



SPACE
RESEARCH
CENTRE
POLISH
ACADEMY
OF SCIENCES

Borowiec, 27.12.16

CALIBRATION CERTIFICATE 12/2016

Astrogeodynamical Observatory Space Research Centre (SRC) certifies that:

- From September 27th 2016, 14:00 UTC, till September 30th 2016, 10:38 UTC the following set of instruments supplied by:

*Piktime Systems Ltd
company having its registered office at:
Mazowiecka 59, 62-035 Poznań, Poland,*

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

- TTS-5 receiver, s.n. 1006,
- Choke ring antenna, Javad RINGANT-G3T sn: 00651
- Antenna cable assembly (TTS5-1006),
- Antenna cable assembly (TTS5-1006A).

- 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 delays of the calibrated receiver:

GPS, L1C: -33.14, RMS: 0.42 [ns],

GPS, L1P: -33.03, RMS: 0.40 [ns],

GPS, L2C: -38.23, RMS: 1.20 [ns],

GPS, L2P: -38.33, RMS: 1.12 [ns],

GLONASS, L1C: -38.96, RMS: 0.59 [ns],

GLONASS, L1P: -38.69, RMS: 0.48 [ns],

GLONASS, L2C: -33.75, RMS: 2.51 [ns],

GLONASS, L2P: -33.68, RMS: 2.44 [ns].

Antenna cable assembly TTS5-1006: 143.309, RMS: 0.5 [ns].

Antenna cable assembly TTS5-1006A: 21.220, RMS: 0.5 [ns].

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

Dr Jerzy Nawrocki

Head, Time and Frequency Department

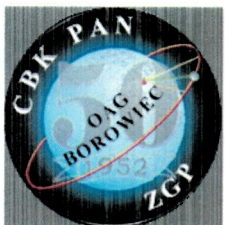
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Borowiec, 27.04.18

CALIBRATION CERTIFICATE 04/2018

Astrogeodynamical Observatory Space Research Centre (SRC) certifies that:

- On March 23rd, the following set of signal cables supplied by:

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

was calibrated with Stanford Sr-620 Counter at the Time and Frequency Laboratory of the Observatory:

- TTS5-1005A2
- TTS5-1006A2
- TTS5-1005B2
- TTS5-1006B2

The calibration yielded the following results:

Antenna cable assembly TTS5-1005A2: 258.141, RMS: 0.5 ns.

Antenna cable assembly TTS5-1006A2: 258.236, RMS: 0.5 ns.

Antenna cable assembly TTS5-1005B2: 62.884, RMS: 0.5 ns.

Antenna cable assembly TTS5-1006B2: 60.739, RMS: 0.5 ns.

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