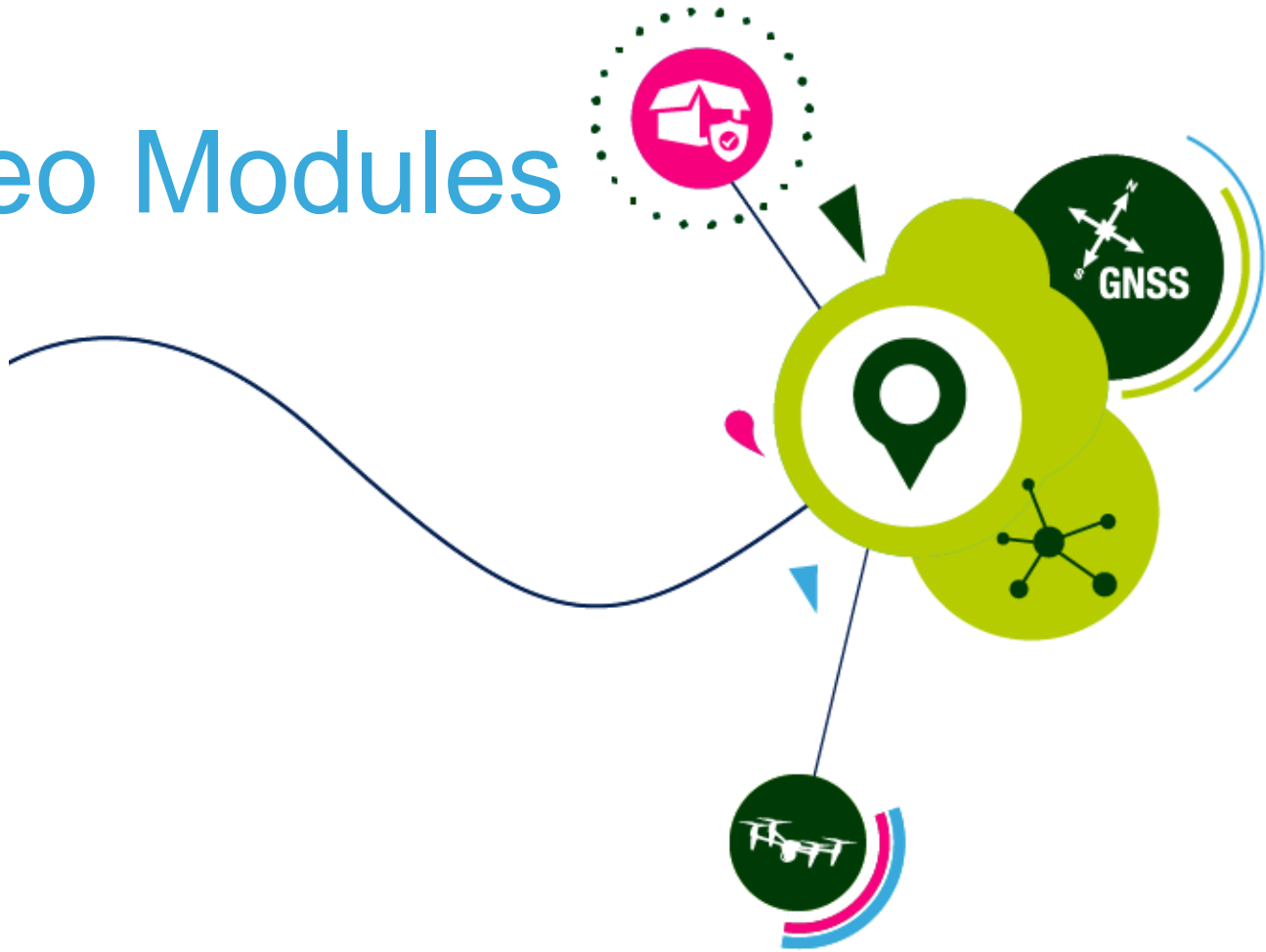




# Teseo III and Teseo Modules Data Logging

**Quick Training Guide**

Version. 1.0 - Feb. 2020





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- Teseo III – Binary Image and Teseo Modules embed also the Data-Logging sub system
- Data-Logging can be used to track/record a path
- Data-Logging subsystem has a set of specific NMEA commands and messages to operate



