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EVB-T5DR
Teseo V Dead-Reckoning evaluation board

Quick Start Guide

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Introduction to EVB-T5DR

- The **EVB-T5DR** evaluation board is a complete standalone evaluation platform for Teseo V **STA8100GA dual-band multi-constellation** GNSS receiver IC with Dead-Reckoning software or Autonomous PVT

- The **Teseo V STA8100GA** is an easy-to-use dual-band (L1 and L5) Global Navigation Satellite System (GNSS) positioning receiver IC working on multiple constellations (GPS, GLONASS, Beidou, Galileo, and QZSS)

Top view

Front panel

Rear panel

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EVB-T5DR – Front and Rear panels

Front panel

- Boot button
- Reset button
- USB/UART Connector
- PWR LEDs
- PPS LED
- On/Off Switch button

Rear panel

- SD/MMC connector
- SMA Antenna connector
- IO/ODO connector

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I/O-ODO Connector signals

- I/O ODO Connect is a 14-pin connector providing these signals:

1	3	5	7	9	11	13
12V_CAR_BAT	FWD	INT-1	I2C_SCD	PPS_OUT	FAULT_ANT_ERROR	GND
12V_CAR_BAT	WHELLTICK	INT-2	I2C_SDA	E_OUT	NC	GND
2	4	6	8	10	12	14

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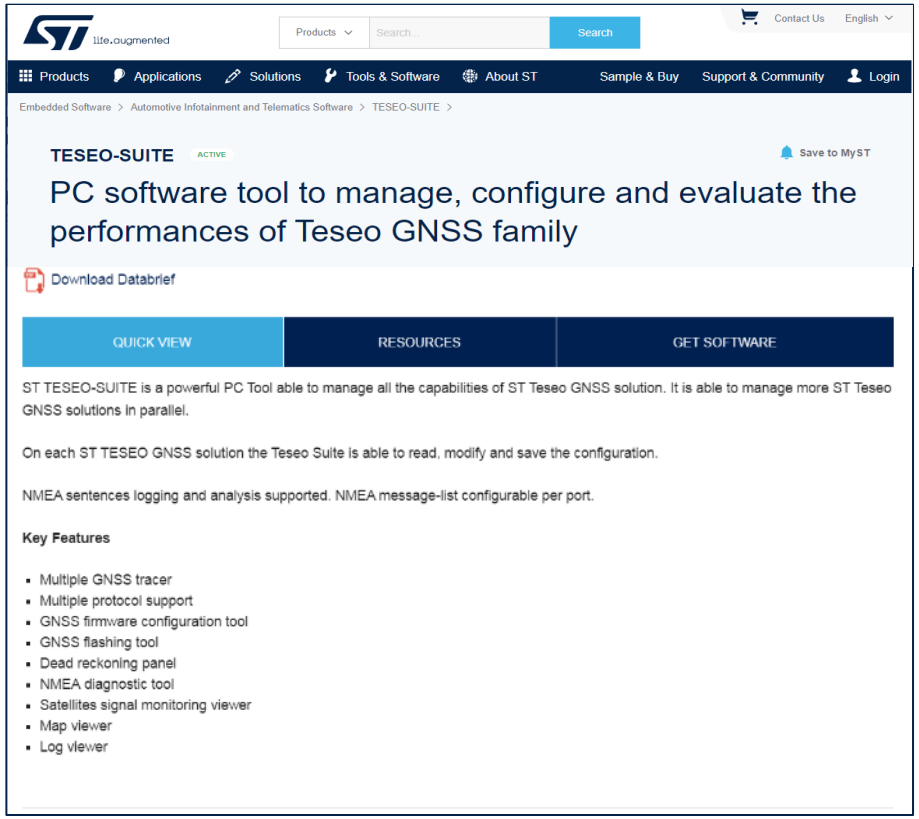
Install Teseo-Suite and VCP driver

The **Teseo-Suite** (version 6.3.x required) is a powerful PC Tool able to manage the EVB-T5DR evaluation board

- Download and install the Teseo-Suite from www.st.com
- Download and install the Silab VCP Driver from www.silabs.com



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Connect and start EVB-T5DR

1. Connect the USB cable between your PC's USB and the EVB-T5DR UART port
2. Connect the GNSS Antenna to the SMA input connector
3. Press the Power-on button
4. Verify that the RED Power LED is ON

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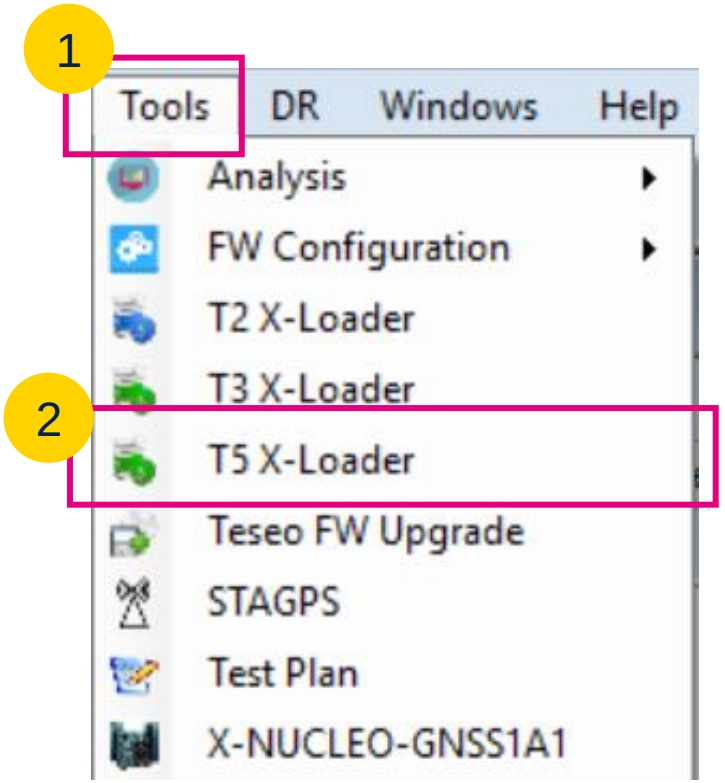
Program the EVB-T5DR [1/2]

