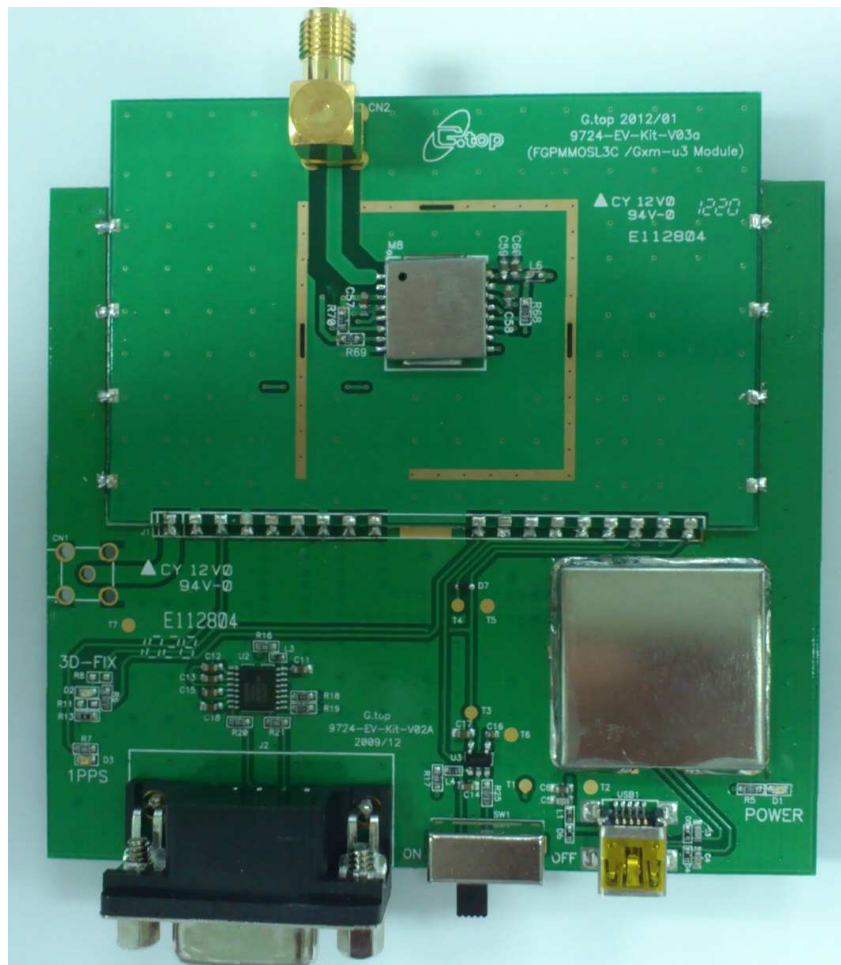


# GlobalTop

## GPS Module EV-Kit User Manual A05





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## **Caution**

- Global position system (GPS) is the property of American Ministry of National Defense; they are fully responsible for the preciseness and maintenance of the system. Any changes they have implemented to the system in the future may enhance or deteriorate the effectiveness and performance of the received GPS data.
- The GPS signal might be cut-off or become seriously weakened if you operate EV-kit inside any infrastructures such as buildings, tunnels, or nearby any huge objects and/or obstruction. The kit has not malfunctioned and will operate properly again once it receives clear GPS signals (works best under open sky).
- To avoid damaging the intricate electronic components and circuitry, please do not place EV-Kit directly under the sun for long periods of time.

## **Packing**

- User Manual / Software Application Program
  - CP210X USB Bridge VCP driver
  - Mini GPS tool with user manual
  - EV-Kit user manual

**Note :** These information will be delivered by mail. Please contact with your dealer.

- USB Cable
- EV-Kit with Main Board 、 GPS Module Board
- External Antenna  
(Not included PA-Series (PA6B 、 PA6C), Gms-Series (u5LP) modules.)



## 1. Introduction

Thank you for purchasing G.top module EV-Kit. The main purpose of this EV-Kit is to simplify the evaluation process to our GPS modules and to help testers operate our products with convenience and ease. G.top module EV-Kit is suitable for use in combination with majority of G.top modules such as: SL-Series (**SL2B, SL3, SL3C**), PA-Series (**PA2, PA4, PA6B, PA6C, PA6H**) and Gmm-Series (**u1, u5LP, u5j**), Gms-Series (**u1LP, u5LP**).

This device can communicate with computer devices via USB, and must be used in conjunction with Mini GPS software application if you wish to record satellites' signal status, time-to-first-fix (TTF), date and time.

