

ABSTRACTION

Technology of Communications in Indonesia now is entering a new act by becoming of 3G UMTS (*3rd Generation Universal Mobile Telecommunication System*) or which familiar is WCDMA. The development of WCDMA is expected to accommodate all of high speed data rate services at existing frequency. For assembling WCDMA network need the perfect planning and network optimization, so that can make optimal networks and give advantages.

In this research, the performance of network will be summarizing based on KPI (*Key Performance Indicators*), RSCP, EC/NO. The process will be focused on RNC3_buaran area. To find a problem that exists, we need data's from RNC3_buaran. In this case, Video Retain and PS Retain are needed. The data's show the durability of connection. Drive test needed to find the caused of problems. The author use data's who collected from TELKOMSEL Tbk.

From the following research, the performance of 3G network at Kelapa Gading and Semper can be determined. At Kelapa Gading, 66% of RSCP at an excellent range and 43% Ec/No at an excellent range. At Semper, only 14% of RSCP at an excellent range, and 18% for the Ec/No. Throughput rate at Kelapa Gading is 57,34 kbps. Throughput rate at Semper is 63,08 Kbps.