



Borowiec, 15. 08. 2013

CALIBRATION CERTIFICATE 12/2013

Astrogeodynamical Observatory Space Research Centre (SRC) certifies that:

- From August 08th 2013, 10:38 UTC, till August 13th 2013, 07:34 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. 144,
 - RingAnt-G3T antenna, s.n.: 00637,
 - Antenna cable assembly (TTS4-144A, TTS4-1144B, TTS4-144C),
 - GPS Networking Active Antenna Splitter 1x4 WNHALDCBS1X4N5220, sn.: 74750,
 - antenna lightning arrester, PolyPhaser DGXZ+15TFTF-A.
- 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: -34.00 ns, RMS: 0.50 ns

GLONASS, L1C: -243.908 ns, RMS: 1.50 ns

(The delays include also the delays of antenna splitter and lightning arrester)

Antenna cable assembly:

cable "TTS4-144A", cable delay: 346.21ns, RMS: 0.30 ns

cable "TTS4-144B", cable delay: 20.52 ns, RMS: 0.10 ns

cable "TTS4-144C", cable delay: 20.76 ns, RMS: 0.10 ns.

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

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