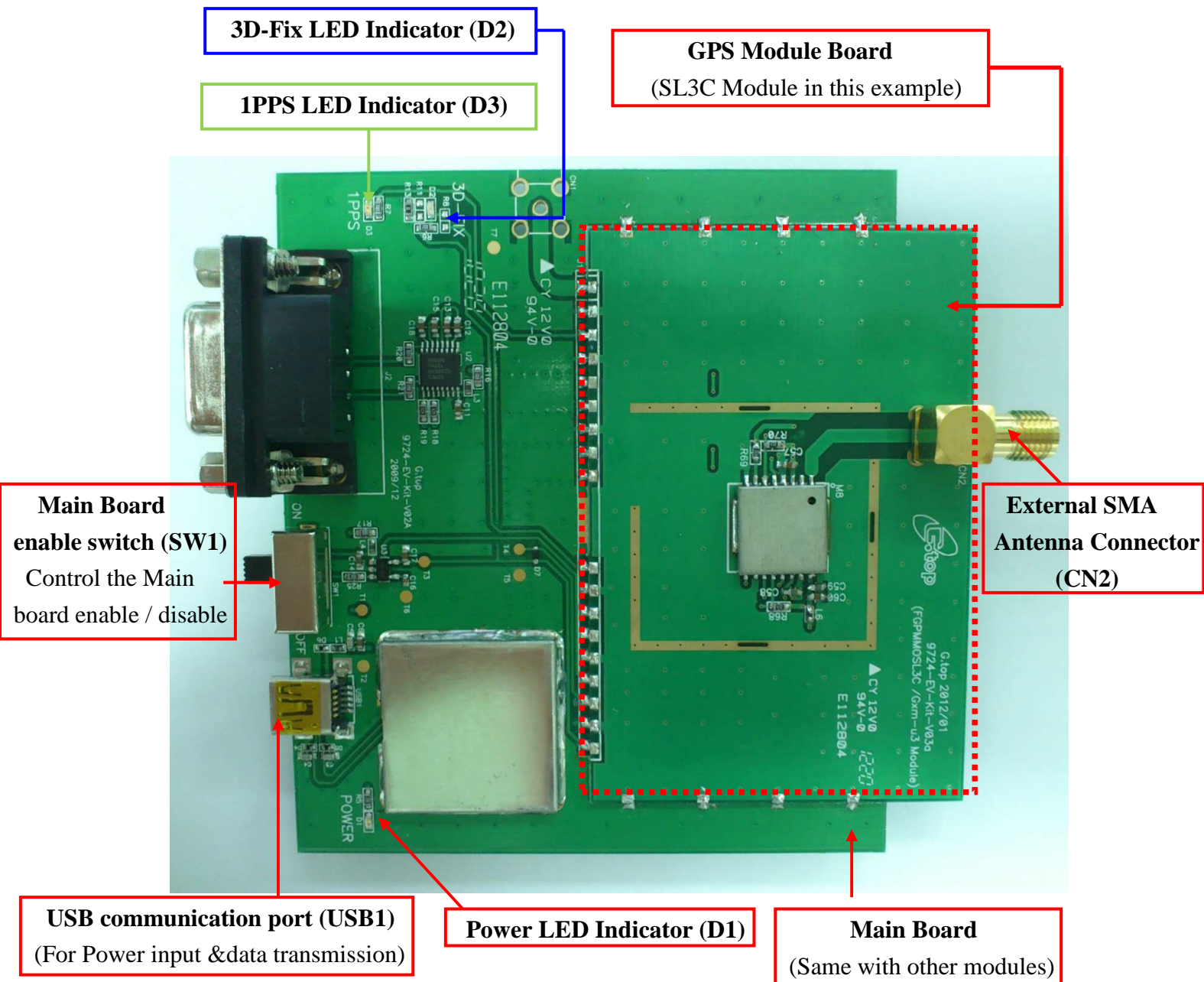
### Features :

- For use with SL-Series, PA-Series, and Gmm-Series, Gms-Series modules board.
- USB communication port.
- External SMA Antenna connector with DC output (optional Models).
- Power LED Indicator (Red)
- 3D Fix LED Indicator (Blue)
- 1PPS LED Indicator (Green)

