AirPrime GNSS Tool

RTCM User Guide

SIERRA WIRELESS®

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Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

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Document History

Version	Date	Updates
1.0	March 01, 2019	Creation
1.1	March 11, 2019	Added GNSS Tool link in 1 Overview
		Updated GNSS Tool version
1.2	March 20, 2019	Updated Figure 1 RTCM Enabled on the GNSS Tool

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1. Overview

This document describes how to use the RTCM function of the GNSS Tool.

Instructions given in sub-sequent sections are based on the following:

- An AirPrime XM Development Kit that is:
  - Connected to a PC,
  - Connected to an external active antenna, and
  - Using an AirPrime XM1110 GNSS module
    - Firmware version: AXN5.1.1_8527_3333_1152.1151100.1
    - Firmware interface: UART+RTCM
- GNSS Tool version V1.5.0.0 installed in the PC connected to the Development Kit (download the GNSS Tool from the Source)

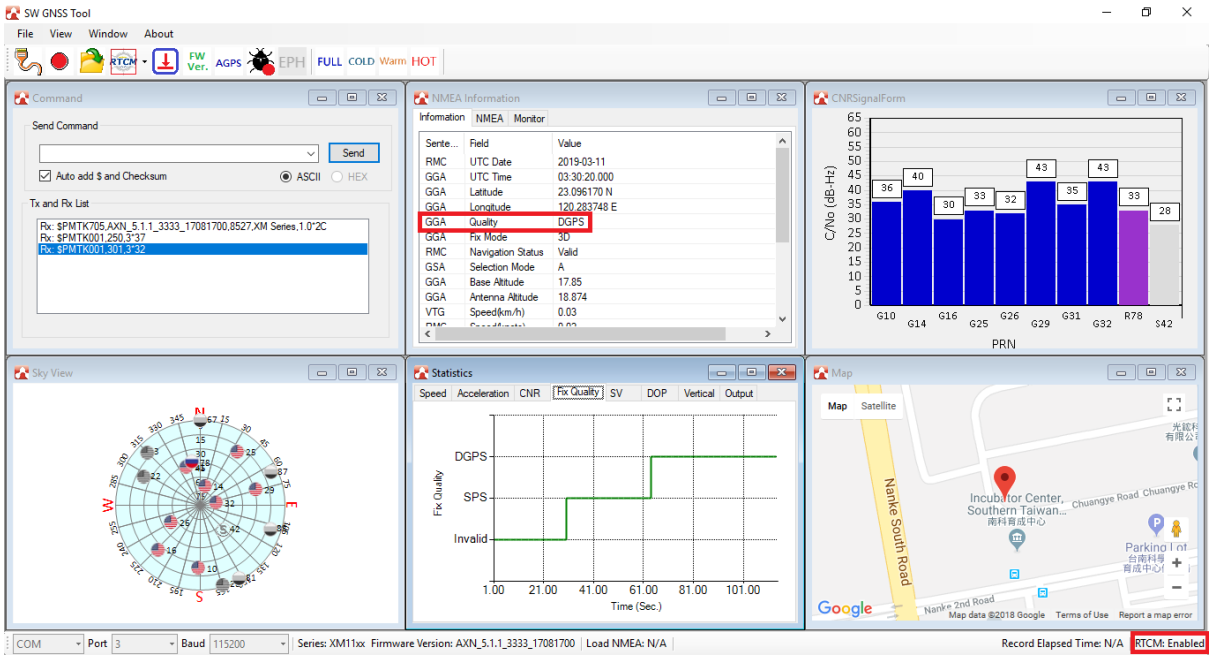


Figure 1. RTCM Enabled on the GNSS Tool

2. Connecting the Development Kit

Both UART0 and UART1 ports of the Development Kit should be connected to the PC. The UART0 port is used for power and basic communications, while the UART1 port is used for receiving RTCM data from the Internet.

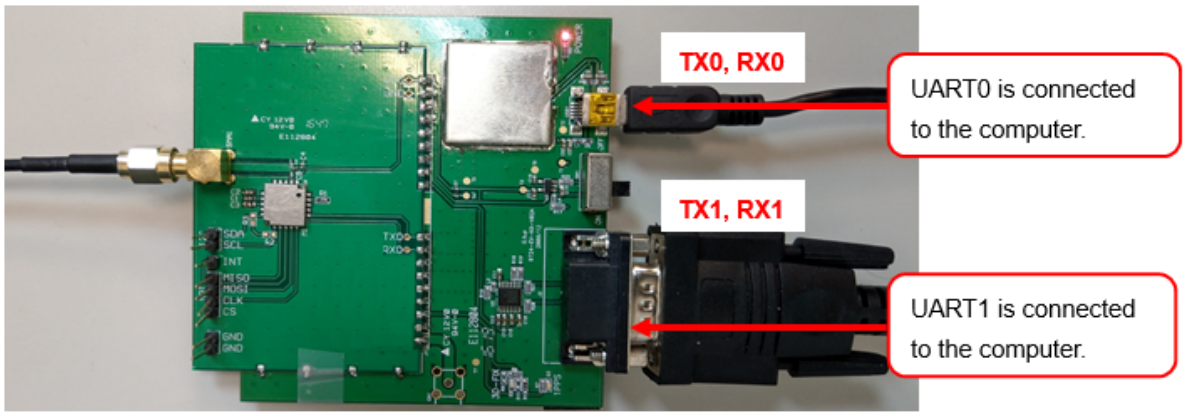


Figure 2. UART0 and UART1 Port Connections

To receive RTCM data, the RX1 and SCL pins of the module should be connected as shown in the figure below.