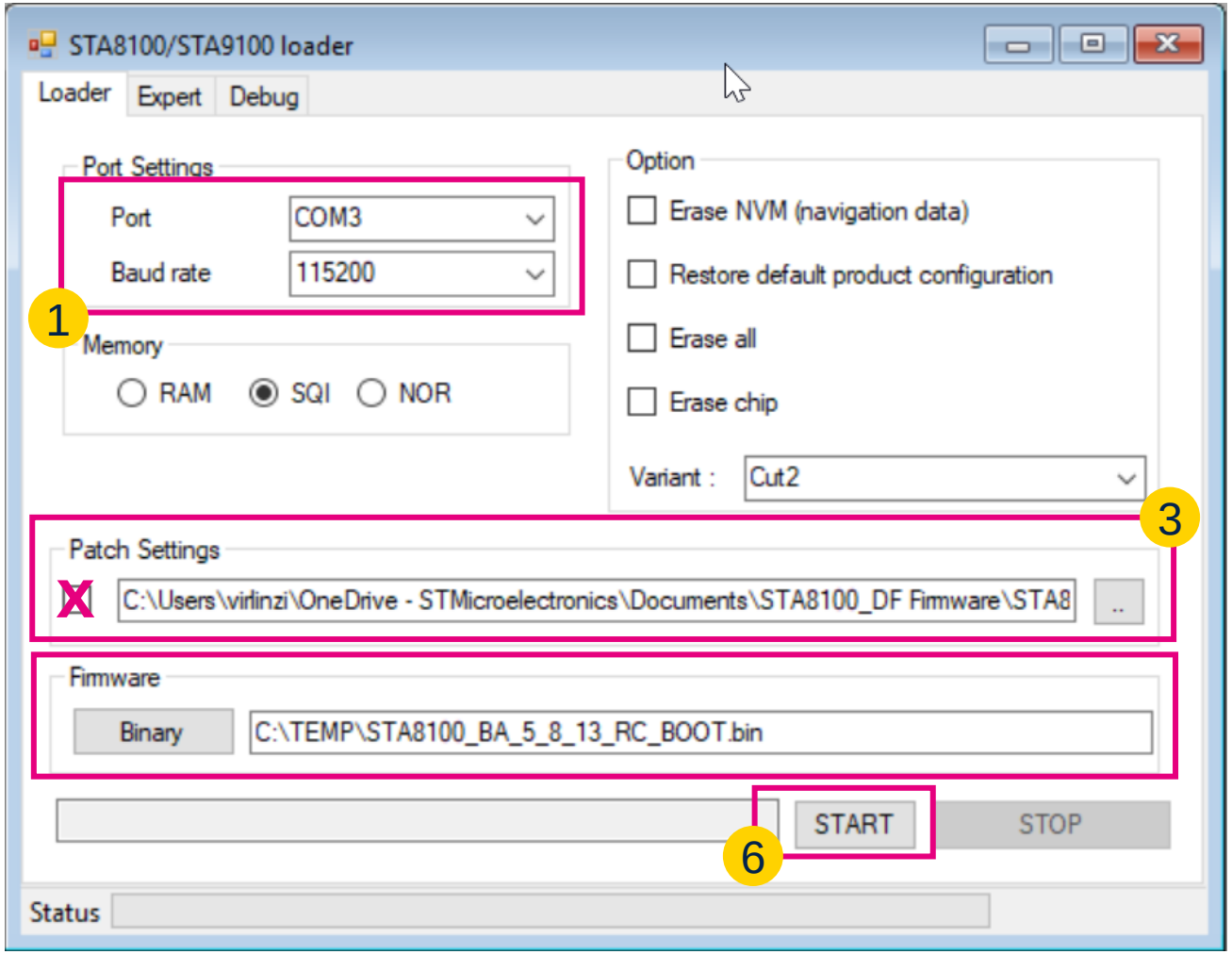
1 In the Teseo-Suite menu, select the **Tools** items

2 Select '**T5 X-Loader**'



Program the EVB-T5DR [2/2]

1. Configure the COM port and the baud rate
2. Select the T5 binary file (see next slide)
3. Enable and select the T5 patch file (see next slide)
4. Press and **maintain** the ‘BOOT’ button on the EVB-T5DR
5. Press the ‘RESET’ button on the EVB-T5DR
6. Press Start



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Firmware based on usage case

Two different firmware is available for the EVB-T5DR (STA8100GA) :

