

# **L26-T** EVB User Guide

## **GNSS Module Series**

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## History

Revision	Date	Author	Description
1.0	2019-11-21	Brooke WANG	Initial

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# 1 Introduction

This user guide describes detailed information about the usage of Quectel L26-T EVB (Evaluation Board), the auxiliary for engineers to develop and test Quectel L26-T module.

## 1.1. Safety Information

The following safety precautions must be observed during all phases of operation, such as usage, service or repair of any terminal incorporating Quectel L26-T module. Manufacturers of the terminal should notify users and operating personnel of the following safety information by incorporating these guidelines into all manuals supplied with the product. If not so, Quectel assumes no liability for any failure to comply with these precautions.



Be assure the use of the product conforms to the national safety and environmental regulations, and is allowed in the country and in the environment required.



Keep away from explosive and flammable materials. The use of electronic products in extreme power supply conditions and locations with potentially explosive atmospheres may cause fire and explosion hazards.



The product has to be powered by a stabilized voltage source, and the wiring shall conform to security and fire prevention regulations.



Proper ESD handling procedures must be applied throughout the mounting, handling and operation of any application that incorporates the module to avoid ESD damages.

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# 2 General Overview

## 2.1. Top view of L26-T EVB

The following figure illustrates the top view of L26-T EVB.

