ABSTRACT

The development of information and communication technology, particularly in wireless networking, plays a crucial role in supporting academic activities in higher education environments. Fast and stable internet access via WiFi has become a primary need for students and lecturers in conducting learning, teaching, and research activities. However, in high-rise buildings such as the Telkom University Landmark Tower (TULT), WiFi signal distribution often faces challenges due to physical obstructions, leading to uneven network quality.

This study aims to evaluate and plan wireless network coverage in the TULT building by measuring signal quality parameters such as Reference Signal Received Power (RSRP) and Signal to Noise Ratio (SNR). The evaluation seeks to identify areas with weak signals and provide recommendations for optimizing WiFi Access Point placement. Data collection was conducted at various points throughout the building to ensure that the measurements accurately represent the actual network conditions.

Through the analysis of the measurement results, it is expected that solutions for improving network quality can be implemented to ensure a more even WiFi signal distribution across the building. This network optimization is anticipated to create a more conducive academic environment, enhance user productivity, and support the growing need for digital connectivity at Telkom University.

Keywords: WiFi, Network Quality, Wireless Signal, RSRP, SNR