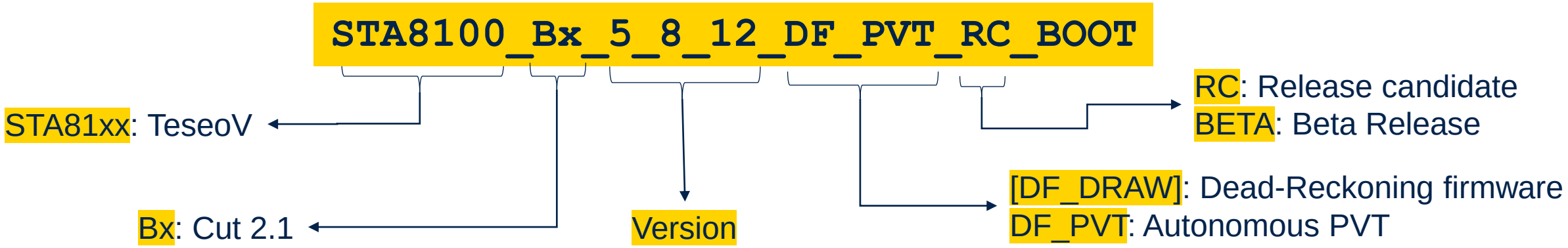
- **Dead-Reckoning Firmware** (aka: DF_DRAW): Teseo V provides a complete Dead-Reckoning solution using the GNSS satellite data and on-board 6-axis inertial sensor

- **Autonomous PVT** (aka: DF_PVT): Teseo V provides a complete dual-band L1&L5 autonomous Position, Velocity and Time (PVT).

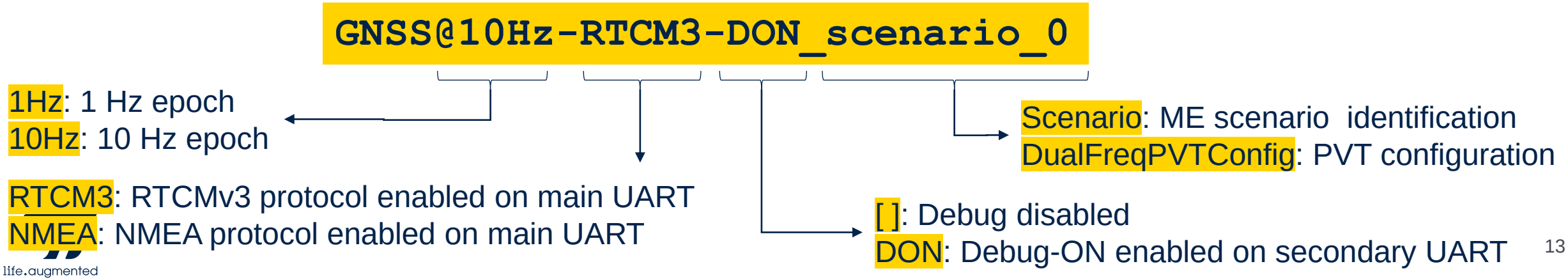
Teseo V firmware is widely configurable.

Firmware and patch naming convention

Firmware naming convention:



Patch name convention:



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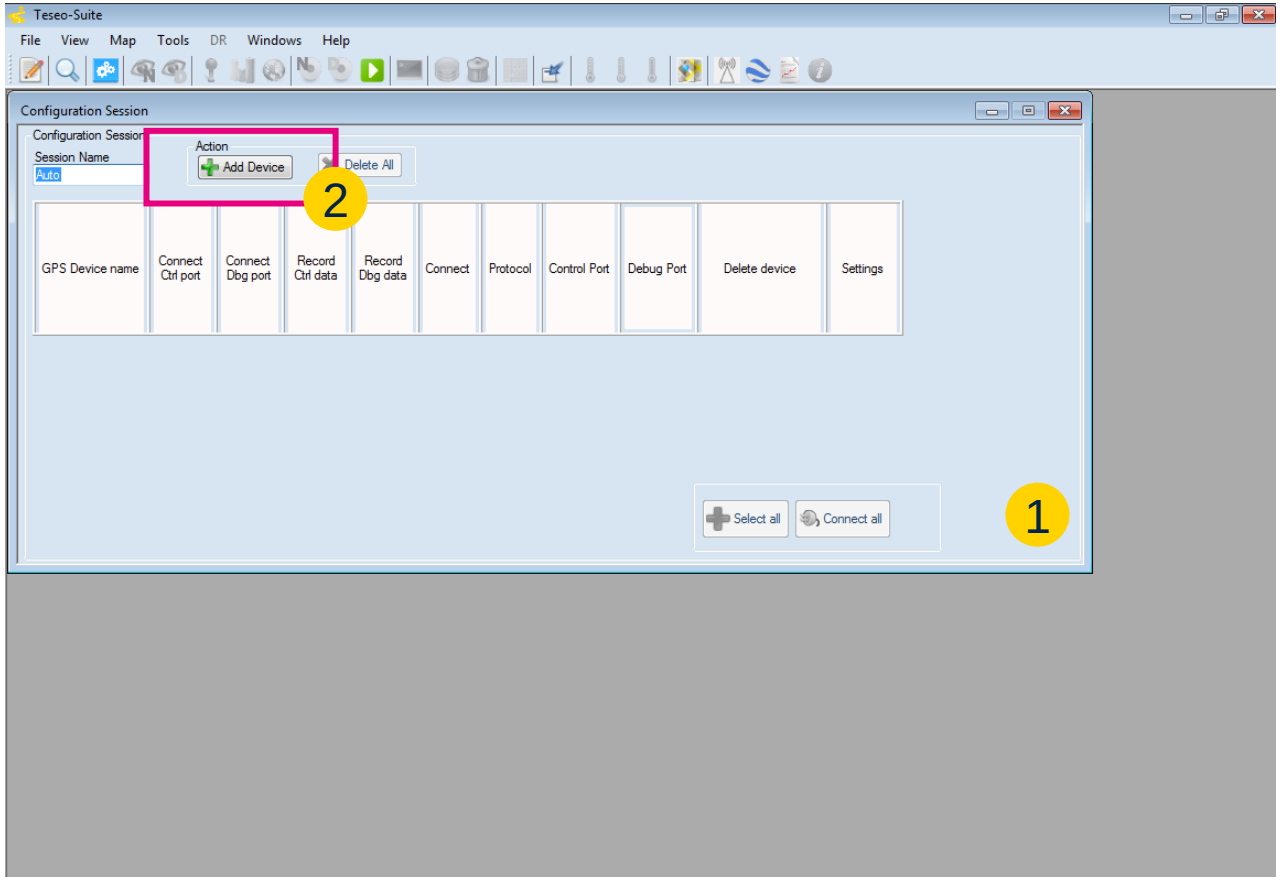
Teseo Suite - Start

