ABSTRACT

The growth of mobile communication customers increasingly growing by leaps and bounds. Rapid growth of mobile communication subscribers must be followed by adequate infrastructure. BTS towers development in big cities the day having licensing issues land constraints so as not to allow the built the new BTS towers. On the other hand the telecommunications operators should also soon serve the increasingly congested traffic and also expand capacity. There must be a solution to replace the BTS towers. BTS Hotel is a combination or the development of microcell, repeaters, pole technology or micro tower, antenna camouflage, camouflage pole.

In this final project has been carried out an analysis of the traffic data of mobile user on Cluster Suryasumantri Bandung as well as planning BTS Hotel with BBU-RRU type scenario, where this scenario is intended for single operator with GSM and UMTS technology. In conducting the planning determining the placement of the pole, coverage planning, and capacity planning. It aims to calculate the number of pole positions and obtained results two pole needed to serve users in the cluster so that it can be seen in its influence on the quality of the existing network.

The results of the research in this final project shows that the performance of the network in terms of coverage, there is a portion of area is not good especially on the existing UMTS network. Evidenced based on simulation software Atoll 2.8 existing average RSCP is -80,84 dBm. Ec/Io ≥ -12 dB is 95%. After installed two pole BTS Hotel, RSCP average increased by 11,61 dB become -69,23 dBm and Ec/Io increased to 98%. On the GSM network, between existing and after installed two pole BTS Hotel shows results that are equally good. Proper planning and worthy would be considerate by the operator in Indonesia in implementing BTS Hotel.

Keywords: BTS Hotel, BBU-RRU Type, C/I, signal level, RSCP, Ec/Io, pole