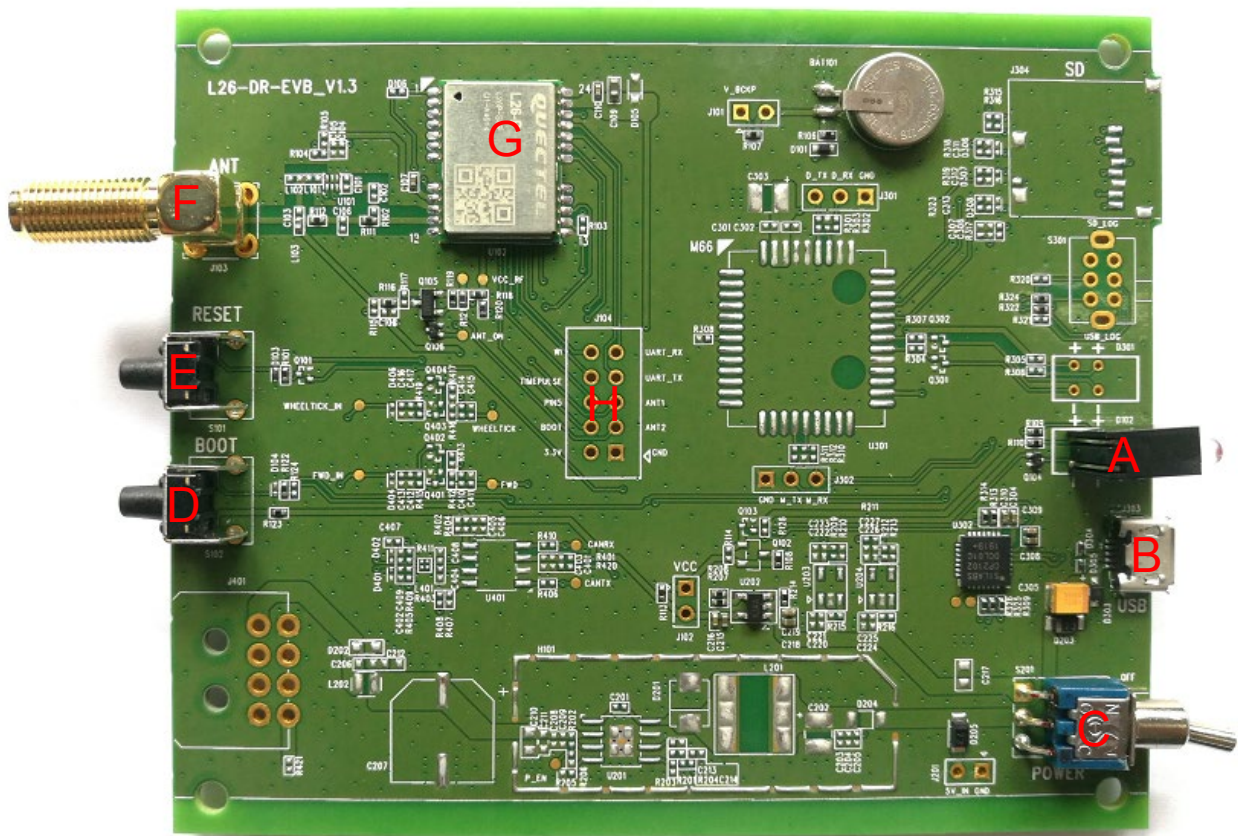


Figure 1: Top View of L26-T EVB

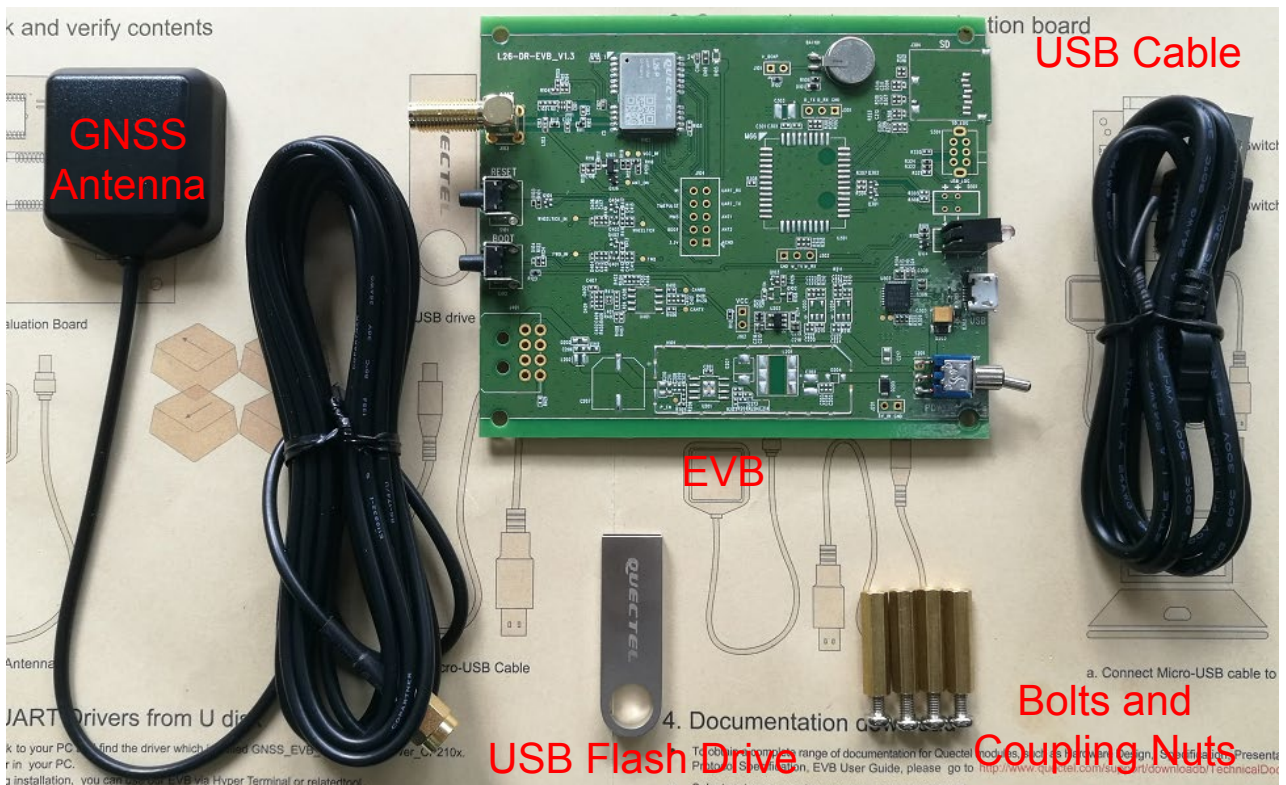
Table 1: Interfaces of L26-T EVB

SN.	Designator	Description
A	D102	Indication LEDs



B	J303	Micro-USB connector
C	S201	Power switch
D	S102	Boot button
E	S101	Reset button
F	J103	Antenna connector
G	U102	L26-T module
H	J104	Test points

## 2.2. L26-T EVB & Kit Accessories



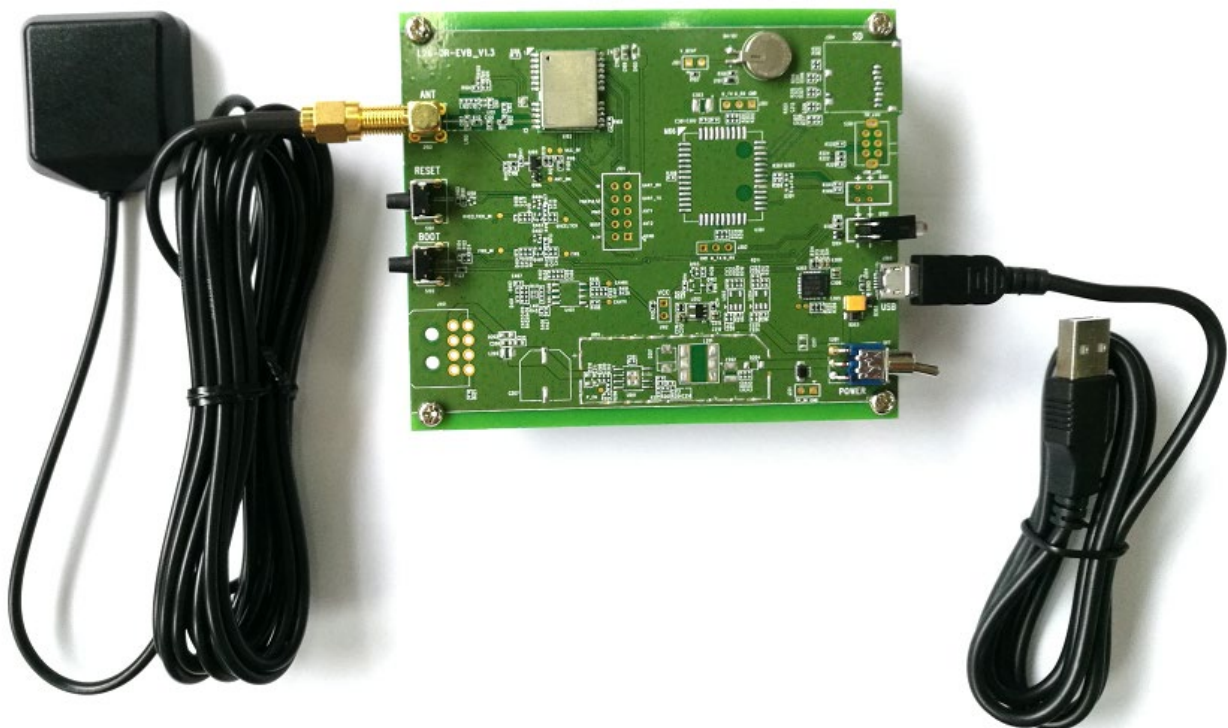
**Figure 2: L26-T EVB & Kit Accessories**

