

1. Introduction

It describes how to test RTCM function with GNSS Internet Radio.

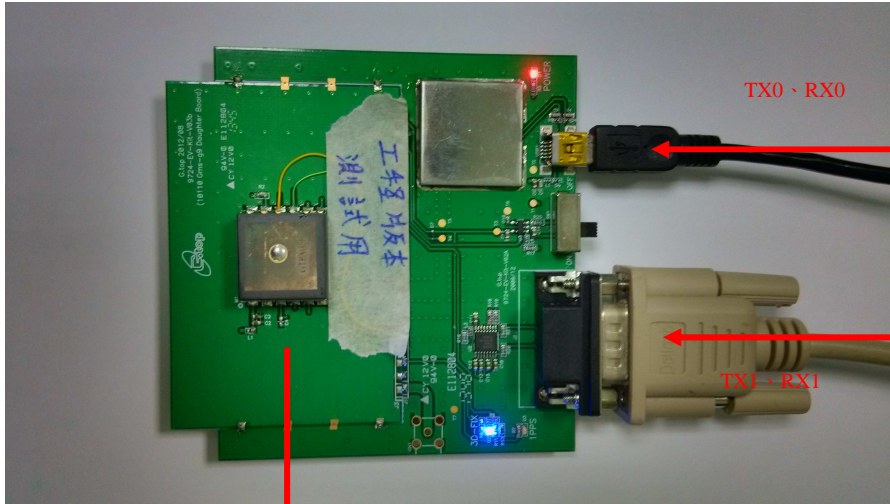


2. This article includes two parts:

- a. How to connect with GTop EV Kit
- b. How to use GNSS Internet Radio software

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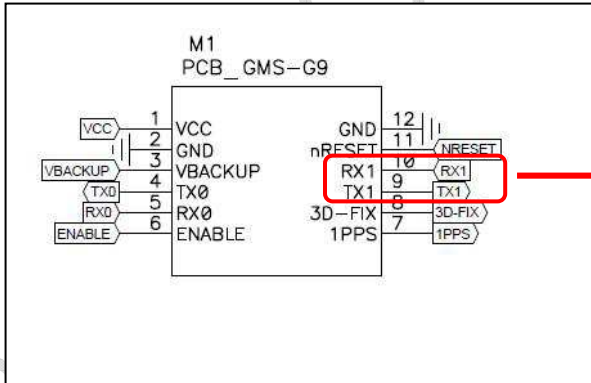
a. How to connect with EV Kit