1 During the application start-up, the **Configuration Session** panel is displayed

2 Click the '**Add Device**' button to add a new entry

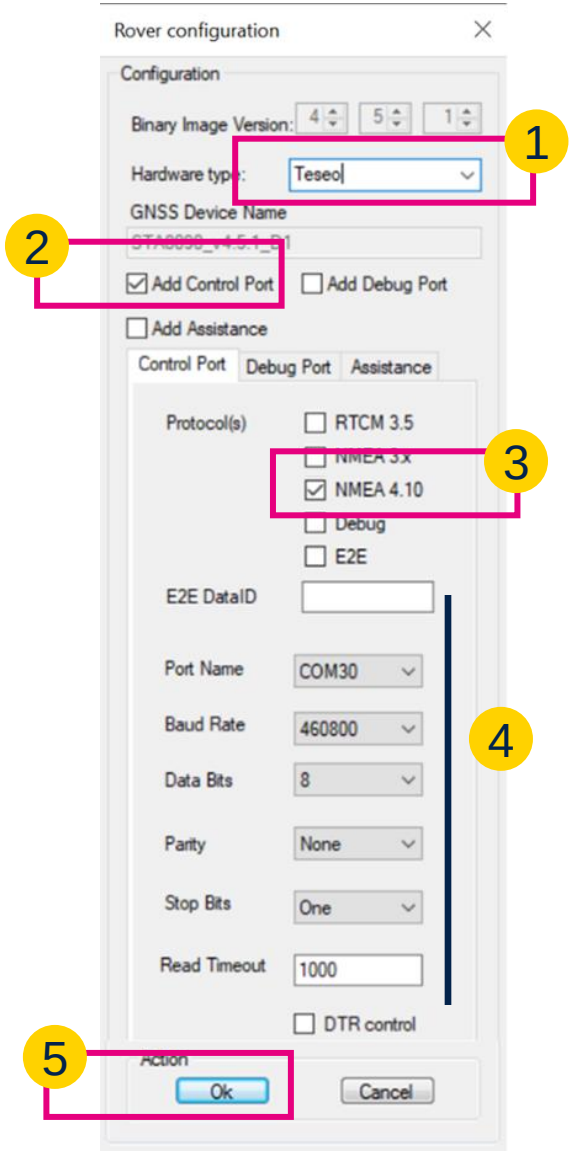


Teseo Suite – Configuration device

1. Set the Hardware type: **STA8100GA**
2. Enable Add Control Port
3. Set the Protocol: **NMEA 4.1**
4. Set the Port Name: according to the discovered on the PC and Configure the port as following table:

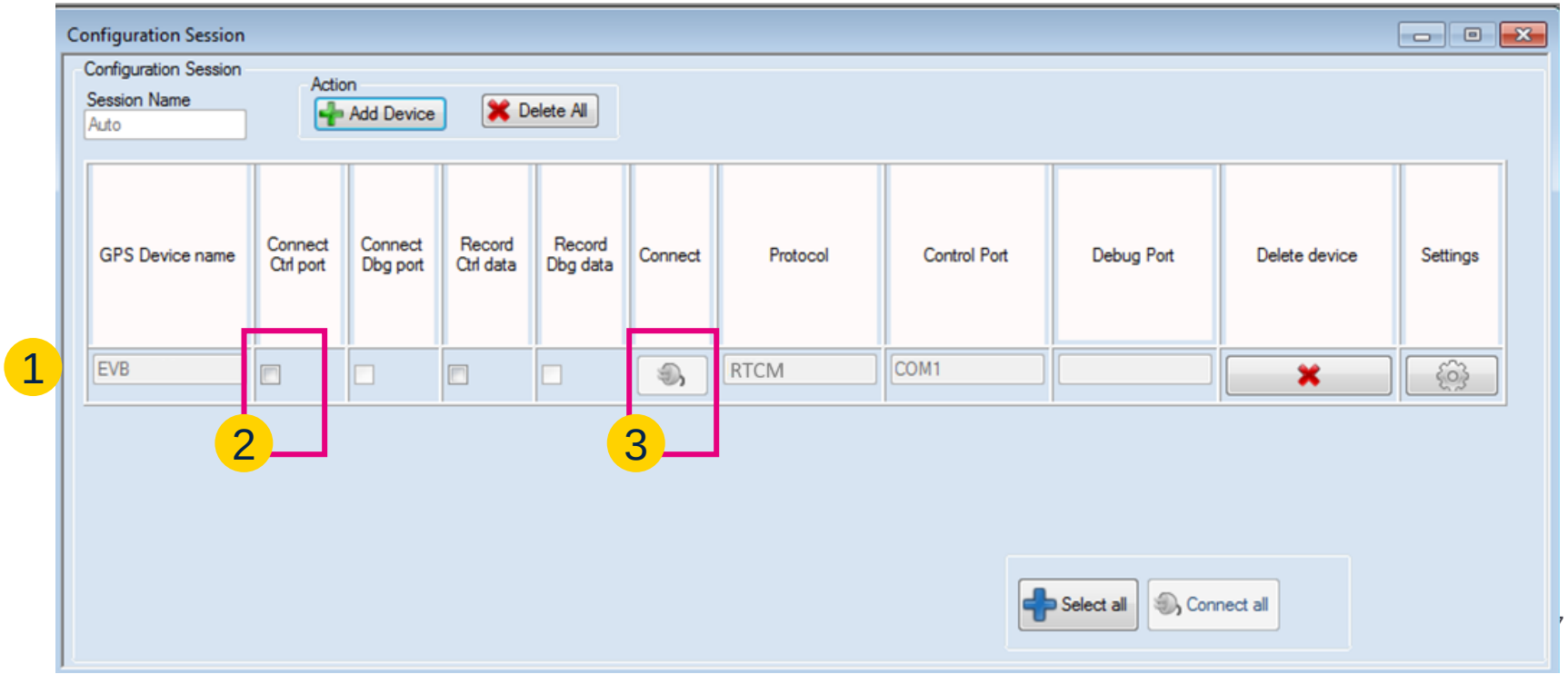
Baud rate	Data bits	Stop Bits	Parity	Handshake
460800 bps	8 Bits	1 Bit	None	None

