

## ABSTRACT

*Currently there is already a network bandung access LTE, but there are still some areas that are still not covered for LTE network, so the need for proper telecommunications network design in order to get good communication services. At this time PT.Tri Indonesia has provided LTE network services for the city of bandung bandung, a solution that has been done to overcome these problems is to increase the existing site which is then reinforced by using repeaters to serve LTE service in the city of bandung. However, the solution is still not fully cover all cities bandung.*

*In this final project, we have done microwave fronthaul planning analysis using microwave communications. Fronthaul microwave is a transmission between BBU located on eNodeB existing site to RRH located at new site. To analyze the design of data access covering the planning area, the design of microwave link, coverage planning and capacity planning LTE network. It is then simulated using pathloss 5.0 software for microwave link and atoll for coverage planning.*

*Based on calculations and simulations, with a working frequency of 70 Ghz and device specifications used for gain antenna of 40.6; 43.0 and 50.0 dBi and minimum power of -75 dBm. Getting the results of all microwave fronthaul links reaches availability of > 99.99% with a fade margin value of 28 dB to 45 dB, this is because the receiving power of each site is greater than the minimum receive power value of the device. Then from the planning coverage in one of the planning areas, the average RSRP value is - 82.48 dBm and the average SINR of 6.07 dB thus the simulation of RSRP and SINR coverage coverage plan is said to work because it is included in good condition.*

**Keywords:** *RRH, BBU, Fronthaul, Microwave Link, receiving power value, RSRP, SINR.*