Abstract

Name of the author: Bc. Miroslav Jurič

Supervisor: Mgr. Lenka Kovářová, Ph.D., MBA

Title: Functional verification of selected running Sport-Testers equipped with GPS

Objectives: The main object of this thesis is to compare an accuracy between compared sport testers using GPS to measure distance and geodetic devices in different environments and conditions.
Followed by attesting or disproving hypothesis about measure accuracy in each instrument and the influence of technological instrumental advancement on speed of connection and measuring accuracy.

Methods: The measure divergency of the used sport testers was thanks to % counted from the difference of measured values on different tests and different conditions beside of the golden standard. Measured values were statistically evaluated.

Results: During the accuracy measurement on straightforward dial-up section was found in Garmin 910 TX with the average deviation -0,15%, Garmin 620 -0,19%, Polar RC3 -0,25 %, Suunto Ambit 2R -0,26%, Adidas Smart Run -0,43 %.
On the curvilinear section was the average deviation of Garmin 910 TX -0,48 %, Garmin 620 -1,025%, Polar RC3 -0,8 %, Suunto Ambit 2R -0,755%, Adidas Smart Run -2,885 %.

Keywords: GPS, sport tester, sports training, navigation system.