**Table 2: List of Accessories**

Items	Description	Quantity
USB Cable	USB cable	1
EVB	Evaluation board	1
Antenna	GNSS antenna (active)	1
USB Flash Drive	USB flash drive (including L26-T related documents, tools, drivers, etc.)	1
Instruction Sheet	A sheet of paper giving instructions for EVB connection, details of EVB accessories, etc.	1
Others	Bolts and coupling nuts	4 pairs

### 2.3. EVB and Accessories Assembly

The following figure shows the assembly of L26-T EVB and its accessories.



**Figure 3: L26-T EVB and Accessories Assembly**

# 3 Interface Applications

## 3.1. Micro-USB Interface

Micro-USB connector is used for EVB power supply as well as data transmission.

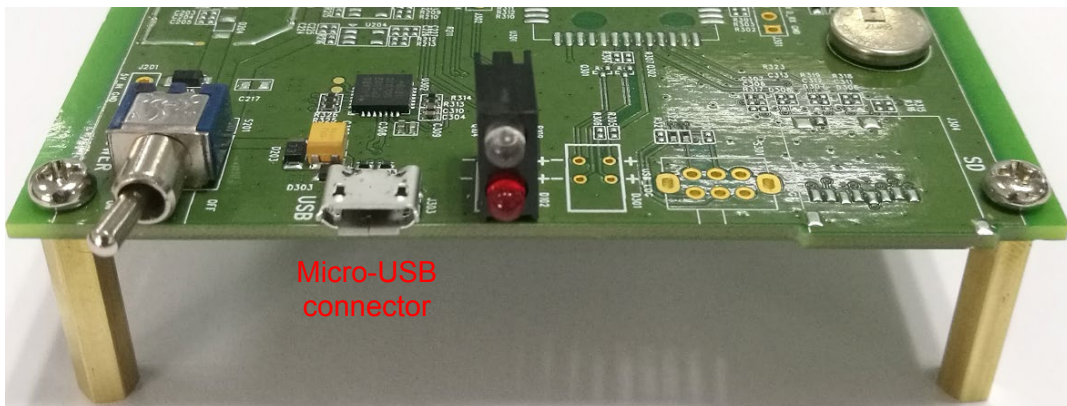


Figure 4: Micro-USB Connector

## 3.2. Antenna Interface

The antenna connector is used to connect an external passive or active GNSS antenna.

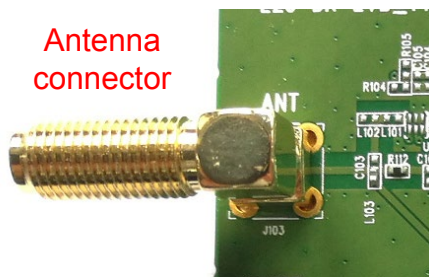


Figure 5: Antenna Connector



### 3.3. Switches and Buttons

The following figure illustrates the switches and buttons of the EVB.

