



TESEO-SUITE software Assisted GNSS technology

Quick Training Guide

Feb 2021



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Introduction

- Standard GNSS receivers only use data from satellites and require 30 to 32 seconds to evaluate the first position from the moment power is turned on (Time To First Fix – TTFF).
- Assisted-GNSS (AGNSS) is a technology which speeds-up the TTFF, thanks to extra data provided to the GNSS
- Teseo III and Teseo modules support three Assisted GNSS technologies:
 - Self-Trained Assisted GNSS
 - Predictive Assisted GNSS
 - Real-Time Assisted GNSS



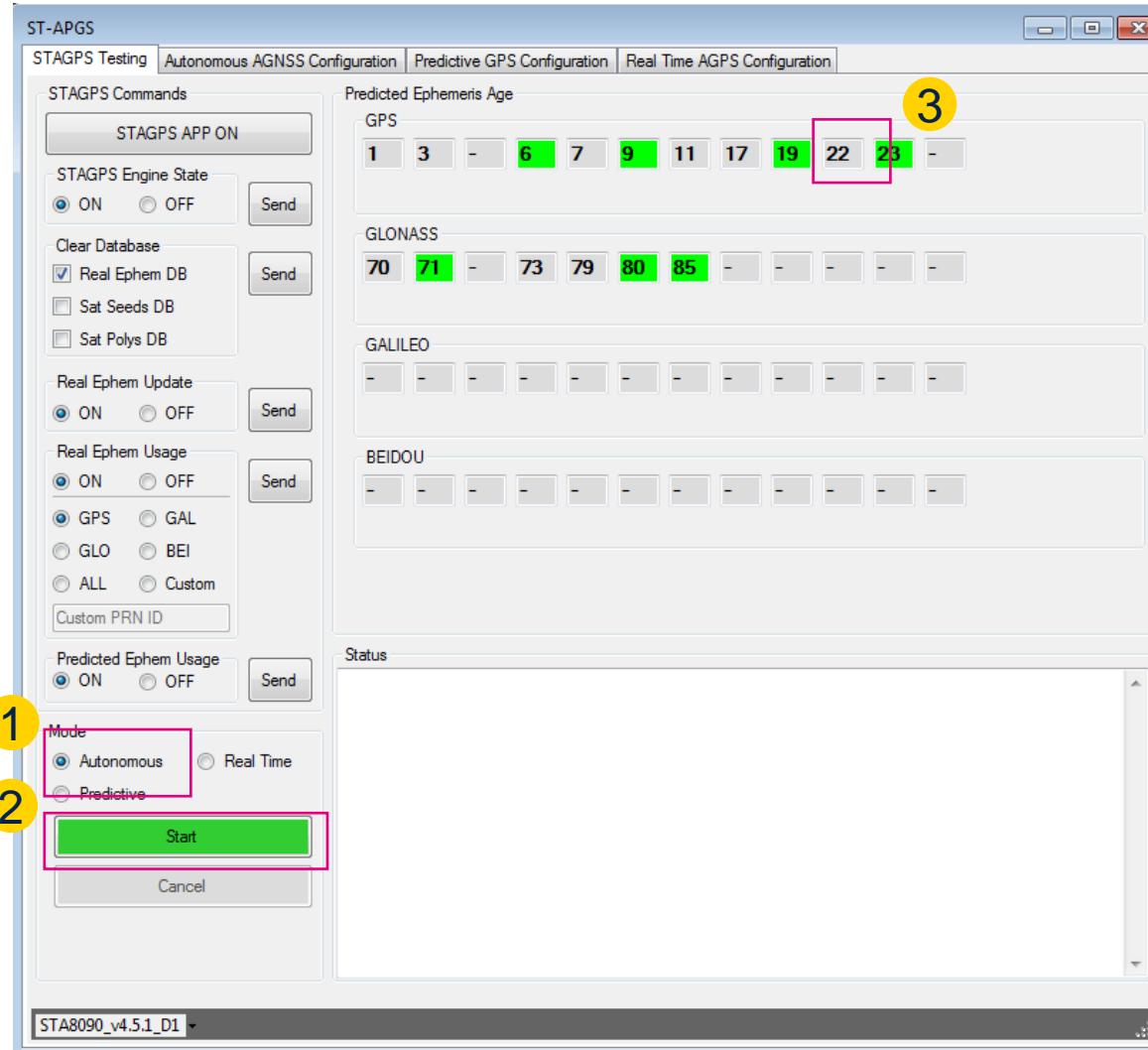
Assisted GNSS technology

Self-trained	Predicted	Real-time
ST-AGNSS predicts satellite data based on previous observation of satellite broadcasted data.	P-AGNSS predicts satellite data based on data downloaded by an assistance server	RT-AGNSS uses real-time satellite data downloaded by an assistance server
No internet connection needed	Internet connection NEEDED (10 ~ 16 KB data for every download based on constellations)	Internet connection NEEDED (16 KB data for every 4 hours based on constellations)
5 to 6 days prediction	14-day prediction	Continuous /Real Time
TTFF ~ 1 - 4 s	TTFF ~ 1 - 4s	TTFF: 1 s

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ST-AGNSS panel



- 1 Switch on the Autonomous Mode
- 2 Enable ST-AGPS monitoring in TESEO-SUITE
- 3 Prediction state for each satellites
Color describes the prediction state of each satellite:

Grey	No prediction available for the satellite
Green	Fresh prediction available for the satellite
Yellow	Old prediction available for the satellite
Red	Very old prediction available for the satellite

