

GNSS calibration of JV receiver with respect to PTB G1 (1201-2021)

Summary

In March 2021, a GNSS receiver owned by the Justervesenet (Norwegian Metrology Service, UTC acronym JV) was installed at the PTB and calibrated against the Group1 reference station PT13. The method of calibration is the “golden system calibration” which comprises just one period of data taking at the PTB.

The operation and report of measurements at the PTB are described in the [report by the PTB](#).

• Final results for the calibrated system

The INTDLY values of the JV03 receiver given in Table 1 have been computed by the PTB based on the results of the [1001-2018](#) Group 1 trip for PT13 and should not be updated to reflect later changes in the conventional INTDLY values of PT13.

The uncertainty for a P3/E3/PPP link or a C1 link involving JV03 is $U_{CAL0} = 4.0$ ns at the time of calibration, as given conventionally to “golden system calibrations”.

Changes in the set-up of the receivers after the calibration must be accounted for as described in section A.3.6 of the most recent Calibration guidelines in <https://webtai.bipm.org/ftp/pub/tai/publication/gnss-calibration/guidelines/>.

Table 1. Final P1/P2/C1/E1/E5a INTDLY values from the 1201-2021 trip. Values of REFDFLY and CABDFLY during the calibration are also indicated for reference, see note 1 (all values in ns). “Meas. Date” refers to the first day of the differential calibration, to which the calibration results can be applied. “Impl. Date” is the MJD when the results should be implemented in the receiver.

System	BIPM	Meas. date	INTDLY P1	INTDLY P2	INTDLY C1	INTDLY E1	INTDLY E5a	REFDFLY	CABDFLY	Note	Impl. date
JV03	JV03	2021/03/23	16.9	14.7	19.5	19.8	22.2	0.9	196.1	(1,2)	No plan

Notes:

- (1) The REFDFLY and CABDFLY values represent the set-up during the measurements at the PTB.
- (2) JV03 is a PolaRx5 operated in mode “Autocompensation ON”.

Version history

V1.0 2021/05/04: Publication of results from V1.0 of the PTB calibration report.