

ABSTRACT

Increasing internet accessibility in the campus environment is one of the important efforts in supporting academic activities and surfing the internet. This research aims to plan the expansion of outdoor WiFi network coverage in the outdoor area of Telkom University campus by considering various factors such as wireless signal propagation, infrastructure, and wireless network structure.

In this planning, a walk test is carried out to see the signal coverage around the outdoor area of the Telkom University campus, simulate signal coverage and interference, calculate the link budget which has pathloss, RSSI and EIRP parameters and calculate BoQ. Then analyze the simulation results, link budget calculations and BoQ to get planning results that are used as planning recommendations.

Based on the results of the analysis, it is found that scenario 4-C is the final solution and recommendation in this planning because it covers the 3 main parameters of solution selection, the planning specifications are in accordance with the targeted specifications and have the lowest BoQ value compared to other scenarios, obtained the BoQ value of scenario 4-C of Rp. 384,964,540, then for the average RSSI value of -33 dBm and the EIRP value of 33 dBm which is in accordance with the planning specifications. This 4-C scenario can expand Telkom University's outdoor WiFi signal coverage areas that were previously not covered by signals such as the canteen near the TULT Building, TULT dormitory hallway, GKU Building parking lot, joglo, peacock cage, postgraduate building hallway, Student Center Building hallway, tennis court and in front of the Faculty of Communication and Business Building.

Keywords: WiFi outdoor, network planning, signal coverage, Telkom University