



SPACE  
RESEARCH  
CENTRE  
POLISH  
ACADEMY  
OF SCIENCES

Borowiec, 10.09.25

## CALIBRATION CERTIFICATE 09/2025

**Astrogeodynamical Observatory of Space Research Centre (SRC) certifies that:**

- From June 13<sup>th</sup> 2025, 00:00 UTC, till June 18<sup>th</sup> 2025, 12:00 UTC the following set of instruments supplied by:

*Piktime Systems Ltd  
company having its registered office at:  
Mazowiecka59 , 60-623 Poznań, Poland*

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

- TTS-4 receiver, s.n. 150,
- RingAnt-G3T, s.n.: 00645,
- Antenna cable assembly (TTS4-150), new cable.

- The calibration was carried with respect to the main GPS/GLONASS/GALILEO receivers s.n. 112 TTS-4 and s.n. 1000 TTS-5 at the Observatory.
- Both receivers were several times calibrated against traveling receivers from BIPM Time Section and PTB.

**The calibration yielded the following results:**

Differential delay of the calibrated receiver:

GPS, L1C: 37.16, RMS: 0.40 ns  
GPS, L2C: 49.68, RMS: 0.40 ns  
GPS, L1P: 34.10, RMS: 0.43 ns  
GPS, L2P: 32.08, RMS: 0.66 ns  
GAL, E1: 36.45, RMS: 0.46 ns  
GAL, E5A: 31.85, RMS: 0.80 ns  
GLONASS, L1C: 35.21, RMS: 1.63 ns  
GLONASS, L2C: 41.73, RMS: 2.01 ns  
GLONASS, L1P: 35.43, RMS: 1.31 ns  
GLONASS, L2P: 41.67, RMS: 1.84 ns

Antenna cable assembly TTS4-150: 139.565, RMS: 0.3 ns

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

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