USB Port is connected to computer

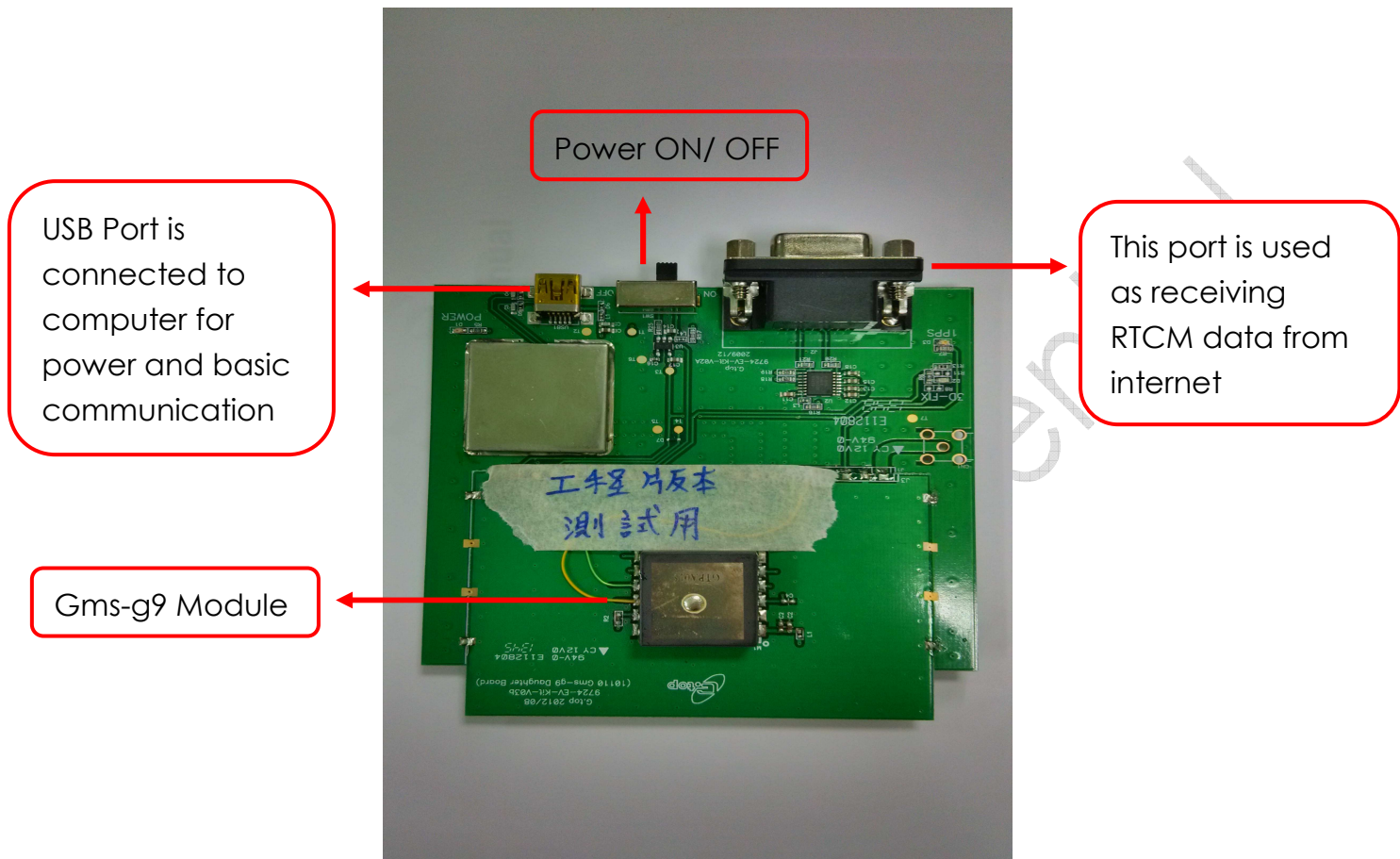
UART1 is connected to computer

Gms-g9 module



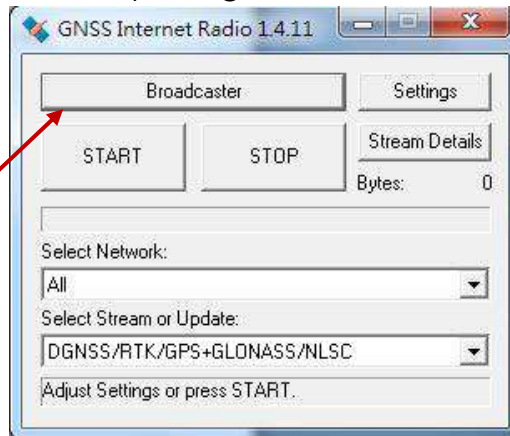
UART 1 is defined as communication for RTCM

The connection between Host side (computer) and EV Kit (Gms-g9 module):



b. How to use GNSS Internet Radio software

Step 1: GNSS Internet Radio software Install, then opening the software, the main interface shown in below:

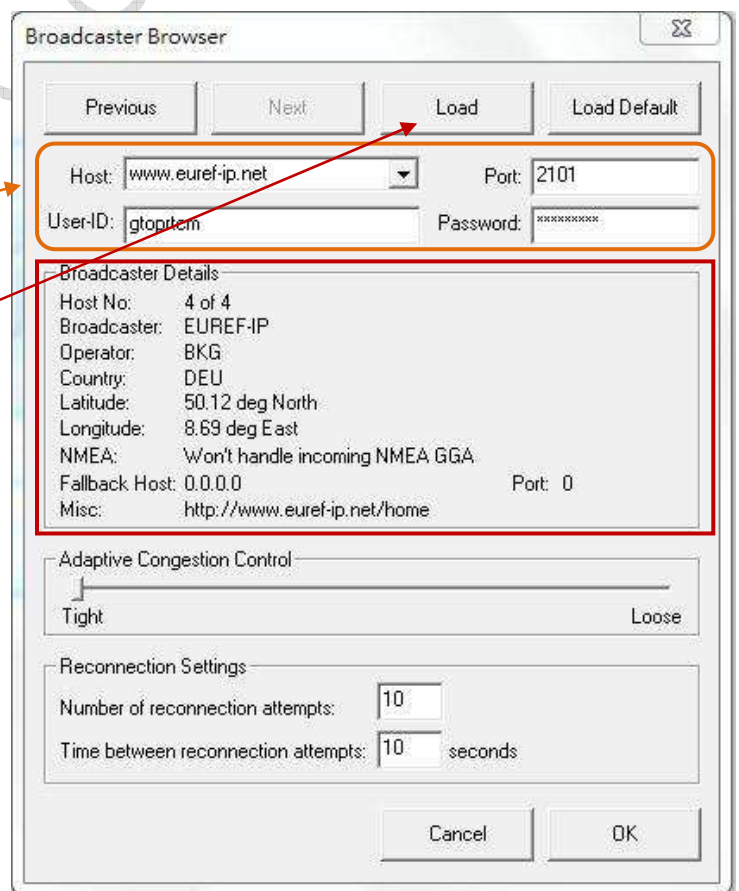


Step 2: Press **Broadcaster**, and get into Broadcaster Browser interface, shown in below:

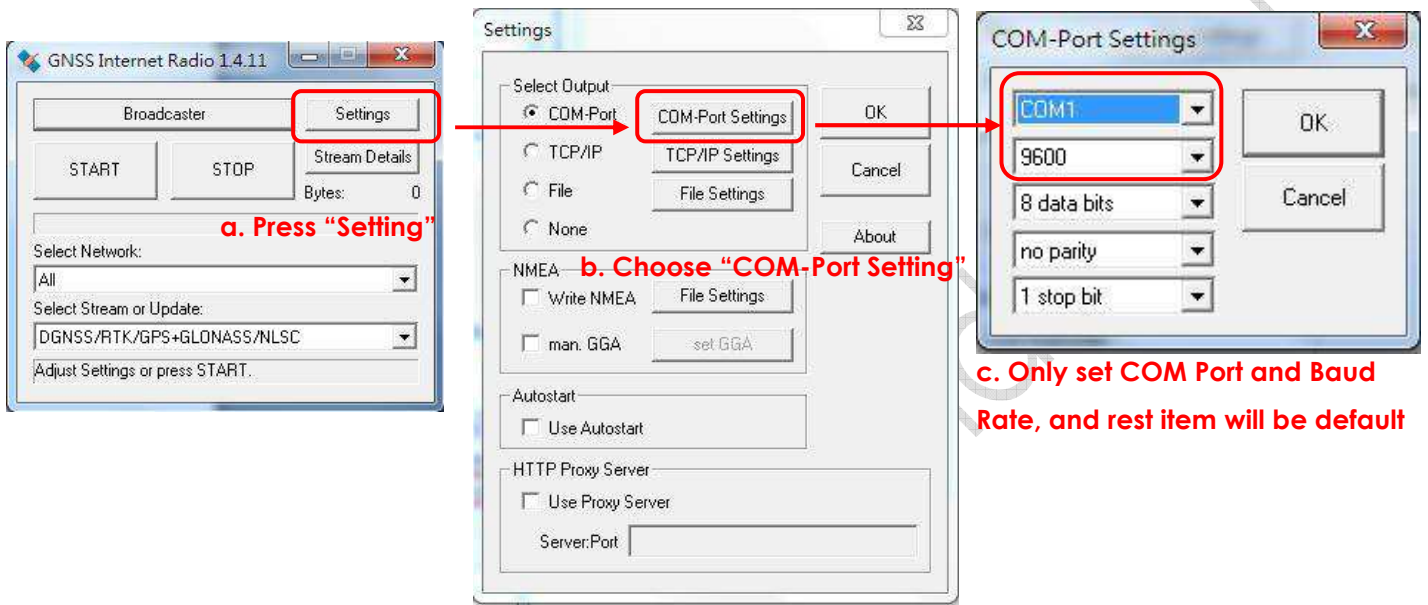
Please input parameter shown in below

Host: www.euref-ip.net
Port: 2101
User ID: gtoprtcm
Password: gtop@rtcm

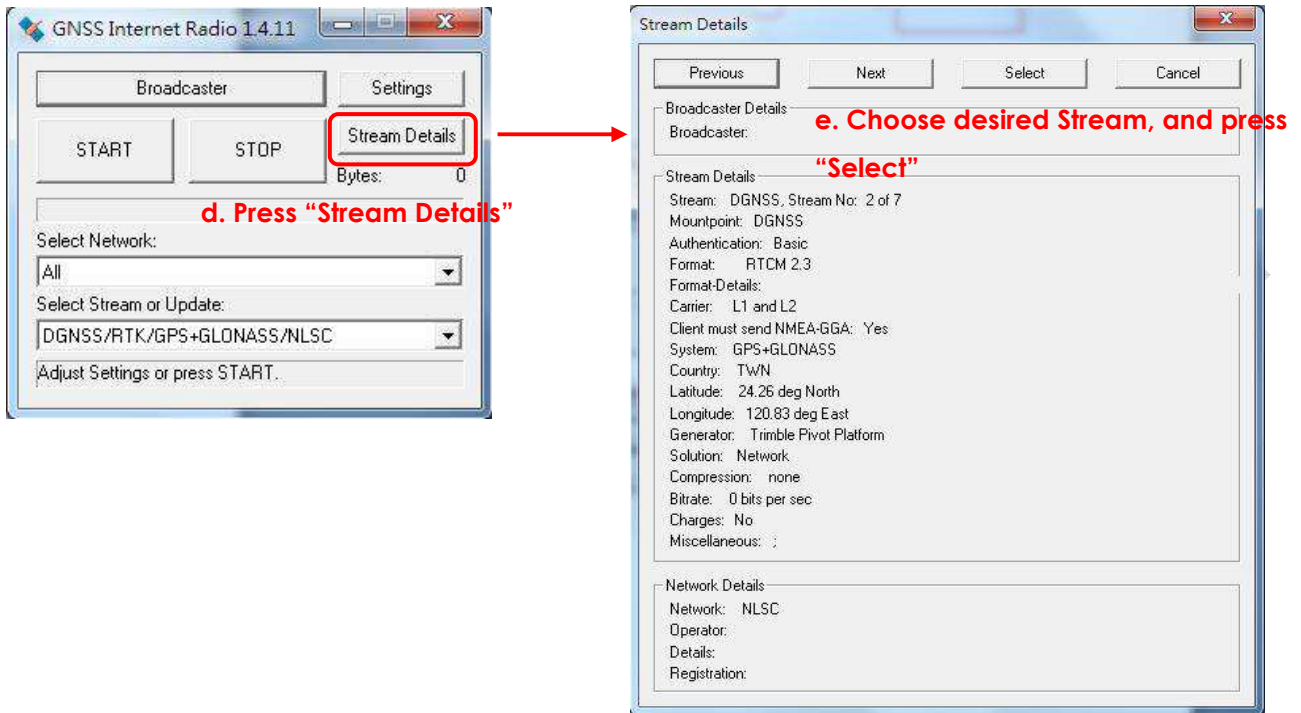
After inputting all parameters above, to press **Load**. And wait until it is finished upgrading of Broadcaster Details. Then press **OK**.



Step 3: back to main interface and to press **Settings**, then pressing COM-Port Setting. In that page, user could set COM Port and Baud Rate, and press **OK** to main interface after all.



