



SPACE
RESEARCH
CENTRE
POLISH
ACADEMY
OF SCIENCES

Borowiec, 27.12.16

CALIBRATION CERTIFICATE 11/2016

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. 1005,
- Choke ring antenna, Javad, Javad RINGANT-G3T sn: 00654
- Antenna cable assembly (TTS5-1005),
- Antenna cable assembly (TTS5-1005A)

- 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: -33.41, RMS: 0.56 [ns],

GPS, L1P: -33.26, RMS: 0.59 [ns],

GPS, L2C: -38.98, RMS: 0.75 [ns],

GPS, L2P: -39.14, RMS: 0.74[ns],

GLONASS, L1C: -39.46, RMS: 0.83 [ns],

GLONASS, L1P: -39.19, RMS: 0.61 [ns],

GLONASS, L2C: -35.44, RMS: 1.47 [ns],

GLONASS, L2P: -35.46, RMS: 1.37 [ns].

Antenna cable assembly TTS5-1005: 143.841, RMS: 0.5 ns.

Antenna cable assembly TTS5-1005A: 21.150, RMS: 0.5 ns.

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

Dr Jerzy Nawrocki

Head, Time and Frequency Department

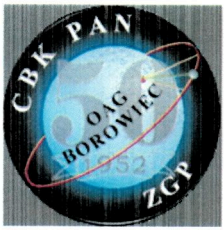
Astrogeodynamical Observatory, Space Research Centre, Polish Academy of Sciences

Ul. Drapałka 4

62-035 Kornik

Borowiec, Poland

Phone: +48 61 8170-187, fax: +48 61 8179-219, e-mail: nawrocki@cbk.poznan.pl



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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.

POLSKA AKADEMIA
Centrum Badań Kosmicznych
OBSERWATORIUM ASTROGEODYNAMICZNE
w Borowiecu
62-035 Kórnik, tel. Poznań (61) 8170-187
fax (61) 8170-219

Dr Jerzy Nawrocki
Head, Time and Frequency Department
Astrogeodynamical Observatory, Space Research Centre, Polish Academy of Sciences
Ul. Drapałka 4
62-035 Kórnik
Borowiec, Poland
Phone: +48 61 8170-187, fax: +48 61 8179-219, e-mail: nawrocki@cbk.poznan.pl