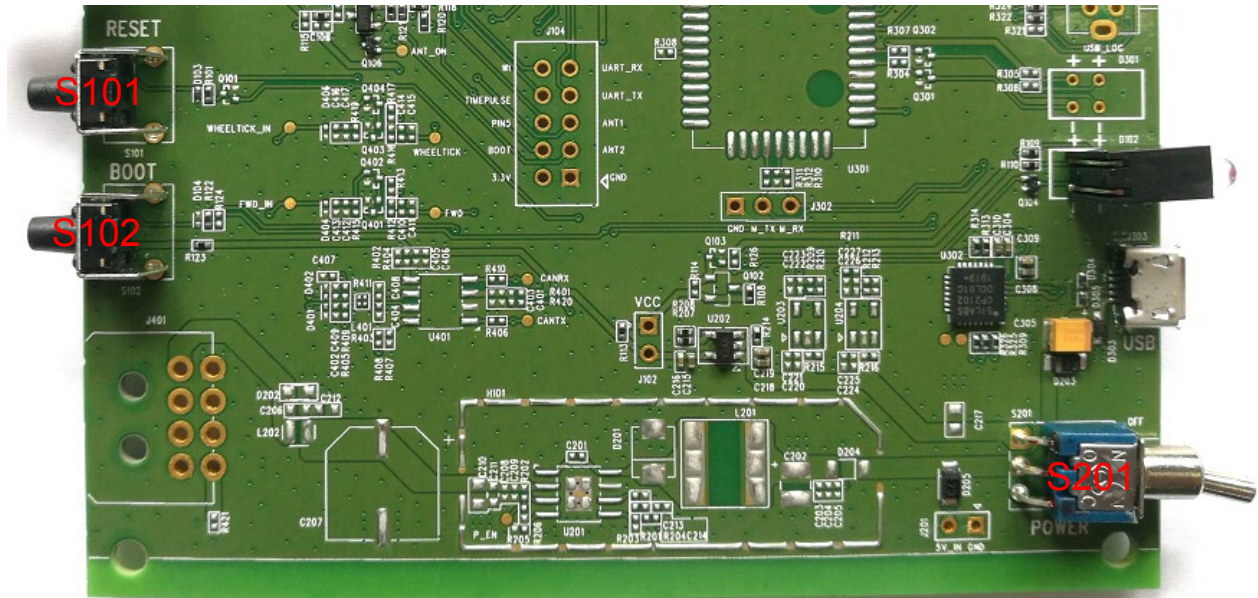
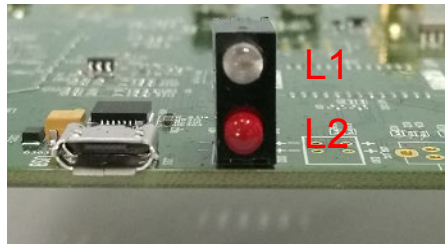


Figure 6: Switches and Buttons

Table 3: Switches and Buttons

Part No.	Name	I/O	Description
S101	RESET	DI	The module will be reset through pressing and then releasing the button.
S102	BOOT	DI	Please refer to <b>Chapter 4.2.2</b> for details.
S201	POWER	PI	Power switch

### 3.4. Operation Status Indication LEDs



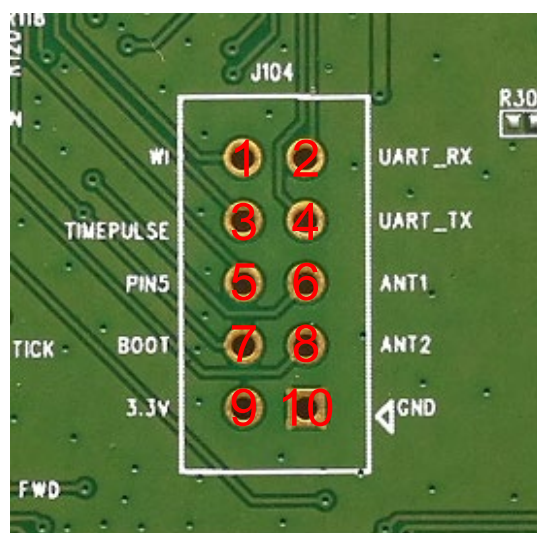
**Figure 7: Operation Status Indication LEDs**

**Table 4: Operation Status Indication LEDs**

Part	Name	I/O	Description
L1	1PPS	DO	Flash: 1PPS signal indicator. The frequency is 1Hz (configurable).
L2	PWR	DO	Power indicator

### 3.5. Test Points

The following figure illustrates the test points of the EVB.



**Figure 8: Test Points - J104**

**Table 5: Pin Description**

Pin No.	Signal	I/O	Description
1	WI	/	/
2	UART_RX	DI	Receive data
3	TIMEPULSE	DO	One pulse per second
4	UART_TX	DO	Transmit data
5	PIN5	PI	Reserved
6	ANT1	AI	Antenna detection 1
7	BOOT	DI	Force the module to enter boot download
8	ANT2	AI	Antenna detection 2
9	3.3V	PO	3.3V output
10	GND	/	Ground

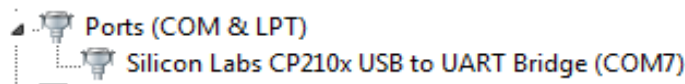
# 4 EVB Operation Procedures

This chapter mainly illustrates the operation procedures of L26-T EVB.

## 4.1. Communication via Micro-USB Interface

**Step 1:** Connect the EVB and the PC with a Micro-USB cable through Micro-USB interface, and then switch POWER to ON state to power on the EVB.

