ABSTRACT

The development of information technology has a great influence on all aspects of life. Especially in aspects of education and science that are easily accessed through online libraries. Telkom University Open Library is a library that has a vision to become a leader of information technology-based science and knowledge centers in supporting Global Entrepreneur Universities. In accordance with the vision of Telkom University Open Library, it is necessary to analyze the performance of 4G (Long Term Evolution) LTE network to determine the quality of 4G LTE signal for its smooth use. This research was conducted to measure the quality of 4G LTE network performance with the help of G-NetTrack Pro application and using walk test method. Data collection is done by determining the point at Telkom University Open Library that is passed during the measurement. Measurements were made three times, namely in the morning, afternoon, and evening with different conditions. Data analysis focuses on three parameters namely (Reference Signal Received Power) RSRP, (Reference Signal Received Quality) RSRQ, and (Signal to Noice Ratio) SNR so that by measuring these three parameters will determine the quality of 4G LTE network on the object of this research. The measurement results are analyzed in accordance with the (Key Performance Indicator) KPI on each parameter to determine the good or bad network quality. Based on the results of the analysis in this study, obtained the results of RSRP parameters with a range ≥ -90 dBm, the highest value is in the afternoon with a percentage of 90.1%. The results of the RSRQ parameter with a range ≥ 0 dB were not found so that the RSRQ quality was very poor. SNR results with a range ≥ 0 dB get the largest percentage in the morning with a percentage of 5.3%. The findings of this study can provide information about the quality of 4G LTE network at Telkom University Open Library and can help service providers to be able to develop the quality of existing signals.

Keywords: *4G LTE, network performance, G-NetTrack Pro¸ walk test.*