

This readme document gives a description of the EPS-SG RO Level 1b test data.

RO Level 1B test data: EPS-SG_RO_L1B.tar.gz

There are 194 output files in the test data package. The information on all the variables in the output product files are according to the specifications given in the EPS-SG RO L1 Product Format Specification (PFS) document, released along with this package. The RO L1B product is generated using the EUMETSAT in-house prototype YAROS v1.8.

The coverage of the test data product is from 2007-09-12 08:41:07 UTC to 2007-09-12 12:18:32 UTC.

In order to generate LEO orbits, as a first step, real data from the zenith antenna of the GRAS instrument on-board Metop-A was used, in combination with the final orbits and clocks from CODE analysis centre and other auxiliary data (earth orientation parameters, etc.) to compute a precise orbit of the Metop-A satellite. The usual Precise Orbit Determination (POD) setup is used for the centre of mass, antenna phase centre, etc. Therefore, the LEO orbit and clock bias provided will correspond to the real Metop-A satellite.

Using IERS 2003 models (differences to new models, e.g., 2010, are negligible for this test data set), the position, velocity and clock bias for the LEO and the GPS constellation are produced at a 30s rate in both earth fixed and inertial reference frame in SP3-d format.

The nominal constellation is simulated for Galileo (GAL), GLONASS (GLO) and Beidou (BEI) with the following orbital parameters:

- GAL Walker 27/3/1 a=29600km i = 56.0 deg
- GLO Walker 24/3/1 a=25518km i= 64.8 deg
- BEI Walker 24/3/1 a=27878km i= 55.0 deg

where a is the semi-major axis and i the inclination (eccentricity is set to 0).