

## ***ABSTRACT***

Wireless network technology is the evolution of the telecommunications industry to provide data exchange or information retrieval services using the Internet, spread via wireless or WiFi networks. Every business, office and university has implemented a wireless network to provide data or internet access capabilities. This study examines how the optimal analysis is carried out in the wireless signal coverage area and interference analysis that can cause interference to the research object, namely. the state of the wireless network at 2.4 GHz and 5 GHz frequencies using the NDLC (Network Development Lifecycle Cycle) methodology and also QOS (Quality of Service) as a systematic research flow and technical analysis using the WSS method using Ekahau Software, Netspot and Wireshark to obtain signal distribution results and also find internet quality that varies quite a bit when it is busy and busy which uses a decrease in throughput, and for WiFi signal strength it is quite good at 2.4GHz but for 5GHz there is a lot of signal strength decrease especially on the 3rd floor the average signal strength is on good indicators (-55 to -65 dBm) this is problematic due to the hectic use and also the location of the access point located in a class room with a distance of 2 classes with 1 access point, for internet strength it is quite good it's just that there is a 50% decrease in Throughput while in the delay and packet loss sections it is quite good because it is very well indicated

Keywords—wireless, coverage network development life cycle, wireless site survey, Quality of Service