ABSTRAK

Peningkatan jumlah pelanggan suatu operator jaringan seluler tidak hanya berdampak pada peningkatan penghasilan operator tersebut, tetapi berdampak juga pada penurunan kualitas jaringan. Komunikasi dari MS *(Mobile Station)* ke MS *(Mobile Station)* membutuhkan kualitas sinyal yang baik tanpa adanya interferensi dan noise. Tujuan Proyek Akhir ini yaitu mengukur kualitas sinyal saat komunikasi berlangsung (dedicated) dan komunikasi tidak berlangsung (idle mode) dengan parameter yang diukur SINR *(Signal Interference to Noise Ratio)* dan RSRP *(Reference Signal Received Power)* menggunakan *Drive Test pada area* Surakarta.

Pada Pengukuran parameter 4G LTE *(Long Term Evolution)* yaitu SINR *(Signal Interference to Noise Ratio)* mengukur kualitas layanan 4G LTE (Long Term Evolution) pada saat download dan upload dengan drive test,dan mengukur RSRP *(Reference Signal Received Power)* pada saat tidak melakukan download dan upload dalam keadaan data seluler menyala pada Area Surakarta dengan 4 site yang memiliki nilai parameter SINR dan RSRP yang

berbeda – beda, yang dimana nilai sangat terbagus pada RSRP pada site Adisucipto Manahan dengan nilai kurang dari -85 dBm persentase 98,95 % dan pengukuran SINR yang terbagus pada site Purwosari 20 dB dengan pesentase 73,47, dan pengukuran RSRP yang terburuk pada site Kleco bernilai lebih dari -115 dBm dengan persenatse 39,87 %,dan pengukuran SINR yang terburuk pada site Adisucipto Manahan kurang dari -5 dB dengan nilai persentase 58,02.

Kata Kunci : SINR (Signal Interference Noise to Ratio),RSRP (*Reference Signal Received Power), Drive Test*

ABSTRACT

Increasing the number of subscribers of a mobile network operator not only affects the increase in the operator's earnings, but also affects the quality of the network. Communication from MS (Mobile Station) to MS (Mobile Station) requires good signal quality without interference and noise. The purpose of this Final Project is to measure signal quality during dedicated communication and idle mode with measured signal SINR (Signal Interference to Noise Ratio) and RSRP (Reference Signal Received Power) using Drive Test in Surakarta area.

On the measurement of 4G LTE (Long Term Evolution) parameter, the SINR (Signal Interference to Noise Ratio) measures the quality of 4G LTE (Long Term Evolution) service when downloaded and uploaded with drive test, and measures RSRP (Reference Signal Received Power) when not Download and upload in mobile data state on Surakarta Area with 4 sites which have different parameter of SINR and RSRP, which is very good value at RSRP at Adisucipto Manahan site with value less than -85 dBm percentage 98,95% And the best SINR measurements at the 20 dB Purwosari site with a percentage of 73.47, and the worst RSRP measurements on the Kleco site were worth more than -115 dBm with a 39,87% percentage, and the worst SINR measurements on the Adisucipto Manahan site were less than -5 DB with a percentage value of 58.02.

Key: SINR (Signal Interference Noise to Ratio), RSRP (*Reference Signal Received Power). Drive test*

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