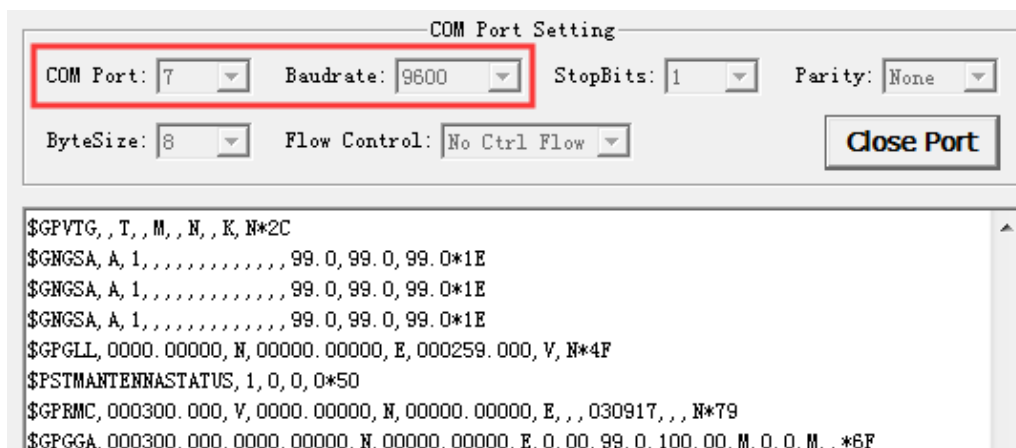
**Step 2:** Run the USB flash drive on PC to install the USB driver. The USB port numbers can be viewed in Device Manager of the PC after the USB driver is installed, as shown below.



**Figure 9: USB Ports**

**Step 3:** Install and then use the tool QCOM provided by Quectel to realize the communication between L26-T module and the PC.

The following figure shows the COM Port Setting of QCOM: select the correct “**COM Port**” (USB Port shown in the above figure) and set the correct “**Baudrate**” (the default value: 9600bps). For more details about the usage of QCOM, please refer to **document [4]**.



**Figure 10: COM Port Setting of QCOM**

## 4.2. Firmware Download

L26-T module supports the firmware download in both normal working mode and boot download mode, respectively using the tools STA808x/9x Firmware Upgrade and TeseoIII XLoader.

### 4.2.1. Firmware Download in Normal Working Mode

Firmware upgrade in normal working mode should be performed as the following steps:

**Step 1:** Connect the EVB to a PC through the USB cable.

**Step 2:** Switch POWER to ON state to power on the EVB.

**Step 3:** Run the tool STA808x/9x Firmware Upgrade and configure the tool as shown below.

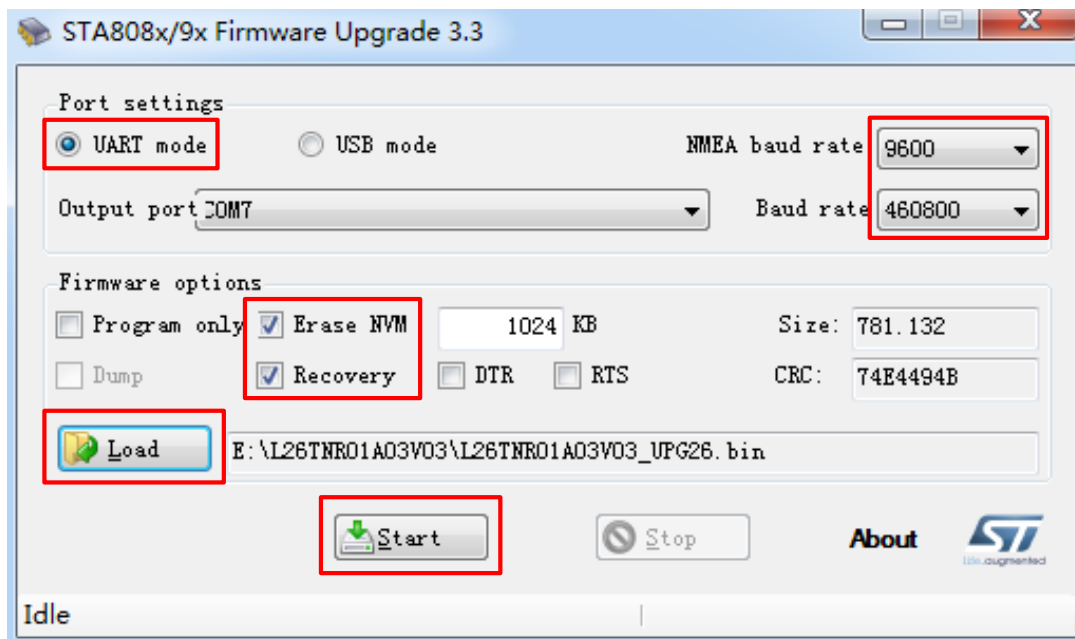



Figure 11: STA808x/9x Firmware Upgrade Tool Configurations

**Step 4:** Click  button and then reset the module to upgrade the firmware.

#### NOTE

Please make sure the module is in full on mode before downloading firmware by this method.



