



Borowiec, 18.06.2024

CALIBRATION CERTIFICATE 07/2024

Astrogeodynamical Observatory Space Research Centre (SRC) certifies that:

- From Jun. 10th 2024, 00:00 UTC, till Jun. 14nd 2024, 23:59 UTC the following set of instruments supplied by:

*Piktime Systems Ltd
company having its registered office at:
Mazowiecka 59, 60-623 Poznań, Poland,*

was calibrated by a **Common View** method at the Time and Frequency Laboratory of the Observatory:

- TTS-5 receiver, s.n. 1030,
 - Choke ring antenna, RinGant G5T sn: RA100060,
 - Antenna cable assembly (TTS5-1030A),
 - Antenna cable assembly (TTS5-1030B),
 - Antenna cable assembly (TTS5-1030C),
- The calibration was carried with respect to the main GPS/GLONASS s.n. 112 TTS-4 receiver at the Observatory.
 - The s.n.112 receiver was several times calibrated against traveling receivers from BIPM Time Section, in particular, in January 2017 against absolutely calibrated BIPM BP1K receiver.

The calibration yielded the following results:

Differential delays of the calibrated receiver:

GPS, L1C: 32.56, RMS: 0.56 [ns],
GPS, L1P: 30.00, RMS: 0.43 [ns],
GPS, L2C: 55.27, RMS: 0.56 [ns],
GPS, L2P: 38.65, RMS: 0.65 [ns],
GLONASS, L1C: 42.73, RMS: 2.76 [ns],
GLONASS, L1P: 43.45, RMS: 2.48 [ns],
GLONASS, L2C: 36.56, RMS: 1.02 [ns],
GLONASS, L2P: 37.59, RMS: 0.94 [ns],
Antenna cable assembly TTS5-1030A: 121.14, RMS: 0.5 [ns],
Antenna cable assembly TTS5-1030B: 183.97, RMS: 0.5 [ns],
Antenna cable assembly TTS5-1030C: 20.25, RMS: 0.5 [ns].

After the calibration, the obtained results were implemented into the receiver.

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