Step 4: To press **Stream Details**, and choose desired Stream as photo below:



If **Client muse send NMEA-GGA of Stream Details** show Yes, TX1 Pin of RTCM Port need to have connection confirm. In the other hand, that pin do not to be connected. The purpose is in **Client muse send NMEA-GGA:Yes** situation, the GNSS module need to send a acknowledgement packet after receiving packet from Host side, to make sure RTCM function operate normally.

Step 5: In Host side, used need to input related PMTK command to set GNSS module in RTCM mode. For example:

\$PMTK250,1,3,9600*14<CR><LF> → Set UART1 for RTCM Port

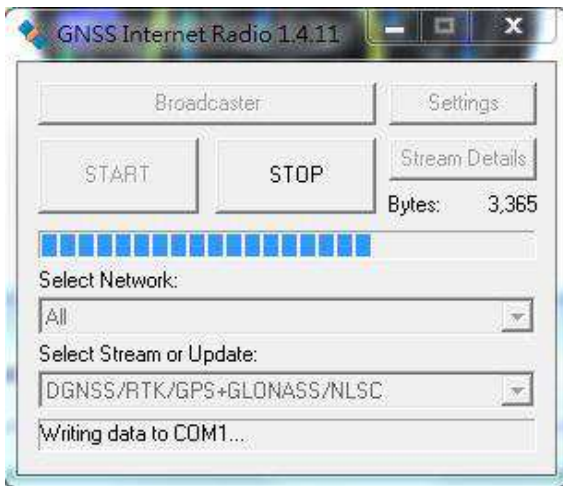
\$PMTK250,1,3,9600*14<CR><LF> → Enable RTCM



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Step 6:

To press **Start** after GNSS module getting GPS fix, when GNSS module connect to server successfully, it start to transfer data immediately from COM Port as photo below. And user could observe Position Fix Indicator of GGA sentence to check if GNSS module get into DGPS status.



```
$GPGGA, 024809.400, 2307.1207, N, 12016.4404, E, 2, 9, 0.91, 9.9, M, 17.8, M, 0000, 0000*5  
$GPRMC, 024809.400, A, 2307.1207, N, 12016.4404, E, 0.01, 0.00, 261115, , , D*6B  
$GPGGA, 024809.600, 2307.1207, N, 12016.4404, E, 2, 9, 0.91, 9.9, M, 17.8, M, 0000, 0000*5  
$GPRMC, 024809.600, A, 2307.1207, N, 12016.4404, E, 0.00, 0.00, 261115, , , D*68  
$GPGGA, 024809.800, 2307.1207, N, 12016.4404, E, 2, 9, 0.91, 9.9, M, 17.8, M, 0000, 0000*5  
$GPRMC, 024809.800, A, 2307.1207, N, 12016.4404, E, 0.01, 0.00, 261115, , , D*67  
$GPGGA, 024810.000, 2307.1207, N, 12016.4404, E, 2, 9, 0.91, 9.9, M, 17.8, M, 0000, 0000*5  
$GPRMC, 024810.000, A, 2307.1207, N, 12016.4404, E, 0.01, 0.00, 261115, , , D*67
```

Position Fix Indicator	
Value	Description
0	GPS fix not available
1	GPS fix
2	Differential GPS fix



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3. Notice

- 3.1 The version is AXN_3.8_3333_15100900 for this testing.
- 3.2 MTK Chip only support RTCM v2.3, and it provides message type as below:
Message Type 1 - Differential GPS Corrections
Message Type 2 - Delta Differential GPS Corrections
Message Type 3 - GPS Reference Station Parameters
Message Type 9 - GPS Partial Correction Set
- 3.3 We provide stream data source for free like below:
 - a. The EUREF-IP Broadcaster
Address/Port: www.euref-ip.net:2101
Account/Password: gtoprtcm/gtop@rtcm
 - b. The IGS-IP Broadcaster
Address/Port: www.igs-ip.net:2101
Account/Password: gtoprtcm/gtop@rtcm
- 3.4 This version of GNSS Internet Radio we use for testing only parse GP header of NMEA sentence, if GNSS module support dual satellite system, support output NEMA sentence with GN header. User need to set **man. GGA** option in Setting→NMEA page, and press Set GGA to set current coordinate of GNSS module.