NB: the STMAGPS message has to be enabled in the message list

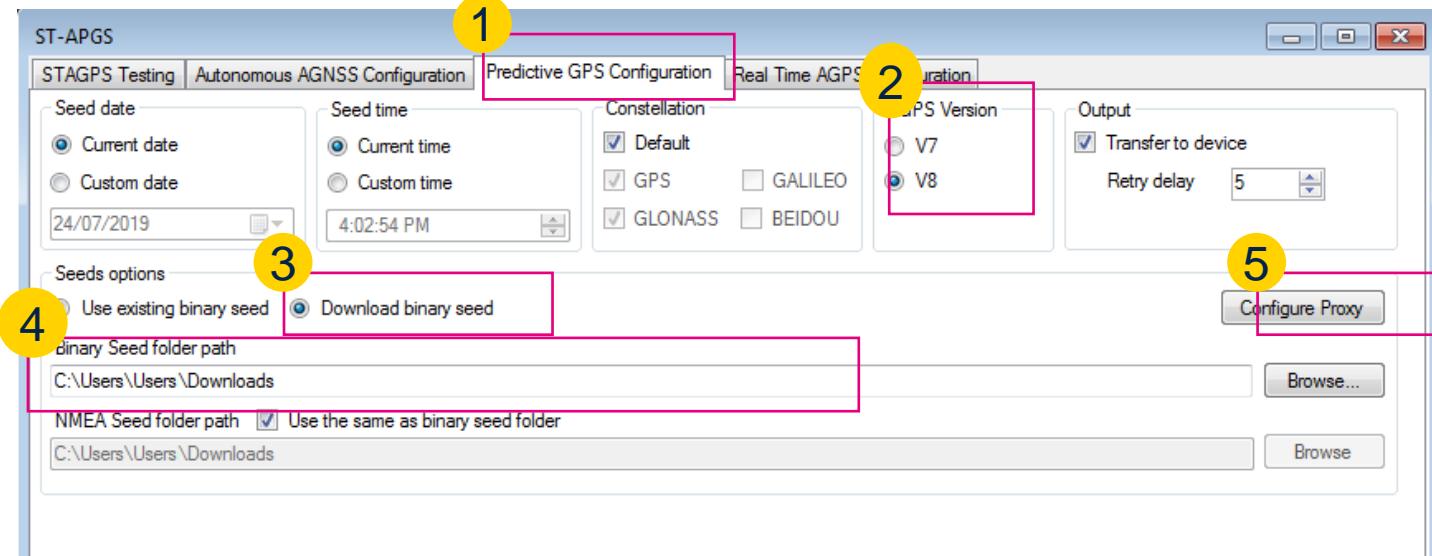


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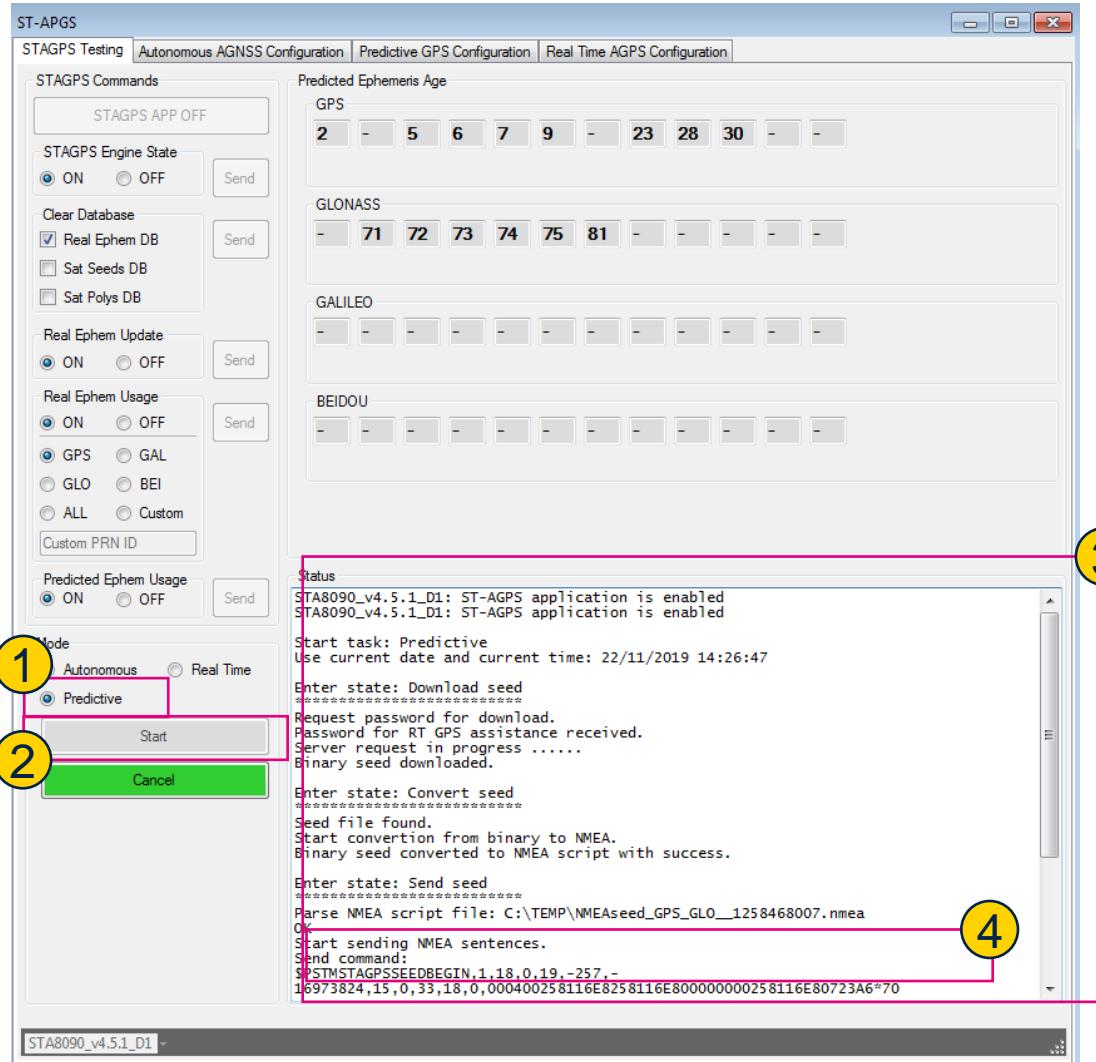
Predictive AGNSS configuration



- 1 Go to the **Predictive Tab**
- 2 Switch on Version **V8**
- 3 Switch on '**Download binary seed**'
- 4 Define where to save the seed-file
- 5 Configure the http-proxy if needed