## 2. Specification

### 2.1 Hardware overview :

The EV-Kit's detail device description is shown below on picture 1



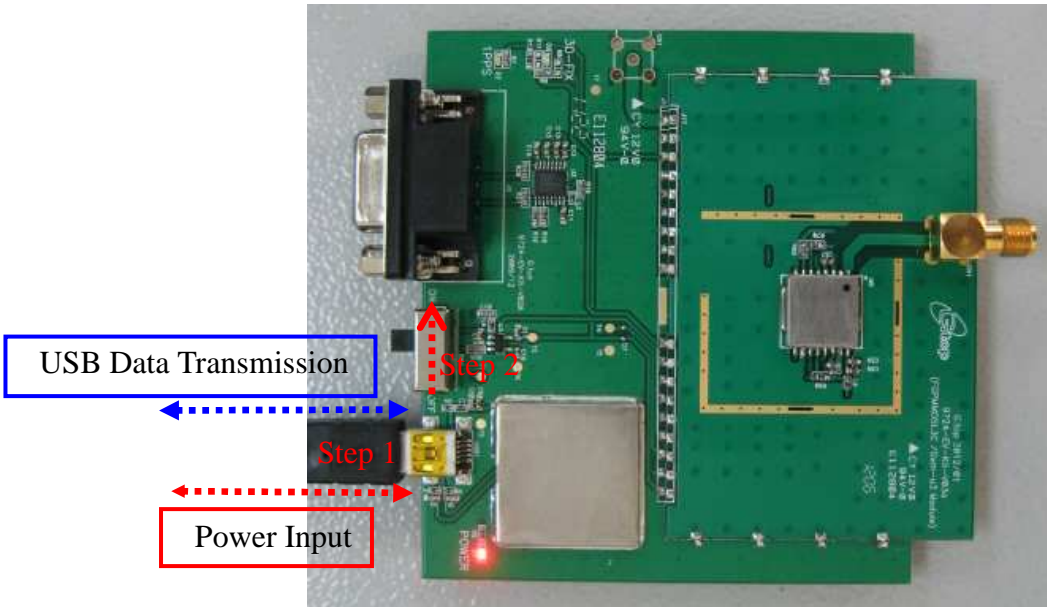
(Picture 1)

### 3. Operating Instruction

#### Step 1: Select the Desired Data Communication Interface

##### 3.1 Via USB port :

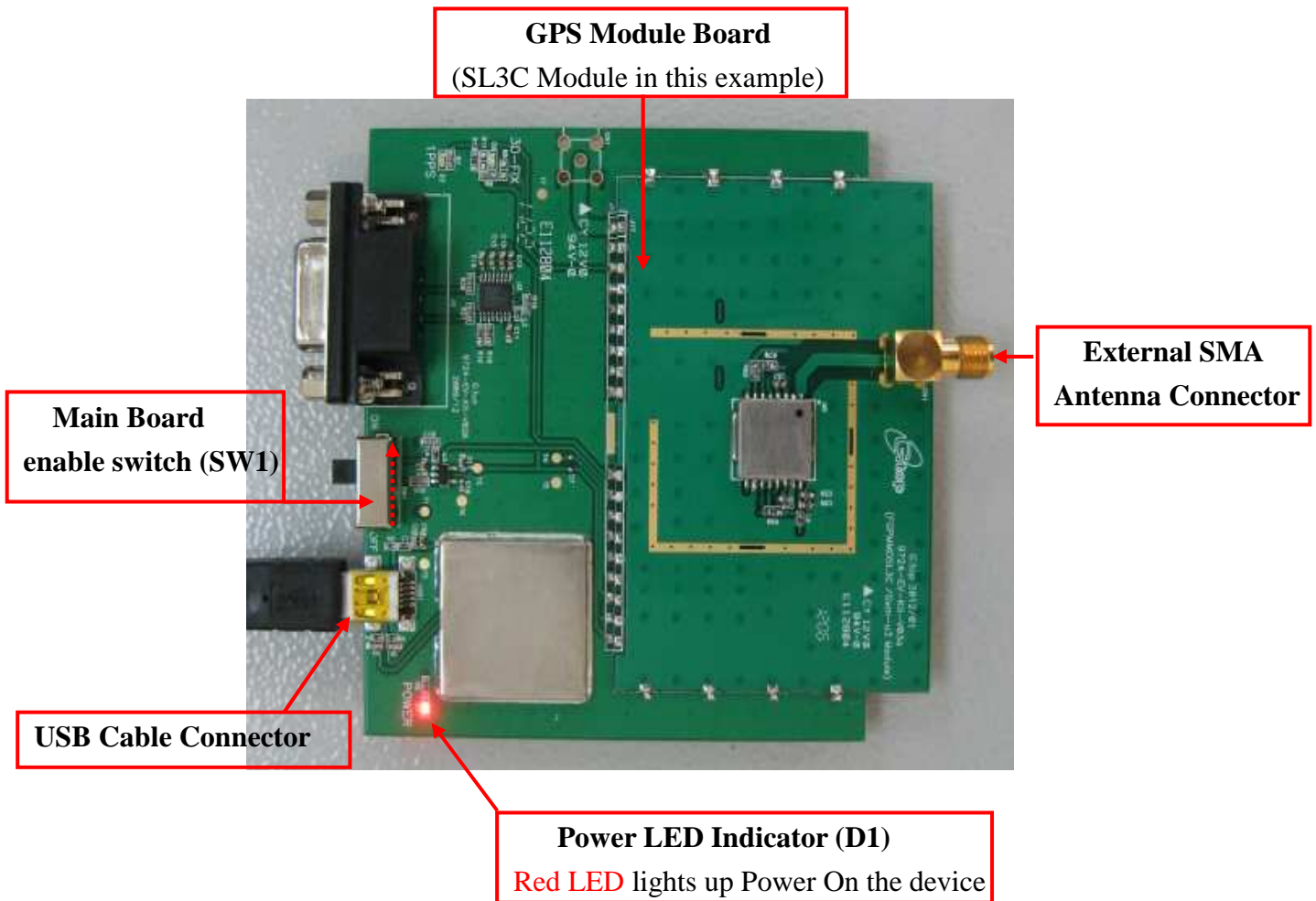
Connect the USB cable between PC and EV-Kit. The USB cable is used to power the EV-Kit and to transfer communication data. This is shown below as picture 2.



