ABSTRACT

Along with developments in technology, the requirement of high speed data service is increase. LTE (Long Term Evolution) network that has a data rate capability of 100 Mbps for downlink and 50 Mbps for uplink direction is one of the data services that perceived to be able to fulfill the requirement of high speed data service. Not only for urban areas, natural tourist areas also need high-speed data services. One of the areas is Kiara Payung Campground Jatinangor. In natural tourism usually have problems with data services. The problem can be caused by the unavailability of data service, bad signal received because the distance from the urban tourism object or service received data cant fulfill because visitors of natural tourism is increasing. In addition, one of the contributing factors is the hilly nature contour which affects both the poor reception signal. This network planning is intended to support LTE services in order to reach the natural tourism area.

In this research using Microwave backhaul in planning area of Kiara Payung Campground, Jatinangor, Sumedang Regency. This network planning uses the parameters of planning: capacity and coverage frequency at 1800 MHz using Pathloss software and ATOLL software.

Based on calculations and simulations on the design of LTE in the natural tourist area of Bumi Perkemahan Kiara Payung, planning of microwave backhaul links in the area requires 1 new site.

From the simulation results using Atoll software that has been done in the LTE cell planning section, the RSRP value is -102.75 dBm and the SINR value is 21.29 dB. Whereas in the backhaul link planning, the results obtained in scenario I are received signal value of -42.48 dBm and availability of 99.99998%. While in scenario II the received signal value is -50,29 dBm and availability of 99.99999%.

Keywords:LTE, Backhaul, Microwave.