### 4.2.2. Firmware Download in Boot Download Mode

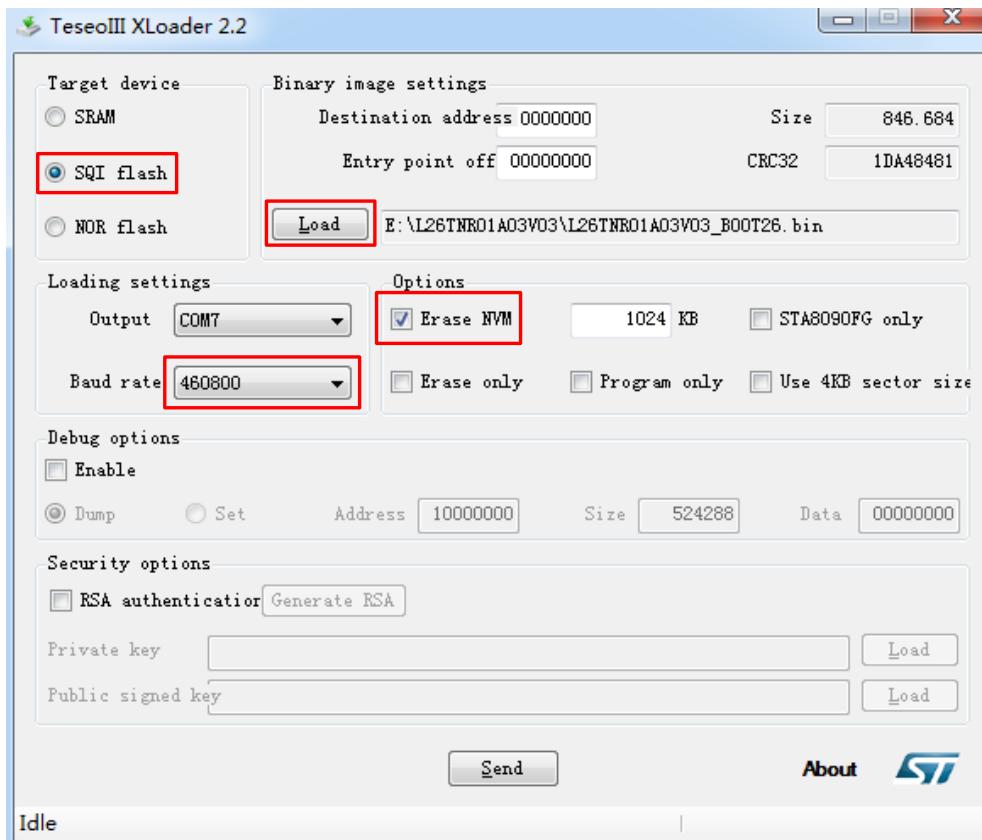
Firmware download in boot download mode should be performed as the following steps:

**Step 1:** Connect the EVB to a PC through the USB cable.

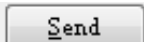
**Step 2:** Press and hold the BOOT button, and switch POWER to ON state to power on the EVB. Once the high voltage level of BOOT pin has been detected during power-up, the module will enter into boot download mode.

**Step 3:** Release BOOT button to make BOOT pin of L26-T return to normal floating.

**Step 4:** Run the tool TeseoIII XLoader and configure the tool as shown below.



**Figure 12: TeseoIII XLoader Tool Configurations for Firmware Upgrade**

**Step 5:** Click  button to upgrade the firmware.

# 5 Usage of Teseo-Suite Pro

After the EVB accessories are assembled, please turn on the module and start the tool Teseo-Suite Pro. The tool helps users to view the status of GNSS receiver. The following chapter only briefly describes the use of Teseo-Suite Pro, for more details about the tool, please click “**Help**” and select “**User Manual**” in the tool.

## 5.1. View the GNSS Receiver Status

### 5.1.1. COM Port and Baud Rate Setting

After the tool is opened, the following interface will be shown:

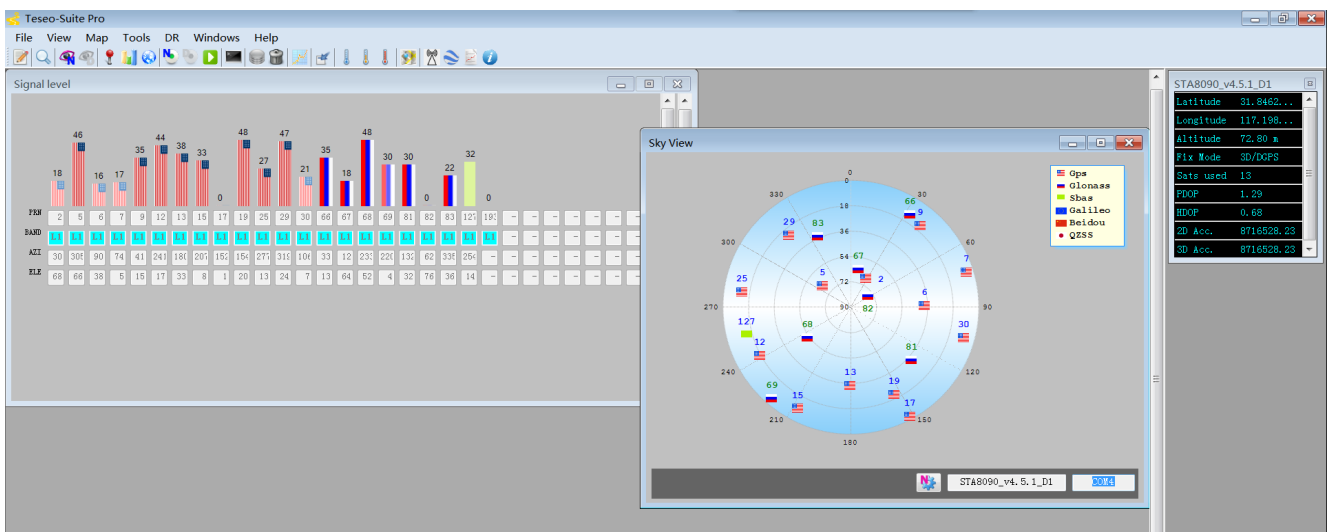
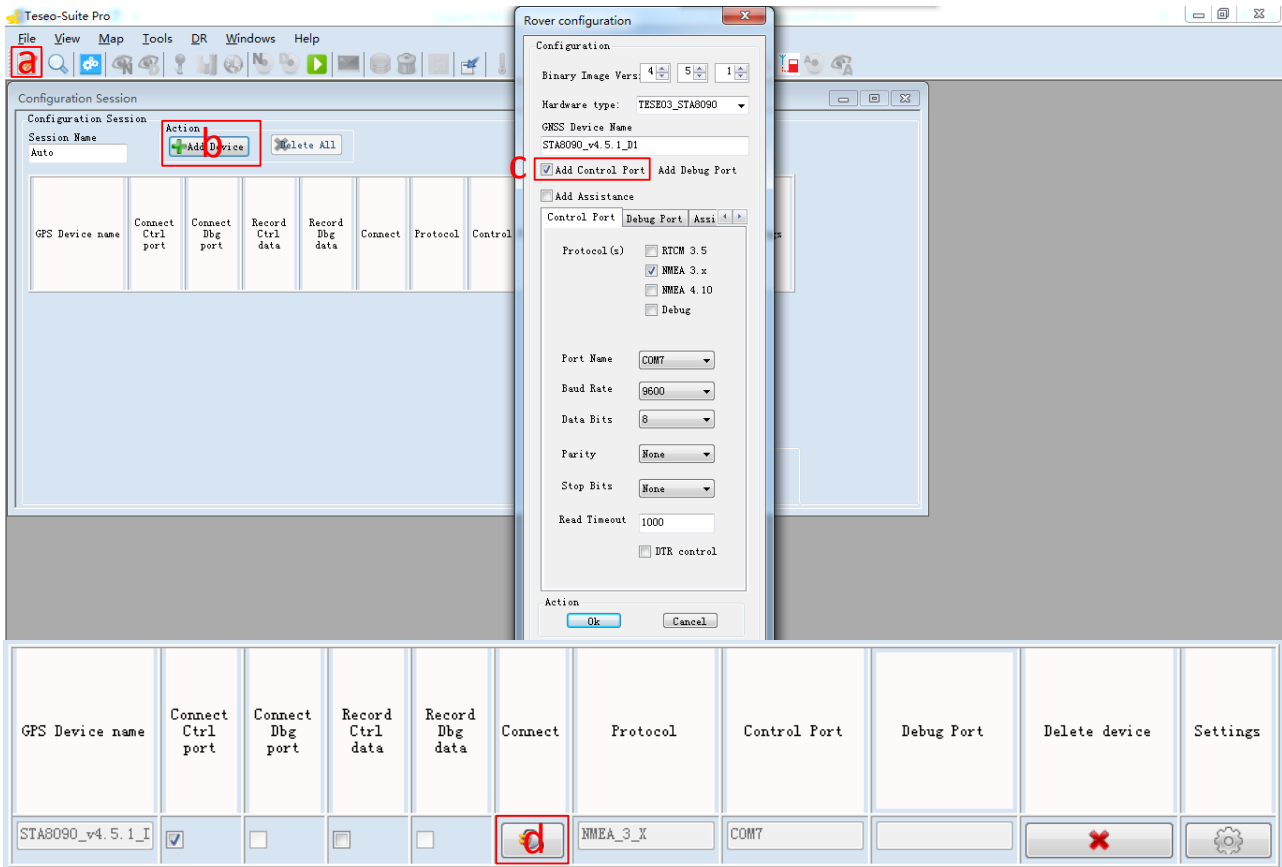


Figure 13: Teseo-Suite Pro Tool Interface


UART port can be automatically identified by Teseo-Suite Pro when it is opened. If not, the steps from “a” to “d” illustrated in the following figure should be performed.

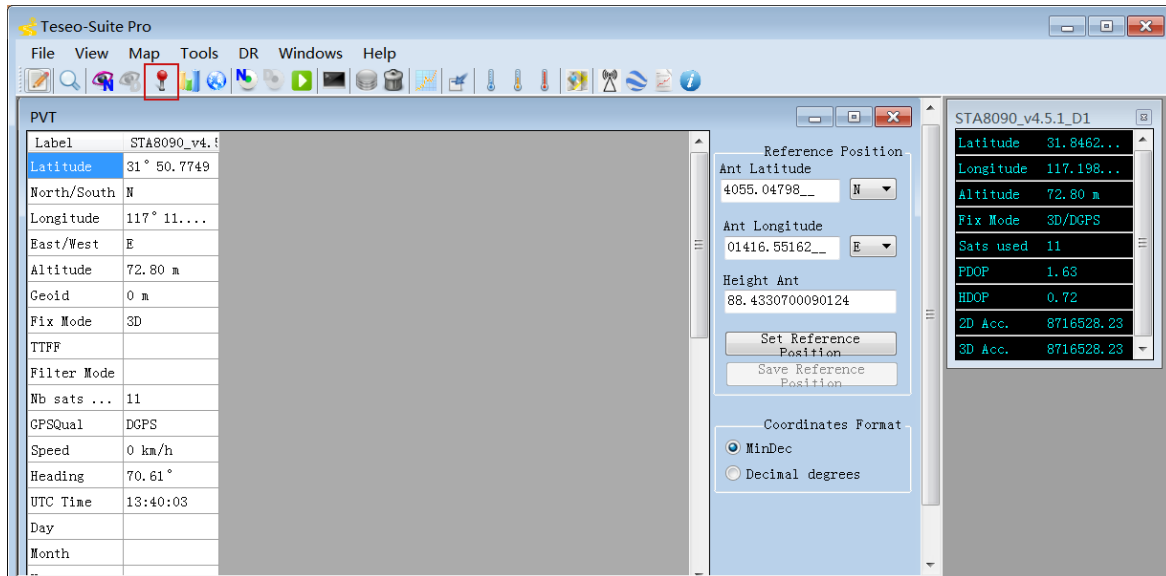
Please click the corresponding buttons. After **+ Add Device** button is clicked, the “Rover Configuration” box will be popped up, then please check the **“Add Control Port”** box.