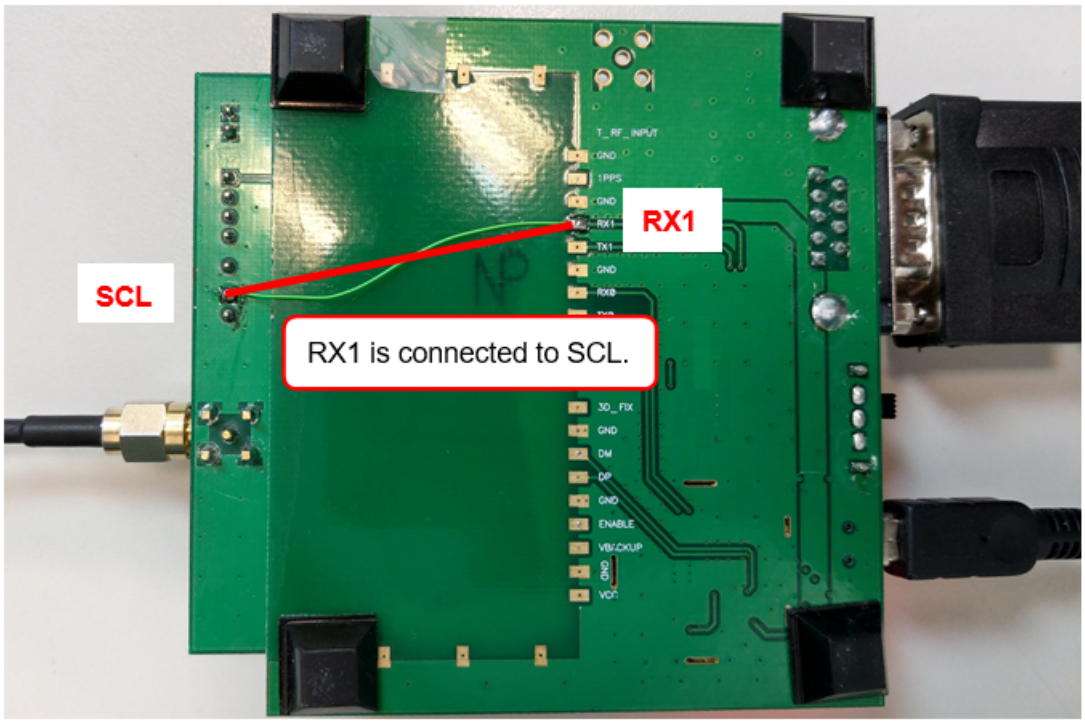


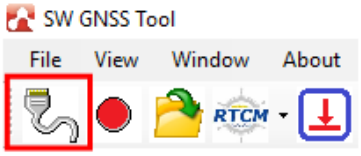
Figure 3. Connect the RX1 and SCL Pins

3. Using the RTCM Function

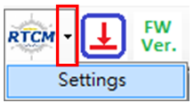
Follow these steps to use the RTCM function of the GNSS Tool.

1. Select COM and enter the correct port and baud rate from the combo box at the bottom of the screen.

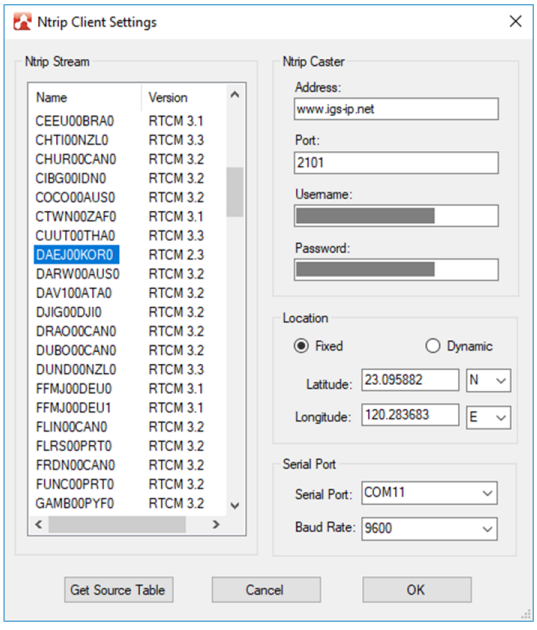
2. Click the **Communications** button from the toolbar to open communications.



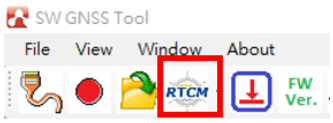
3. Click the **down arrow** next to the RTCM button on the toolbar and click **Settings**.



4. Fill in the following information from the *Ntrip Client Settings* dialog.
   - Enter your username and password. Note that you must register for an account using IGS service.
   - Indicate location mode – some streams need to know your location so that correct data can be created. Fixed mode location is for a user-specified location to be reference, while Dynamic mode location uses position data from NMEA GGA for reference location when RTCM is enabled.
   - Select the correct serial port (UART1) and baud rate.
   - Select “DAEJ00KOR0” (Republic of Korea) or any other stream depending on your location. Note that only RTCM 2.3 is currently supported; Ntrip Stream “YEBE00ESP0” is invalid. Click the **Get Source Table** button if the Ntrip Stream is empty. Click **OK**.



5. Back in the main window, click the **RTCM** button from the toolbar to enable the function.



6. Verify the RTCM function – the Quality field of GGS will change from SPS to DGPS if RTCM is working.