5. Click the Ok button



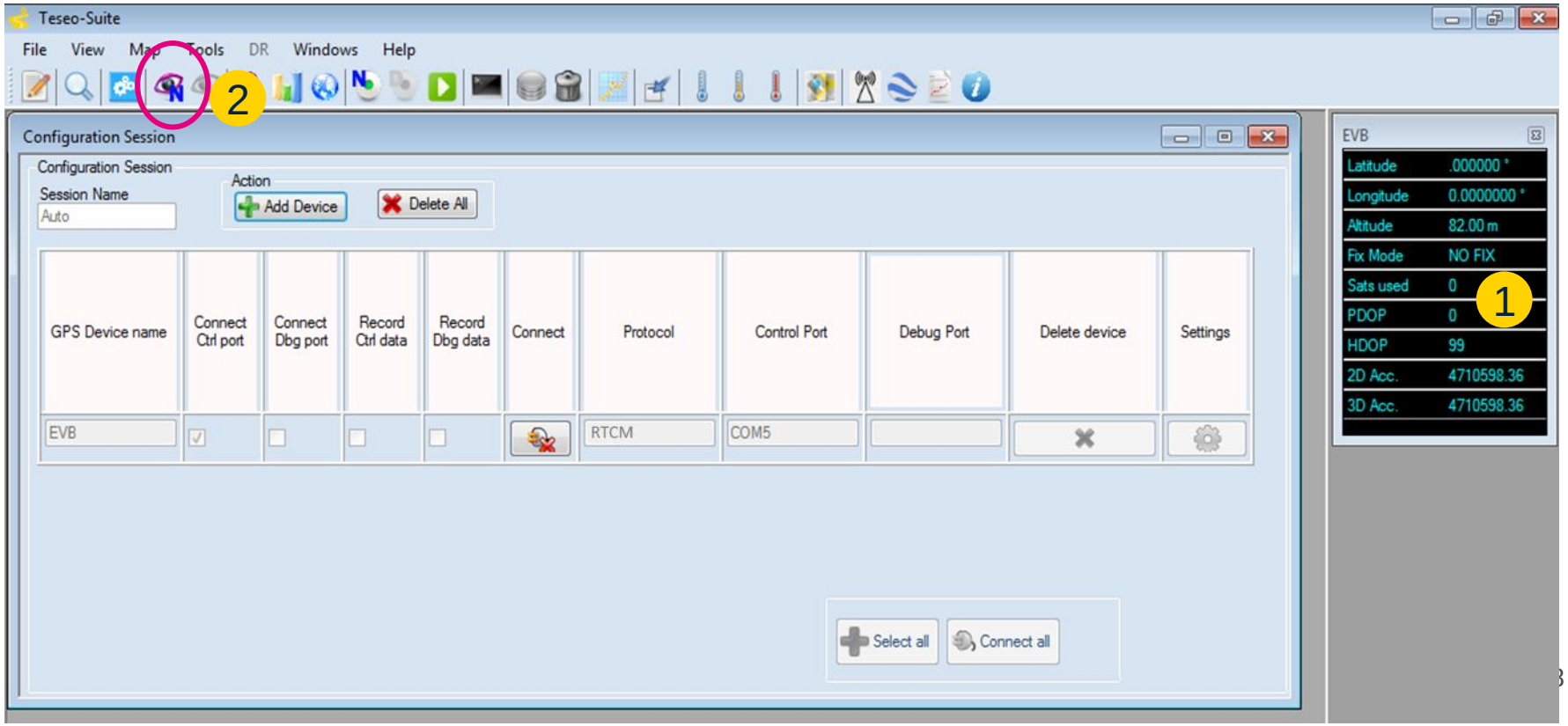
Teseo Suite – Connect the device

1. In the **Configuration Session** panel, a new entry (row) is displayed
2. Enable **Connect Ctrl port**
3. Click the **Connect** button