**Figure 14: Manual Configuration the COM Port**




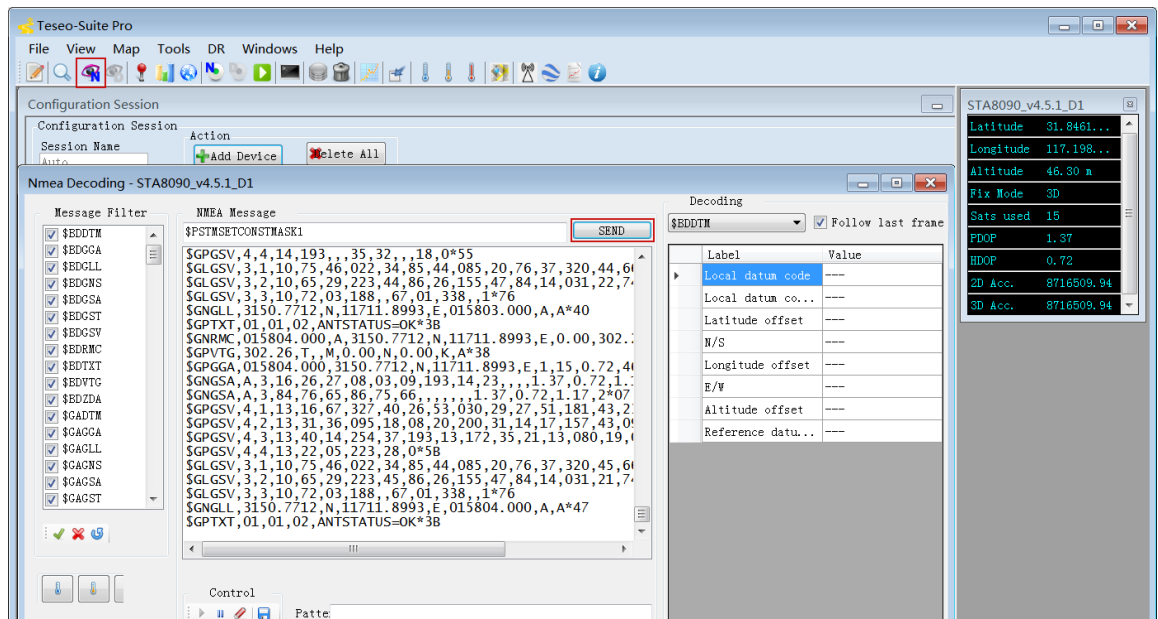
Through clicking  button, "View Positioning" form that shows information about GPS positioning of devices will be opened.



**Figure 17: Module Positioning Form**

## 5.2. Send PSTM Commands

PSTM Commands can be sent by Teseo-Suite Pro. By clicking  button, the command input box will be popped up, which is shown in the figure below.



**Figure 18: Command Sending via Teseo-Suite Pro**

# 6 Appendix A Reference

**Table 6: Related Documents**

SN	Document name	Remark
[1]	Quectel_L26-T&L26-P_Hardware_Design	L26-T&L26-P hardware design
[2]	Quectel_L26-T&L26-P_GNSS_Protocol_Specification	L26-T&L26-P GNSS protocol specification document
[3]	Quectel_L26-T&L26-P_Reference Design	L26-T&L26-P reference design
[4]	Quectel_QCOM_User_Guide	QCOM User Guide

**Table 7: Terms and Abbreviations**

Abbreviation	Description
API	Application Programming Interface
CAN	Controller Area Network
CNR	Carrier-to-Noise Ratio
DI	Digital Input
DO	Digital Output
EVB	Evaluation Board
GNSS	Global Navigation Satellite System
IO	Bidirectional
LED	Light Emitting Diode
NVM	Non-volatile Memory
OBD	On Board Diagnostics
PI	Power Input

---

PPS	Pulse Per Second
PRN	Pseudorandom Noise
SV	Satellite Vehicle
UART	Universal Asynchronous Receiver & Transmitter
UTC	Coordinated Universal Time

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