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- A log is created to specify:
  - Configuration
  - Log type
  - Lowest speed, lowest rate and lowest distance to record a new sample in the log

```
$PSTMLOGCREATE,<cfg>,<min-rate>,<min-speed>,<min-position>,<logmask>*<checksum><cr><lf>
```

**Configuration:**

- Enable Circular-buffer
- Alarm buffer-full

Lowest rate, lowest speed and lowest distance to record a new sample in the log

Log-type



# Start, stop and delete a log

- A log can be started, stopped and deleted by the host with the following commands:

```
$PSTMLOGSTART*<checksum><cr><lf>
```

```
$PSTMLOGSTOP*<checksum><cr><lf>
```

```
$PSTMLOGERASE*<checksum><cr><lf>
```



# Query the data-logging state

- Host can query the datalogging subsystem state with the command:

```
$PSTMLOGREQSTATUS*<checksum><cr><lf>
```

- Teseo III replies with the message:

```
$PSTMLOGSTATUS,<time-first-entry>,<data-first-entry>,<time-last-entry>,<data-last-entry>,<nr-used-entries>,<buffer-status>,<free-entries>*<checksum><cr><lf>
```

- Where it reports:
  - Time and date of the first and last sample
  - Number of used and free entries
  - Buffer status





# Query the log data

- Host can query the log with the command:

```
$PSTMLOGREQQUERY,<start-timestamp>,<start-datestamp>,<numentry>*<checksum><cr><lf>
```

- Teseo III replies with one message per sample:

```
$PSTMLOGQUERY,<status-bitmap>,<logask>,<timestamp>,<datestamp>,<altitude>,<odometer>,<geo>,<quality>,<qualidx>,<fix>,<speed>*<checksum><cr><lf>
```



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# Putting all together...

Using the **Teseo-Suite**, the Host can send the commands and check the Teseo III message responses.

```
HOST > $PSTMLOGCREATE,1,1,0,0,1
T3 < $PSTMLOGCREATEOK*5E

HOST > $PSTMLOGSTART
T3 < $PSTMLOGSTARTOK*1A

HOST > $PSTMLOGSTOP
T3 < $PSTMLOGSTOPOK*42

HOST > $PSTMLOGREQSTATUS
T3 < $PSTMLOGSTATUS,084126,20181128,084146,20181128,21,0,43627*67

HOST > $PSTMLOGREQQUERY,084126,20181128,21
T3 < $PSTMLOGQUERY,1,1,084126,20181128,3,2,1,37.441792,15.060400,0.0,0.0,0.0*0c
...
...
T3 < $PSTMLOGQUERY,3,1,084146,20181128,3,2,1,37.441792,15.060400,0.0,0.0,0.0*09

HOST > $PSTMLOGERASE
T3 < $PSTMLOGERASEOK*1A
```



- The first field in the `$PSTMLOGQUERY` is a bitmap which specifies:
  - 2b00: No more data, and the data in the message is invalid
  - 2b01: more data available, and the data in the message is valid
  - 2b11: No more data available, and the data in the message is valid

```
T3 < $PSTMLOGQUERY, 3, 1, 084127, 20181128, 3, 2, 1, 37.441792, 15.060400, 0.0, 0.0, 0.0*0c
```



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All documents are available on:  
[www.st.com](http://www.st.com)

- **Teseo III: Webpage**
  - Datasheet of all PNs;
- **Teseo-LIV3F: Webpage**
  - Datasheet
  - User Manuals
- **Teseo-Suite: Webpage**
  - Datasheet
  - Training materials
  - 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 GNSS solutions in parallel.

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ST TESEO-SUITE is a powerful PC Tool able to manage all the capabilities of 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 firmware configuration tool
- GNSS flashing 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	
SLA0056: Software license agreement	1.0	

**EV3-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, PC, 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	