

1 Introduction

To validate the implemented evaluation source code, example data files with expected results are provided. All files are available in CSV format. This document describes the structure and units of the provided data.

2 Example Data Files

The provided CSV files contain the following four GPS measurements:

- **gpsTime**
- **gpsSog**
- **gpsCog**
- **gpsNumsat**

All values are recorded at a constant sampling rate and are referenced to the same time base.

2.1 Parameter **gpsTime**

The parameter **gpsTime** represents a time vector with the unit [ms]. The GPS signal is sampled at a rate of 10 Hz.

Under nominal conditions, the time difference between consecutive samples is therefore 100 ms. However, due to possible GPS dropouts or invalid GPS checksums, the time difference between two neighbouring values may be increased.

For regulation evaluation, only the sampling rate is relevant for the analysis. The time information is provided to allow an assessment of the data acquisition process.

2.2 Parameter **gpsSog**

The parameter **gpsSog** represents the horizontal velocity over ground, derived from GPS measurements. The unit of these values is [m/s].

2.3 Parameter **gpsCog**

The parameter **gpsCog** is the directional angle of the velocity, expressed in degrees with respect to north (0°), where east corresponds to 90° . The unit is $[\circ]$, and the range of these values is from 0° to 360° .

2.4 Parameter **gpsNumsat**

The parameter **gpsNumsat** represents the number of tracked GPS satellites that are actively used to compute the GPS position and derived quantities such as SOG and COG.

This parameter shall be used as an indicator of GPS signal quality.