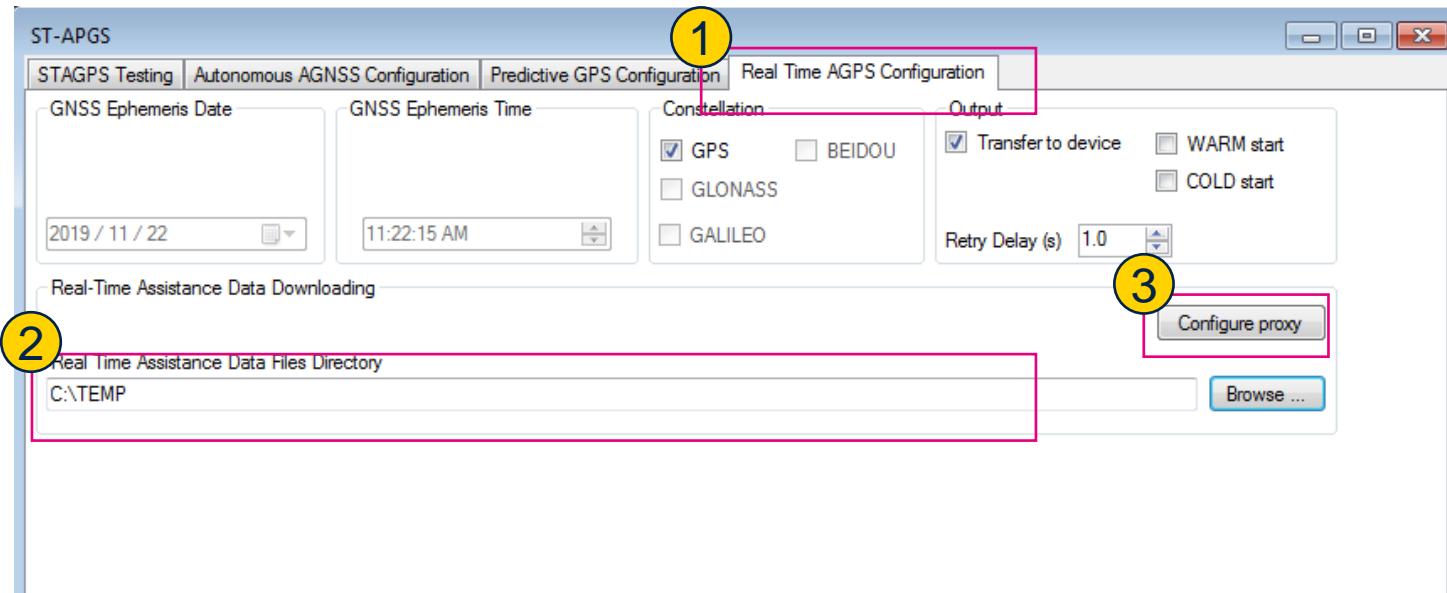
Predictive AGNSS running



- 1 Switch on the predictive AGNSS mode
- 2 Select the Start button to trigger the real-time process
- 3 Monitor the action in progress