Teseo Suite – Device working

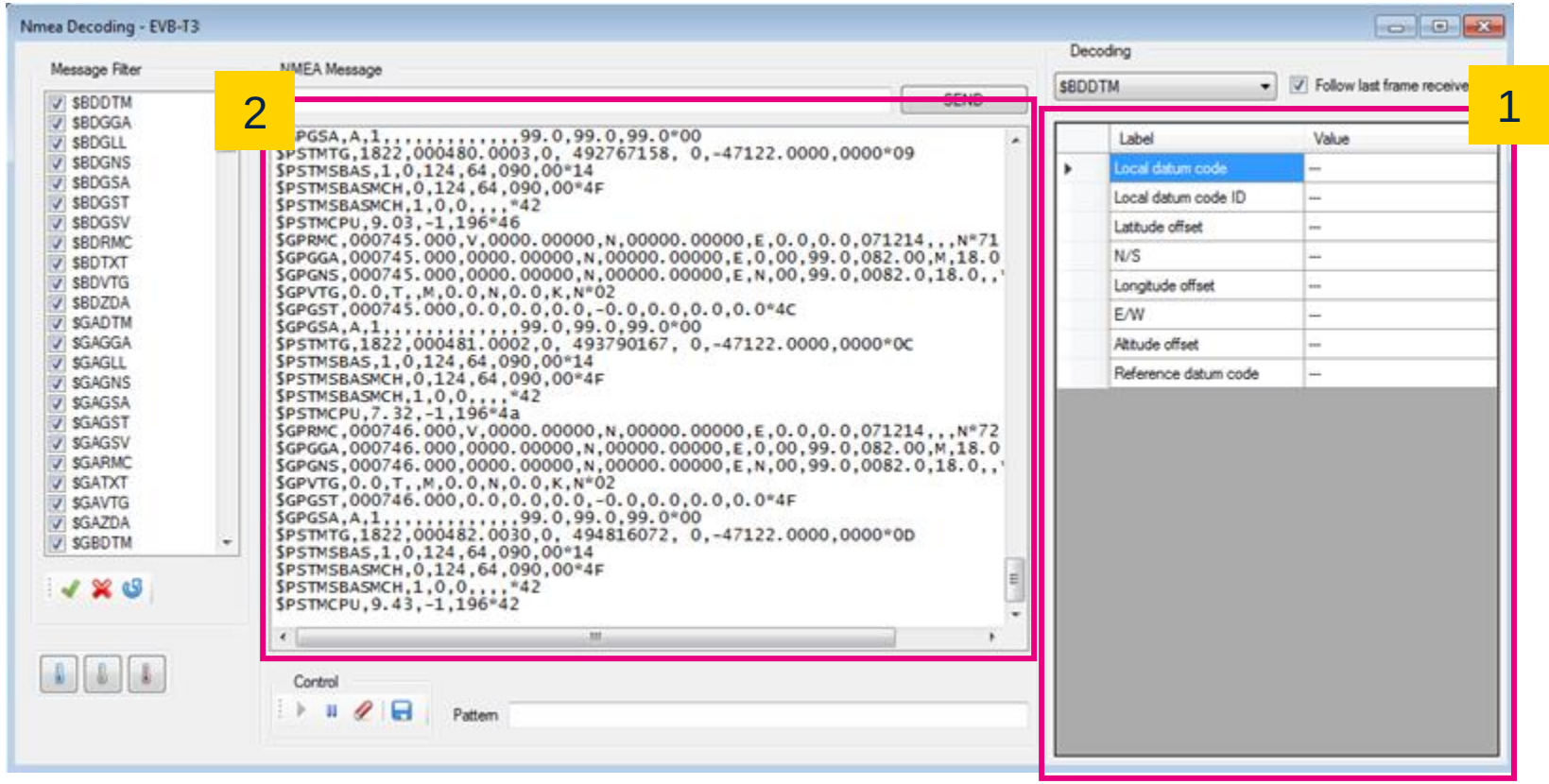
1. In the summary panel, the GNSS EVB-T5DR state is reported
2. Click on the NMEA output window to inspect the NMEA stream



Teseo-Suite – Inspect device

1 The NMEA Decoding panel is shown

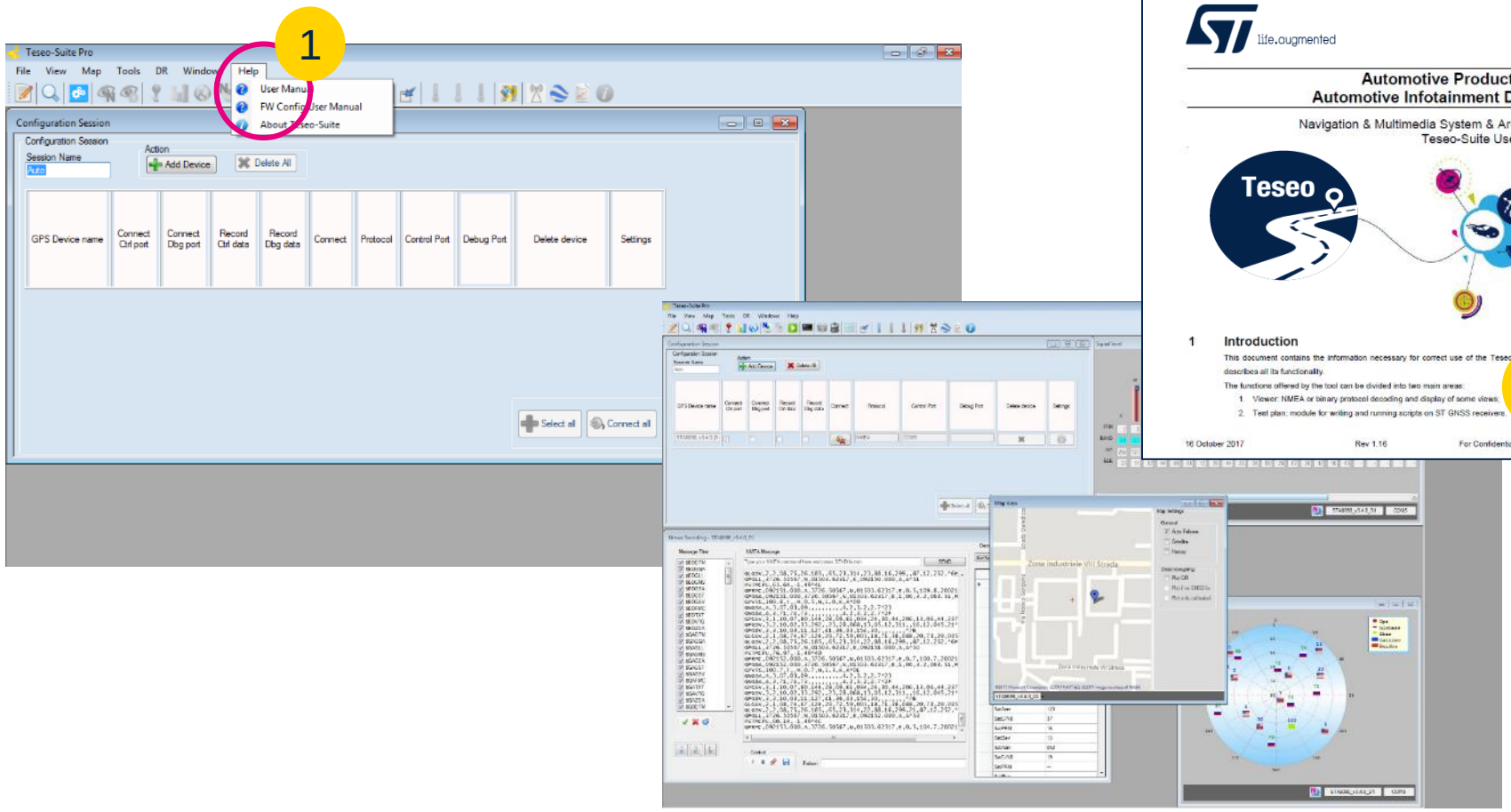
2 The NMEA Stream can be seen and inspected



