

ABSTRACT

Telkom University Landmark Tower (TULT) building is a 19-story building and a smart building-based lecture hall. Through previous research by Rompas (2023), the 5 GHz frequency has not been spread evenly in the TULT Building. In addition, based on observations, there are many Access Points in the TULT Building, allowing interference to occur which has an impact on network performance. Through the research of Dionisio et al. (2018), who tested Wi-Fi with a frequency of 5 GHz, the results showed a decrease in throughput based on the full channel interference scenario. This research uses the NDLC method to ensure that the 5 GHz WLAN at TULT can be used in KBM lectures. The results of the RSSI 5 GHz WLAN measurements at TULT floors 8-15 resulted in the Excellent category. Then, the results of reducing channel interference show that channel interference can be reduced to a maximum of 2 times for indoor and 3 times for small areas. Then, in the results of WLAN QoS testing using the TIPHON standard, the results are in the form of an Excellent category in the average delay parameter, Excellent in the packet loss parameter, and Good in the throughput parameter. With optimization in reducing channel interference, it can maximize the throughput value to the Excellent category. This proves that the NDLC method can optimize WLAN by reducing channel interference on floors 8-15 of the TULT Building.

Keywords : WLAN 5 GHz, TULT Building, NDLC, Channel Interference, QoS