(Picture 2)

## Step 2: GPS Module & USB Data Transmission test

- **3.2 GPS Module can be tested by connecting to PC via USB :**
  - 3.2.1 Connect the USB cable and check Power LED Indicator (D1) lights up or not. Show below in picture 3.
  - 3.2.2 Switch on the enable switch (SW1) and check module working or not by Mini GPS system.



(Picture 3)

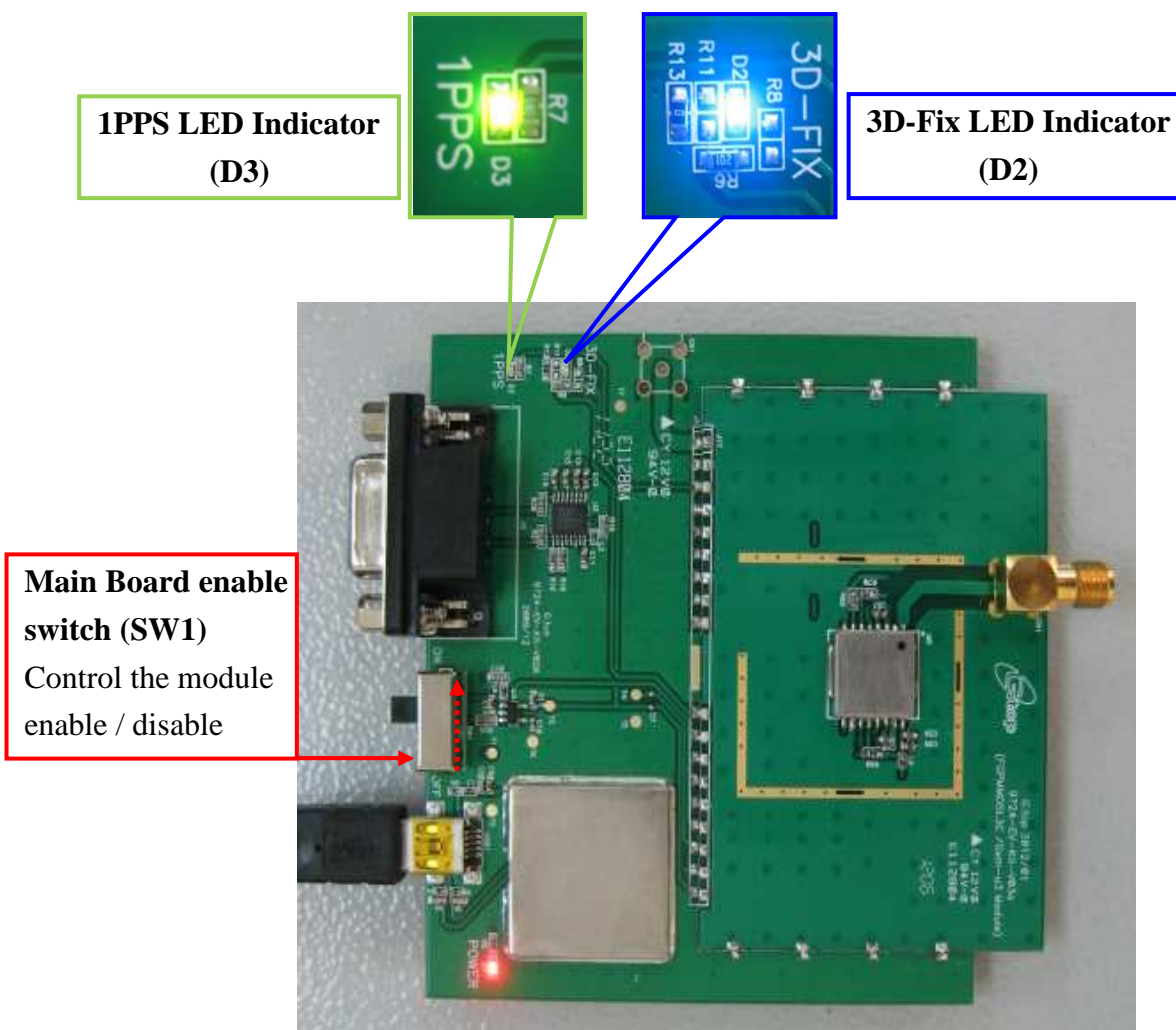
➤ 3.2.3 When Power LED Indicator(D1) lights up and on main board enable switch(SW1) switch on, can find:

--3D Fix LED Indicator (D2) blue blinking

(If firmware parameter **3D-Fix LED blinking setting** enable)

--1PPS LED Indicator (D3) green blinking

(If firmware parameter **1PPS output** enable)



(Picture 4)



## 4. Software Usage

### ■ 4.1 System requirement :

- PC : IBM, Pentium or above or compatible PC ◦
- Memory : 16MB or above ◦
- Display card : VGA compatible
- Operation system : Windows 98/Me/2000/2000XP

### ■ 4.2 Making sure you have the Correct USB Driver :



Please double check you have the correct USB driver before you proceed with the next step. If an incorrect driver is installed, your EV-Kit will not function!

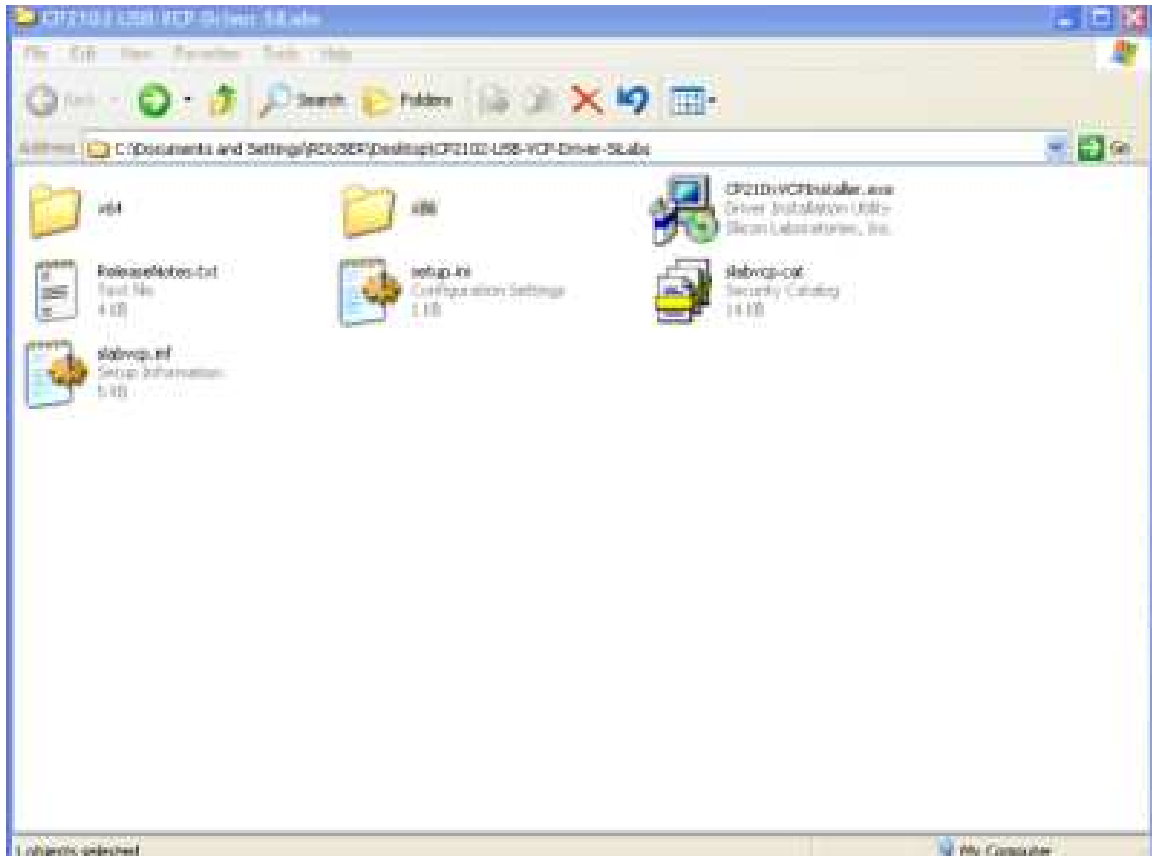
- If you have purchased the EV-Kit for use with [SL-Series, PA-Series, and Gmm-Series, Gms-Series], please make sure you have [CP210xVCPInstaller.zip] installation file in the package, and proceed to the next section: [4.3 Install the USB Driver].