Teseo Suite – Extra features

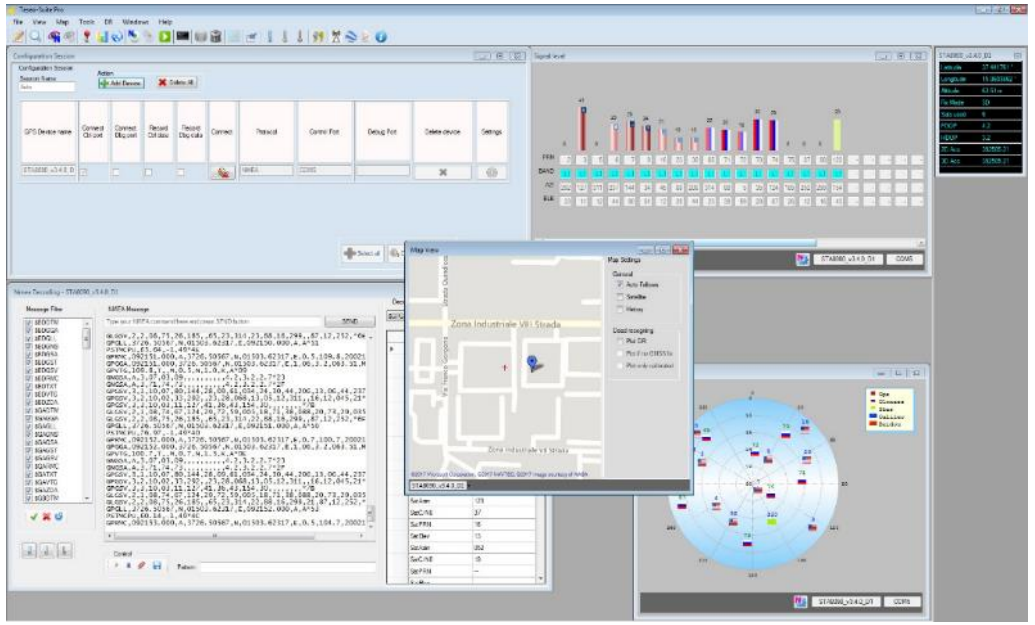
1 Click Help menu to access the User Manual

2 The User Manual gives a complete description



Enjoy the EVB-T5DR

Now you can enjoy the **EVB-T5DR** and explore all features of our **STA8100GA Teseo V Multi frequency GNSS receiver** with the **Teseo-Suite**



