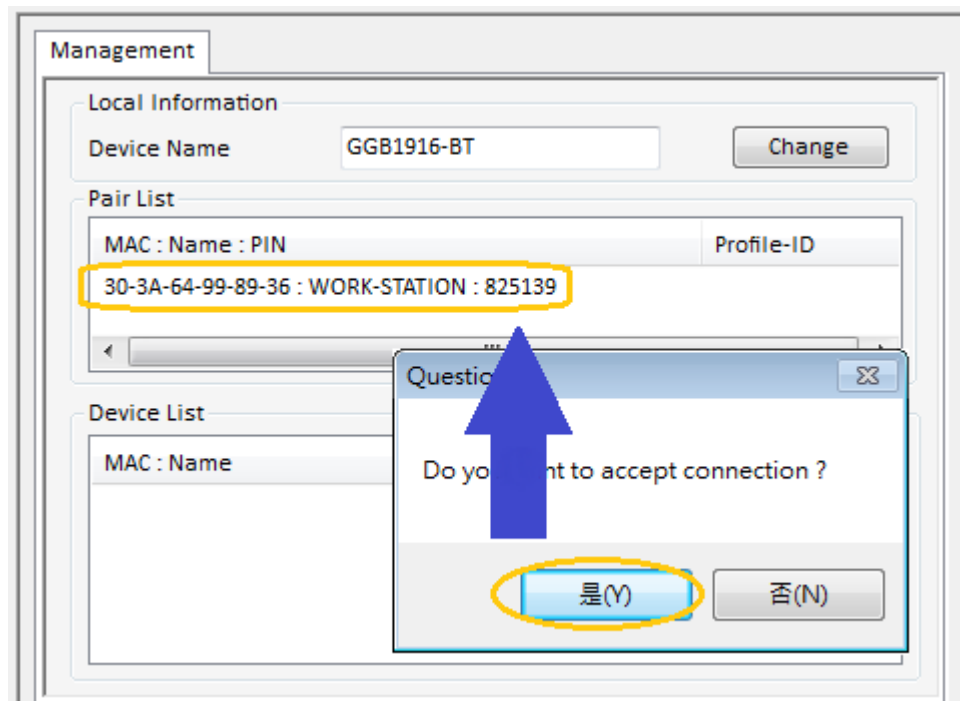


Figure 19: Pair the Remote Device Passively

After the devices are paired, the remote paired device can communicate with GGB-1916 through the Serial Port Profile. By default, the function of Serial Port Profile in GGB-1916 is enabled. After connecting each other, the Serial Port Profile ID 「 4353 」 will be shown in the Pair List screen.

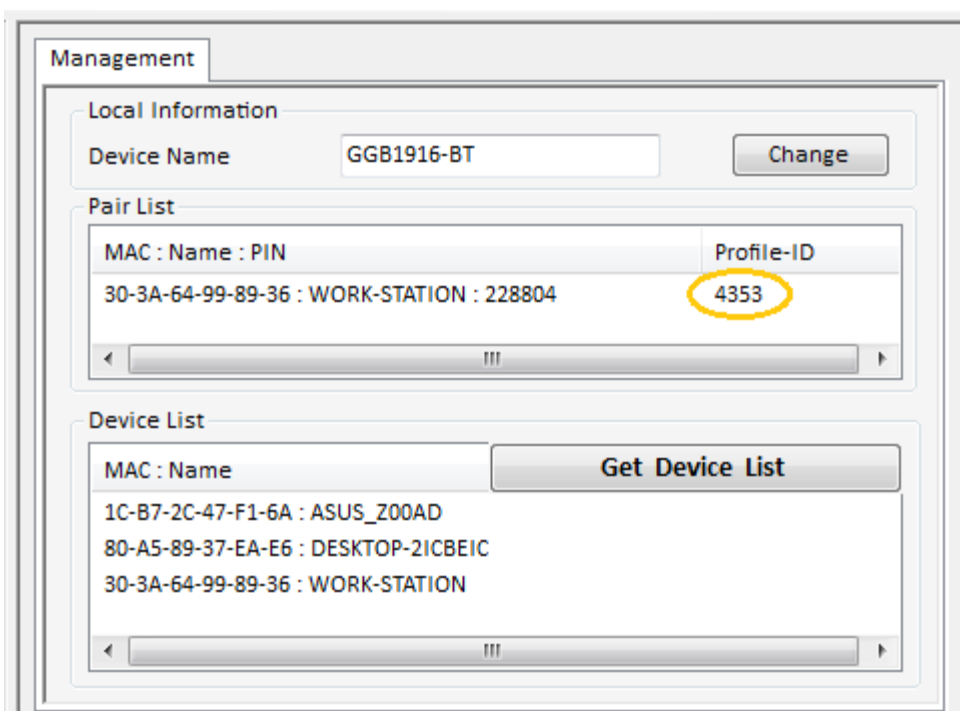


Figure 20: Connect the Device through Serial Port Profile