※If you do not have the correct driver, please download it from our site at

<http://www.gtop-tech.com/jsf/download.jsf>

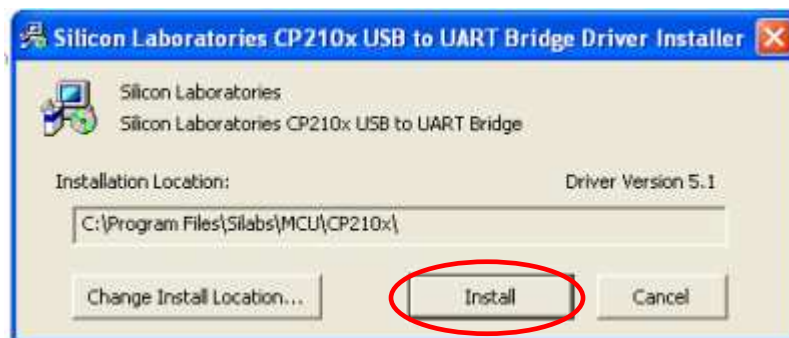
### ■ 4.3 Install the USB Driver :

- 4.3.1 Please extract the file [CP210xVCPInstaller.zip], then follow picture 5 shown below and double click [CP210xVCPInstaller.exe] to begin driver installation.



(Picture 5)

- 4.3.2 Click [Install] as shown on picture 6.
- 4.3.3 After the installation is complete, you may need to restart your computer, please follow the instructions on screen to restart your computer.



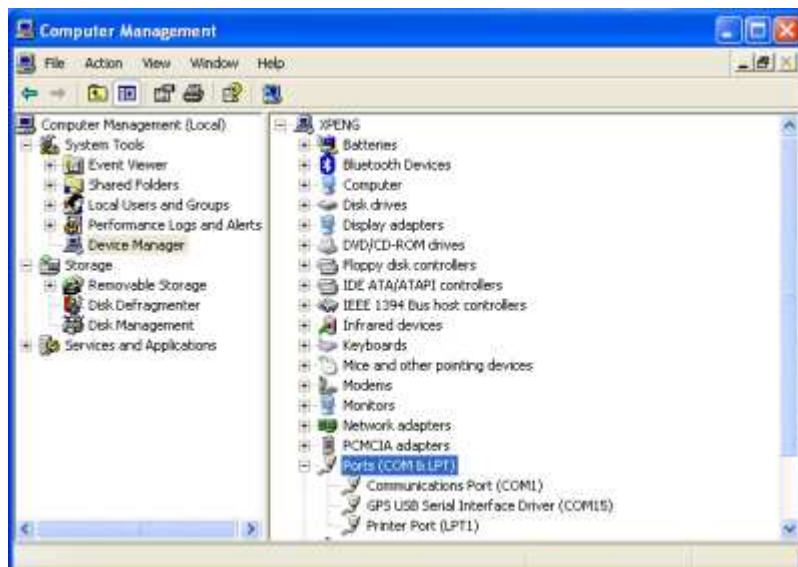
(Picture 6)

- 4.3.4 After the power is on, right click **<My Computer>**, and select **<Manage>**. See picture 7 for example.



(Picture 7)

- 4.3.5 Left click **<Device Manager>**, and select **<Ports (COM & LPT)>**. Check to see if a device named **<Silicon Labs CP210x USB to UART Bridge (COM#)>** is present. If it is present, then EV-Kit is now setup and ready for use. See picture 8 below for example.



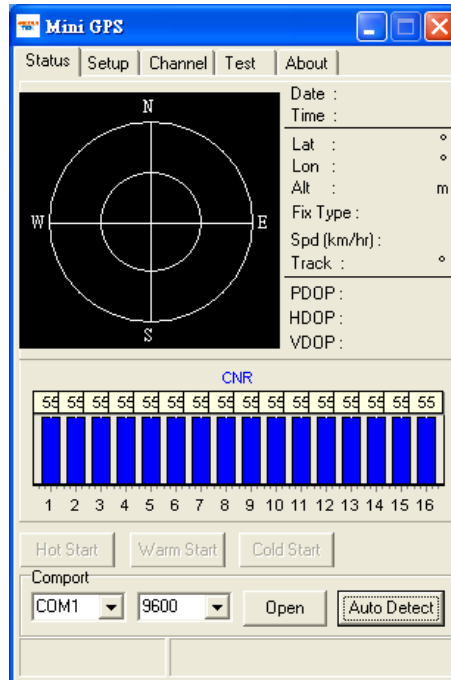
(Picture 8)

“#” represents the virtual COM Port number generated for the USB connection to EV-Kit. This generated COM Port value must match the COM Port value in the program setting for the application to establish proper communication with EV-Kit.

