WRS-LJ time error test

Test scope

This document includes the results obtained from the long duration tests performed on the WRS-LJ in order to characterize its time transfer performance.

Test setup

The equipment used for this test is listed below:

- 6x WRS-LJ
- 1x Morion BTULN Oscillator
- 1x Keysight 53230A frequency counter
- SMA-SMA and SMA-BNC cabling
- 1x Laptop

The figure below describes the network topology used in the tests related to the WRS-LJ time transfer performance, which was measured by comparing the 1PPS outputs between the external time reference and the last WRS-LJ of the daisy chain.
Test results

The time error measured as described in the test topology above is included in the next figure.
These results show a time error below 100ps measured between the BTULN time reference and the sixth WRS-LJ device of the daisy chain.

These measurements were taken in a room where the temperature was not stable, so variations in the range of 10ºC (from 20ºC to 30ºC) took place in daily cycles during the testing process.

The long duration of this test allows us to confirm that the variations in the temperature of operation didn’t affect neither the time error nor 1PPS stability of the WRS-LJ.