ABSTRCT

Based on a new temporary site Development Report on Great Asia Afrika (GAA) attraction which is backed by > 90% PRB level in sectors leading to GAA. From the measurement of Walk test and speed test obtained the improvement of the quality of LTE network before and after installation of the COMBAT unit on December 30, 2019 to 05 January 2020 with the value of RSRP ≥-95 dBm before the amount of 75,70% and after the amount of 100,00%, SINR ≥ 0 dB before the amount of 53,58% and after the amount of 97.54% as well as the throughput of ≥ 8.000 kbps before-48% and after 89, 55%. To maintain the quality of the network will be built a new site as a small cell site to cover the GAA area.

In this final project conducted inter-band carrier aggregation planning in heterogeneous LTE network In addition of small cell to replace COMBAT unit by using CADS4 scheme to provide extended throughput around hotspot area around Great Asia Africa Lembang, in order to maintain service quality due to high traffic load during year-end and other long holiday moments. In this final project will be used operator-T service with configuration of macro cell as primary cell (PCell) in Band-1 2100 MHz and micro cell for secondry cell (SCell) in Band-3 1800 MHz. Planning is done based on the approach of coverage planning and capacity planning. This design simulation will be done using the Atoll 3.3 software with the parameters measured by the throughput, RSRP, SINR and user connected.

The results of this planning has met the RF parameters LTE standard with an average value of RSRP of-92.65 dBm, SINR of 16.55 dB and a throughput value of 1,062 Mbps with a user-connected percentage of 97% so that it has improved the quality of the LTE service in the Great Asia Africa tourist area, especially for data services.

***Keywords**: LTE-Advanced, HetNet, CADS4, Atoll 3.3*