

Design & Development of Experimental Space GPS Receiver for Occultation Measurement

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Abstract

The students of National University of Malaysia's Satellite and Mobile Research Group (SMRG) Laboratory have commenced detailed design and development of an experimental space GPS receiver for occultation measurement.

This module includes two antennas, RF front-end and correlator chipset, and a microprocessor-based controller system. GPS Receiver for occultation measurement is a science instrument in a satellite. Its phase and magnitude readings are used to extrapolate a few factors into useful datas such as water-vapour content, weather front detection and weather forecasts; according to algorithms that are being developed.

A GPS Receiver controller system is being designed and developed using Strong Arm 1110 microprocessor.

This project in a scale, complements the effort made to jumpstart a Malaysian space technology-based industry; especially in the niche of microsattellites and will be a part of science instruments developed for Malaysian microsattellites

A conceptual overview of this project is discussed throughout this paper.

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