- 4 Seed packets are sent to Teseo III GNSS solution

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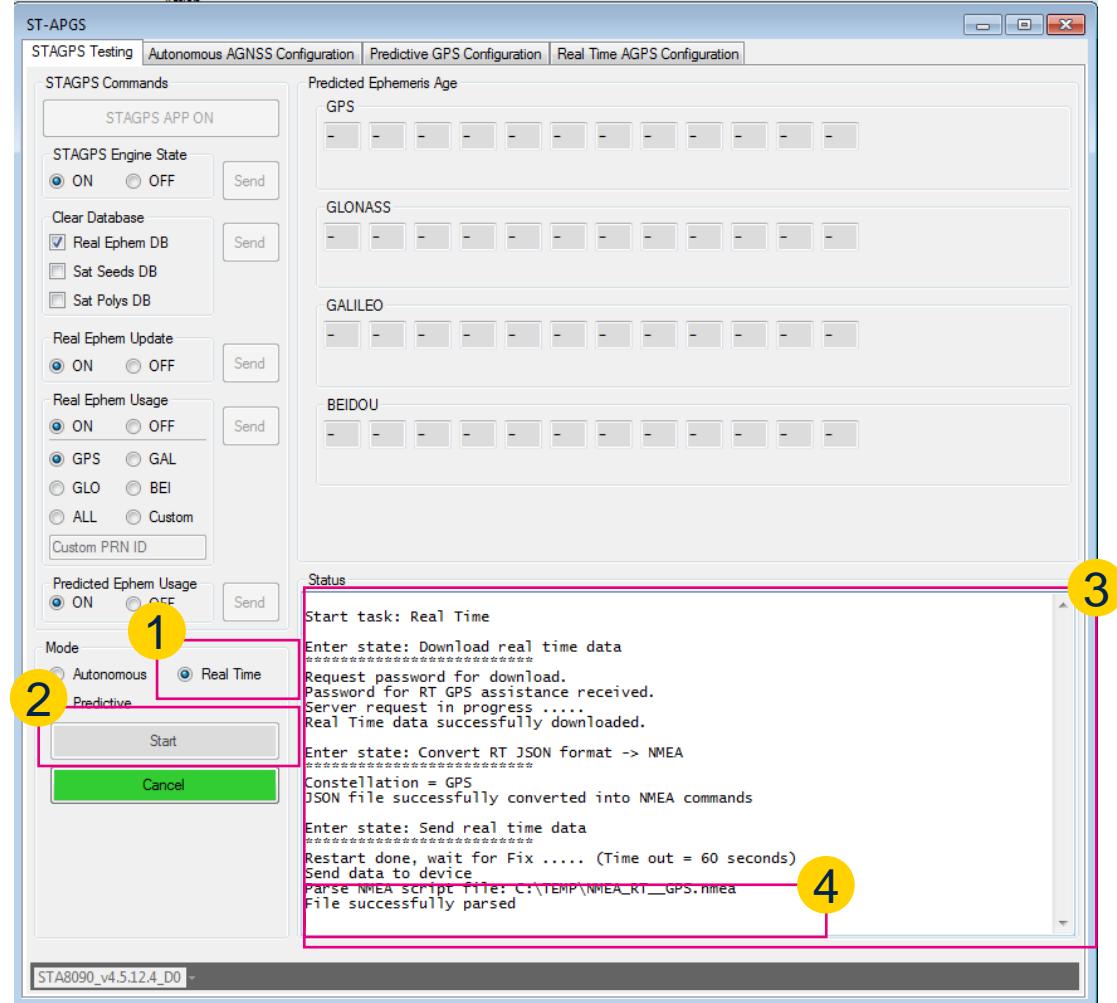
Real-time AGNSS configuration