**After completion, please skip forward to [4.4 Mini GPS Software usage]**

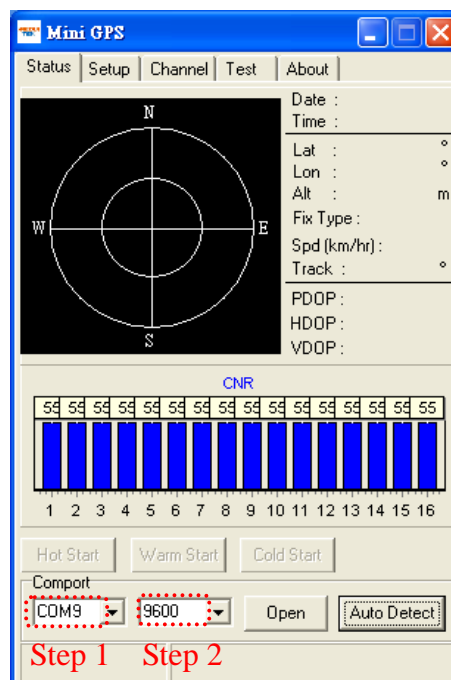
■ 4.4 Mini GPS Software usage :

- 4.4.1 Double click < Mini GPS.exe> to start the application, the main screen of the program should appear like picture 9 shown below.



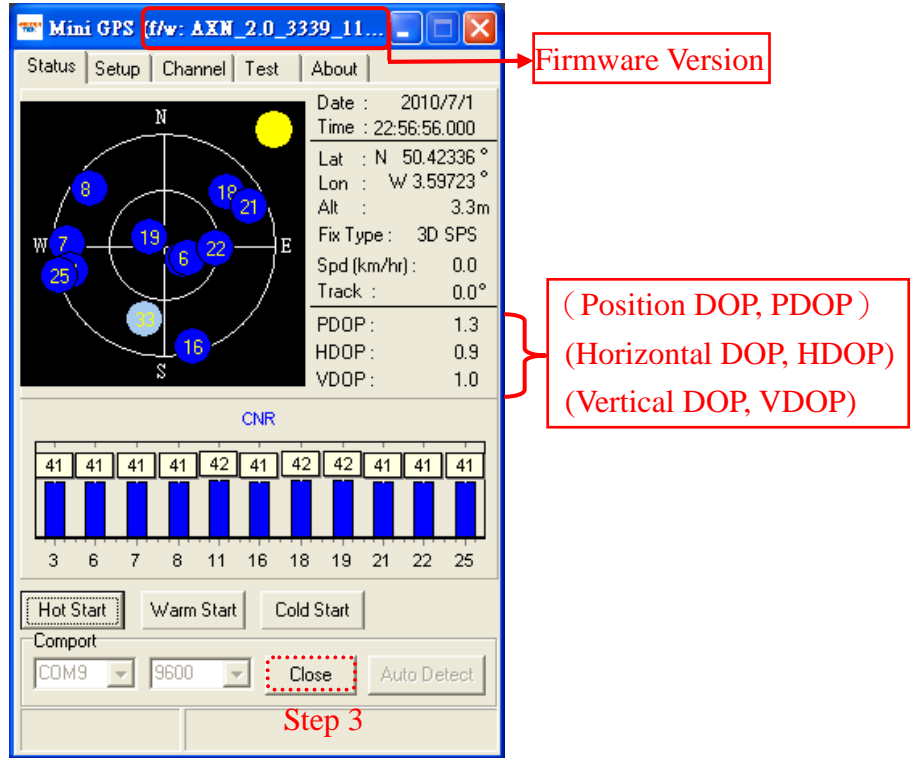
(Picture 9)

- 4.4.2 Select the appropriate <COM Port> and < Baud Rate > value, like picture 10 shown below.

