



Borowiec, 22. 06. 2009

## CALIBRATION CERTIFICATE 15/2009

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

- From June 01<sup>st</sup> 2009, 14:06 UTC, till June 14<sup>th</sup> 2009, 23:54 UTC the following set of instruments supplied by:

*Piktime Systems Ltd*  
company having its registered office at:  
Cytrynowa 22, 62-002 Poznań, Poland

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

- TTS-4 receiver, s.n. 107,
  - GrAnt-G3T antenna, s.n.: 00410,
  - Antenna cable assembly (TTS4-107),
- 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.

**The calibration yielded the following results:**

Differential delay of the calibrated receiver:

GPS, L1C: -46.74, RMS: 0.85 ns,

GLONASS, L1C: -146.87, RMS: 2.33 ns,

Antenna cable assembly: 139.55 ns, RMS: 0.3 ns

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

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Borowiec, 22. 06. 2009

## CALIBRATION CERTIFICATE 14/2009

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

- From June 06<sup>th</sup> 2009, 00:06 UTC, till June 14<sup>th</sup> 2009, 23:54 UTC the following set of instruments supplied by:

*Piktime Systems Ltd*  
*company having its registered office at:*  
*Cytrynowa 22, 62-002 Poznań, Poland*

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

- TTS-4 receiver, s.n. 106,
  - GrAnt-G3T antenna, s.n.: 00433,
  - Antenna cable assembly (TTS4-106),
- 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.

**The calibration yielded the following results:**

Differential delay of the calibrated receiver:

GPS, L1C: -48.84, RMS: 1.13 ns,

GLONASS, L1C: -149.21, RMS: 2.88 ns,

Antenna cable assembly: 139.69 ns, RMS: 0.3 ns

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

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