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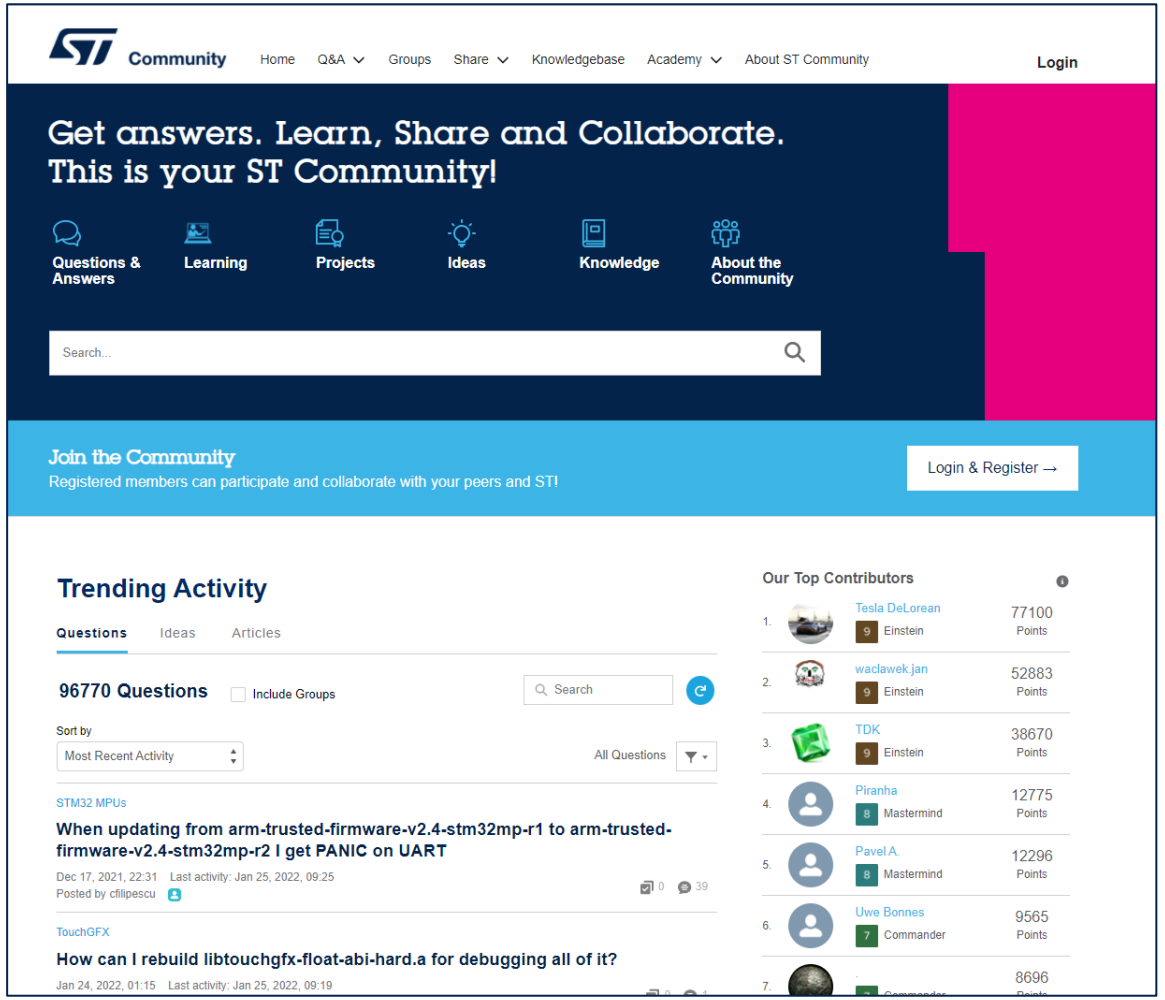
Join us in the ST GNSS community

Get involved in the

ST GNSS community

- Share ideas
- Ask questions

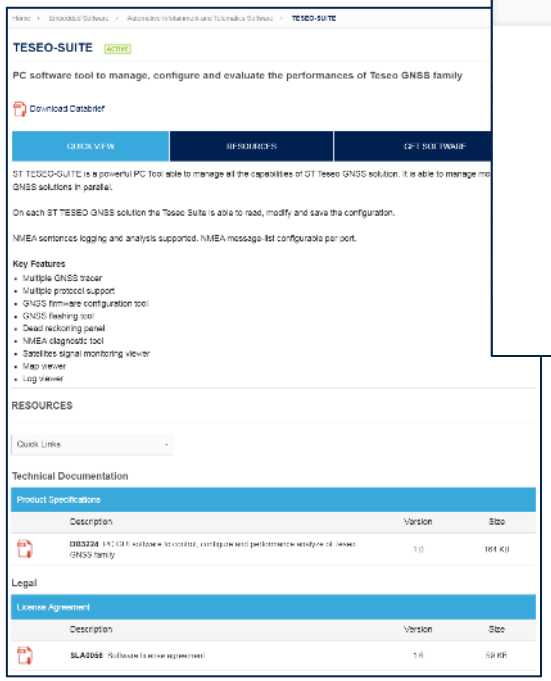


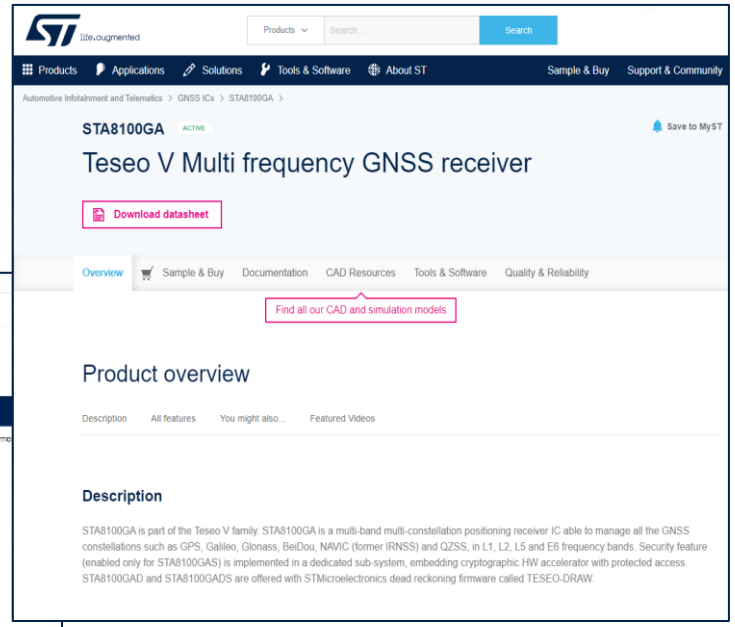
https://community.st.com/community/gnss

Documents & related resources

All documents are available on:

- **STA8100GA: Webpage**
  - Datasheet
- **EVB-T5DR: Webpage**
  - Datasheet
  - User Manual
  - Quick Start Guide
- **Teseo Suite: Webpage**
  - Datasheet
  - Install program





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