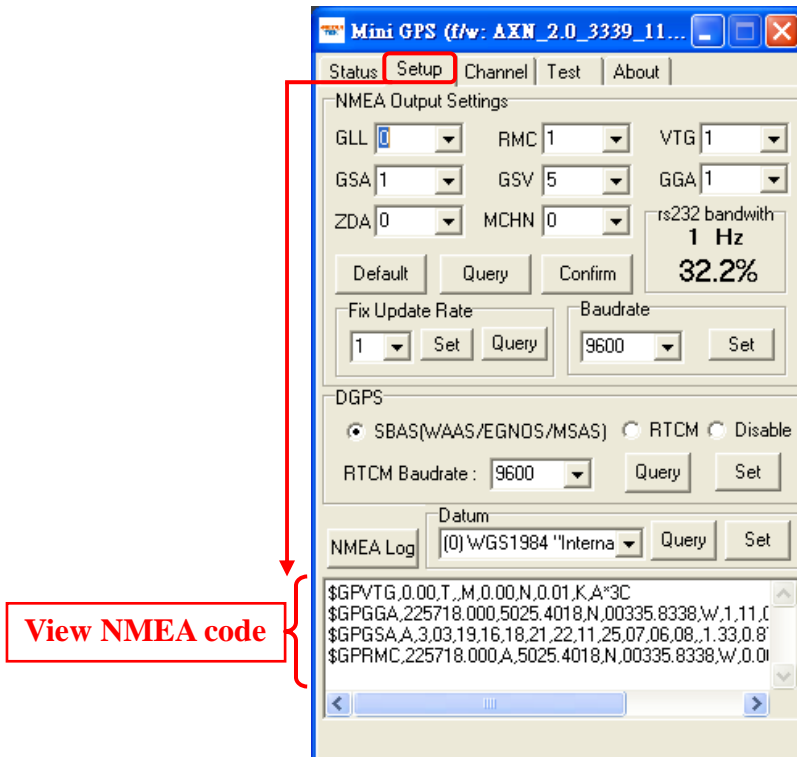


(Picture 10)

Finally click <open> like the following Figure 11 and Figure 12.



(Picture 11)



(Picture 12)



**5. Trouble-shooting**

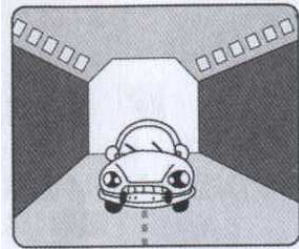
**5.1 Problem with Setup :**

<b>Problem</b>	<b>Possible Cause</b>	<b>Trouble shooting</b>
Cannot find GPS device	USB was not setup properly.	Check to see if EV-Kit was setup properly, and make sure that the device is receiving enough power through the USB cable (Red LED should light up continuously).
No NMEA data or GPS signals	(1) USB was not setup properly. (2) COM Port or Baud rate value is incorrect.	(1) Check to see if the USB connector to PC or EV-Kit is tightly connected. (2) Double check to see if the proper COM Port and Baud rate value was selected.
Poor GPS Signal Reception	(1) If it is used inside a vehicle, the anti-sunscreen film on the windshield may interfere and weaken the GPS signal reception. (2) When the vehicle is traveling through an area with dense overhead canopy: such as forest, buildings, open tunnels etc.	For both problems, please connect the external antenna to the EV-Kit, and place the antenna on the roof top to improve signal reception.

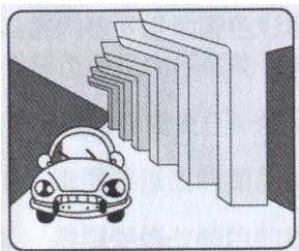
Note: If the above troubleshooting advice does not solve your problems, please send it back to us for testing and repair.

## ■ 5.2 Concerning Poor GPS Signal :

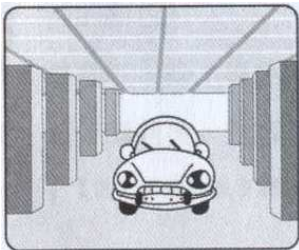
It is possible to have GPS signal reception difficulties under the following situations:



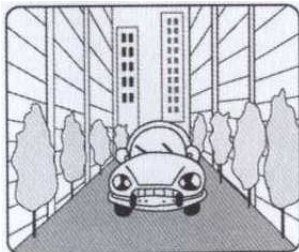
Inside a tunnel, where GPS signal is blocked.



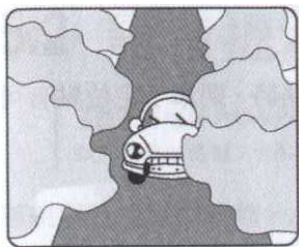
Underneath an infrastructure (like beneath a bridge), where GPS signal is blocked.



Inside a building, where GPS signal is blocked.



Next to tall buildings, where GPS signal is weakened.



Underneath forests or any other kinds of canopy where GPS signal is weakened..

- If you use EV-Kit inside a car with anti-sunlight windshield film, the GPS signal will be severely degraded, and may result in no GPS reception.
- GPS satellite is a property of United States Army. Sometimes they will tune-down the accuracy for unknown reasons. In such cases, the GPS position may not be as accurate.



## Version History

History			
Date	Rev.	Author	Description
2009/02/04	A01	Ying-jie	First Release
2009/10/08	A02	Eric	Revised for new drivers
2009/11/23	A03	Brian	Revised for new design
2010/01/04	A04	Brian	Revised for new design
2012/05/03	A05	Dylan	Revised for new design

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