ABSTRACT

The wireless technology has been developed rapidly; many new standards are proposed and ratified, *e.g.* Bluetooth and WiMAX. But we need a cheaper and more robust solution for the wireless technology. As a well grown technology, WiFi considered as a cheap, easy to implement and robust wireless standard to be used in an indoor or even outdoor environment.
WiFi operates at 2.4 GHz, giving throughput up to 5 Mbps effectively. Initially, WiFi was designed for indoor use, but it also then implemented in outdoor environment. For example is its implementation in Wireless ISPs.

The main problem of the outdoor implementation of WiFi is its limited coverage. Besides that, WiFi also requires a near LOS medium to obtain optimum throughput. That's why, in many hilly region, geographical condition has been being a major problem. For this kind of region, the only way to mitigate the problem is to add a new Access Point. With this addition, we hope it will increase coverage of the WISP's service area.

In this final task report, we will design a PoP to overcome coverage problem in a region where some areas are blocked by the hill. And there would be some measurements to know how far the design can overcome the coverage and throughput problems.