

A Review on Legal Traceability of Global Positioning System (GPS) Measurements in the Malaysian Cadastral Practice

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Key words: Cadastre; GNSS/GPS; Professional practice; Standards; Legal Traceability

SUMMARY

As the dependency on Global Positioning System (GPS) surveying has been growing over the years, the need for legal traceability of GPS measurements has become a significant matter. In Malaysia, with the advent of the Malaysian Real Time Kinematic Network (MyRTKnet), GPS surveying has revolutionised land survey and mapping. Correspondingly, the Department of Survey and Mapping Malaysia (DSMM) amended and published standard regulations and guidelines concerning cadastral survey, i.e. Cadastral Survey Regulations 2009, to include GPS measurements. However, these regulations and guidelines do not provide a comprehensive form of legal traceability of GPS measurements; which is a requisite for cadastral surveys as it requires conclusive and legitimate evidence for issues such as boundary disputes. The aim of this paper is to review the current practice of GPS in cadastral survey, and to outline the issues and importance of legal traceability of GPS measurements in cadastral survey. The current practice will be reviewed in terms of calibration procedures, measurement techniques, and observation results (i.e. accuracy and repeatability) to provide a so-called best practice guideline. The outline on legal traceability of GPS measurements will encompass issues related to the aspects of the previous review, as well as further aspects such as reference datum, and methods to implement legal traceability of GPS measurements. It is expected that this paper will contribute to the understanding and implementation of best practice and legal traceability of GPS measurements in cadastral survey.