

Utilization of GNSS RTK-SMART TB5 as a Low-cost GNSS Receiver for Land Surveying

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SUMMARY

Changes in policy direction within the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) which require land parcels measurement with high target to be carried out quickly, demand an effective work management component. One of them is the material component, namely the procurement of the Global Navigation Sattelite System Real Time Kinematic (GNSS RTK) which is able to produce coordinates accurately in a short time. Utilizing RTK SMART TB5 as a low-cost GNSS receiver can be an option for measuring parcels of land. This study aims to test the accuracy of observations using the RTK SMART TB5 with RTK-Networked Transport of RTCM via Internet Protocol (NTRIP) method. The used research method is comparing the coordinates of the RTK SMART TB5 using RTK-NTRIP method with the coordinates of the static method. The study was carried out by taking 96 sample points in the agricultural area based on the range of 0-5 kms, 5-10 kms and 10-15 kms from the base station of Continously Operating Reference Station (CORS) in Sleman Regency Land Office. The results of statistical analysis show that there were significant differences in the coordinates of the two methods, but they are still below the tolerance required by PMNA/KBPN Technical Guideline Number 3 of 1997 of 0,250 m. The coordinates results of the SMART TB5 measurement with RTK-NTRIP method have good accuracy.

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