- 1 Go to the **Real-Time Tab**
- 2 Define where to save the RT-file
- 3 Configure the http-proxy if needed



Real-time AGNSS running



- 1 Switch on the Real-Time AGNSS mode
- 2 Select the Start button to trigger the real-time process
- 3 Monitor the action in progress
- 4 Operation completed

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Documents & related resources available on st.com

Teseo III: Webpage

- Data-sheet of all PNs

Teseo Modules: Webpage

- Data-sheet of all PNs

Teseo Suite: Webpage

- Datasheet
- Install program

GNSS ICs

ST's Teseo family of Global Navigation Satellite System ICs combines high positioning accuracy and indoor sensitivity with powerful processing capabilities, to simultaneously support multiple global navigation systems (BeiDou, Galileo, GLONASS, GPS, and QZSS).

Teseo III is the latest generation of GNSS ICs, and compared to Teseo II offers reduced power consumption, carrier-phase tracking for higher accuracy, and support for Ready-only Memory (ROM).

Our product offering includes standalone positioning chips (SAL) and configurable system-on-chips (SOCs). The standalone devices are offered with GNSS firmware embedded, to perform all positioning operations including tracking, acquisition, navigation and data output. The SoCs offer power processing and spare memory to enable customers and partners to easily and efficiently merge their code or specific IPs with ST's GNSS library to create a highly optimized platform.

Both solutions come with different package options and memory size, and are compatible with the TESEO-DRAW sensor fusion firmware for dead-reckoning and assisted navigation.

Teseo devices address e-call and telematics systems, personal navigation in PNDs and handheld devices, as well as marine and in-car navigation systems.

TESEO-SUITE (ACTIVE)

PC software tool to manage, configure and evaluate the performance of Teseo III GNSS ICs.

Download Databrief

QUICK VIEW RESOURCES

ST TESEO-SUITE is a powerful PC Tool able to manage all the capabilities of ST's GNSS solutions in parallel.

On each ST TESEO-GNSS solution the Teseo Suite is able to read, modify and NMEA sentences logging and analysis supported. NMEA message-list configuration.

Key Features

- Multiple GNSS tracer
- Multiple protocol support
- GNSS receiver configuration tool
- GNSS tracing tool
- Dead reckoning panel
- NMEA diagnostic tool
- Satellites signal monitoring viewer
- Map viewer
- Log viewer

RESOURCES

Quick Links

Technical Documentation

Product Specifications

Description	Version
DB3224: PC GUI software to control, configure and performance analyze of Teseo GNSS family	1.0

Legal

License Agreement

Description	Version
SLA0066: Software license agreement	1.6

EVB-T3 (ACTIVE)

TESEO III evaluation board

Download Databrief

QUICK VIEW RESOURCES TOOLS AND SOFTWARE SAMPLE & BUY QUALITY & RELIABILITY

Teseo EVB board is a complete standalone evaluation platform for Teseo III GNSS ST solution.

Teseo III embeds the high performance ARM946 microprocessor with dedicated SRAM and several serial communication interfaces, including USB, SPI, I_C, UART and CAN.

Performance and configuration can be analyzed using the ST TESEO-SUITE PC Tool2.

