

ANALYSIS OF THE COVERAGE AREA OF THE ACCESS POINT USING NETSPOT SIMULATION

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This research aims to map the territory of blankspot on that location, so that it can be used as a reference for optimizing the placement of access points. The research method used was the experiment through the drive test using Nestpot software. The analysis performed includes: Signal level, Signal-to Interference ratio, and Quantity of Access point. Experimental results indicate the quality of the reception on location observed is not the same, some point receive very strong signals from more than one access point, while some other point still entered into the realm of blankspot. Of research results also gained some room located near some of the access point are having Signal to Interference Ratio.

Currently the ease of accessing the internet has become a fundamental requirements primarily a college surroundings. The requirement to always be connected to the internet network is seen with the growing number of access points that are installed to meet these needs. Installation of the access point is often not structured properly so that the area of scoped in the area of coverage is uneven. On the research of the simulation is done against the signal strength of the access point toward the receiver Wi-Fi in the room and the room of the student learning lecturer electrical engineering building 3 and 4 floors.

The current utilization of access to internet network is already widely used. Request student and lecturer for the always connected to the internet network on the rise. The number of access point installed should be able to meet the needs, but the reality that there are currently mounting point of the access point was not arranged properly, so that the laying on of access point at some locations are outside the range of the area. In line with the development of many current technologies utilized for communication through the medium of the internet. The current wireless network has been developing very rapidly with the latest technology refers to the IEEE 802. 11n [1]. At this time there have been many schools, colleges and agencies that utilize wireless networks. In planning a wireless network we need to know the condition of the room as well as a place to placing the access point to work optimally, and every client in every room can capture the signals properly.

This research was conducted to analyze wireless network in the building of the lecture with attention to parameters: Signal level, Signal-to-interference ratio, Quantity and access point. The methods used in this research is a method of experimentation through a test drive using Netspot PRO Software. Nespot PRO serves as the scanning software used for Wi-Fi networks with the primary SSID parameter and can keep track of the strength of the signal. Signal Level

Signal strength can make quality reliable network, the signal level on a wireless reliability can be measured by knowing the value of a quantity specified dBm when scanning for Wi-Fi. The more positive approach the dBm value then the signal is getting good and reliable. Data retrieval is performed for 3 times and the average was taken. The results signal level from the SSID on every space lecturer FPTK electro 3rd floor can be seen in figures 1-2.

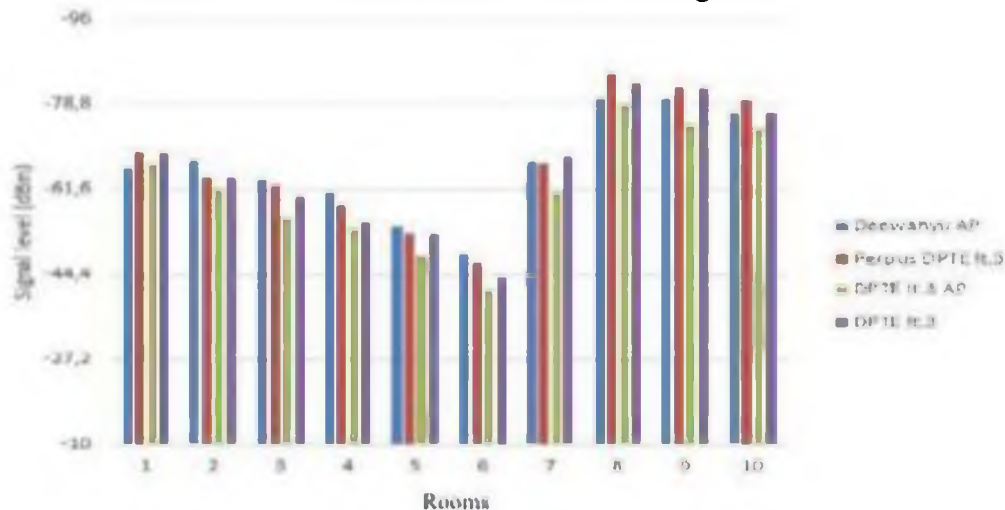


Fig. 1. Comparison of the Signal level from the SSID on every space Lecturer Electro floor 3

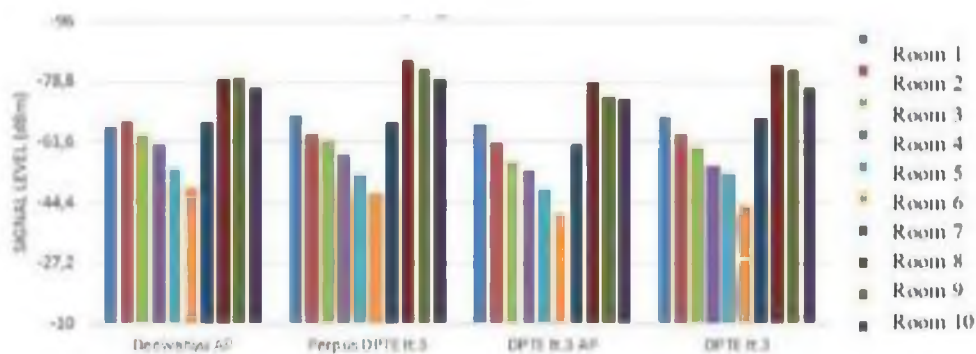


Fig. 2. Comparison of the Signal Level of the Lecturer FPTK Spaces Every third floor to a different SSID

Based on testing and analysis that has been done on this research, the following conclusions can be drawn: Based on the results of the simulation are represented on the graph can be known that the signal level on the 3rd floor is uneven for the entire space, there is a buildup of electrical lecturer SSID on the one room that causes beberapa other blankspot.

Reference:

Martynchuk A.A., Loshakov V.A., Oliver L.M. / Development of a transhorizon communication system based on dual polarization MIMO architecture // "Проблемы электромагнитной совместимости перспективных беспроводных сетей связи (EMC-2015). – Харьков: ХНУРЭ, 2015.