Key Features

- ST Teseo III GNSS platform;
- Multiconstellation GNSS: GPS, Galileo, Glonass, Beidou, QZSS are supported;
- USB Power Supply and battery charge;
- Internal battery for standalone usage;
- ON/OFF and Reset buttons available;
- NMEA over:

RESOURCES

Technical Documentation

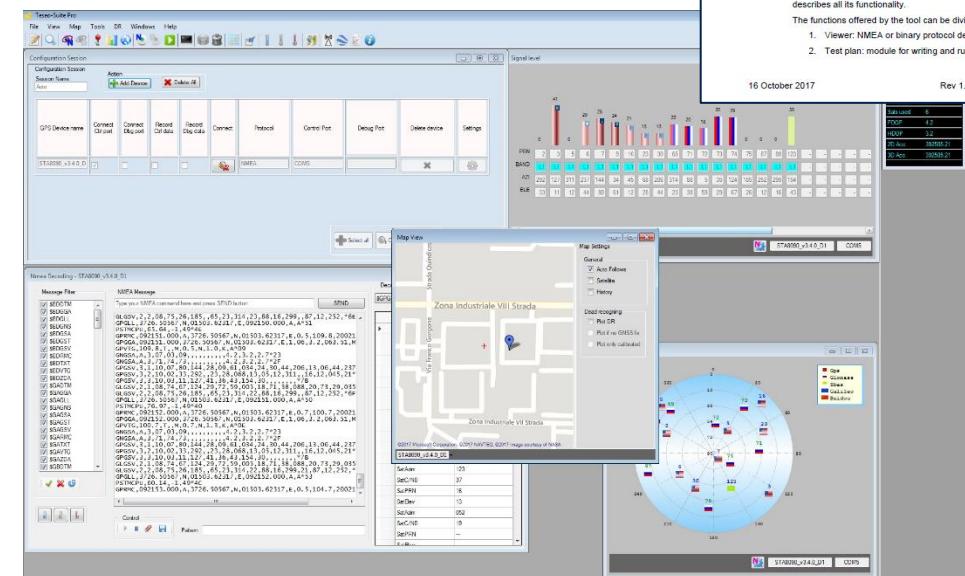
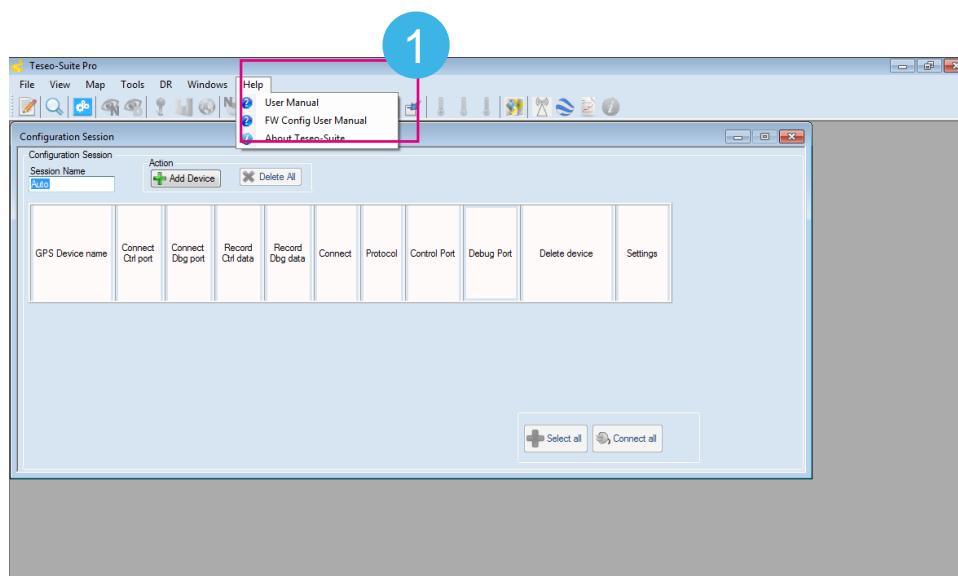
Product Specifications

Description	Version	Size
DB3223: Teseo III GNSS evaluation board	1.0	137 KB



Teseo suite – extra features

- 1 Select the Help menu to access the user manual
- 2 The user manual includes all the information needed





GNSS solution development TESEO-SUITE

- Get started on your GNSS solution with ST's Teseo III and Teseo Module using TESEO-SUITE software to explore all the available features.

