

ABSTRACT

Microwave radio communication used as transmission between Base Transceiver Station (BTS) to Base System Control (BSC). Meanwhile, in Indonesia has many mountain or hill which can cause communication in transmitter is not fully received by receiver. Communication disorders due to there are object between the hop link transmission is called multipath fading. The situation can be solved with passive repeater antenna and back to back repeaters plane reflector.

In this skripsi will be made microwave network design use repeater back to back antenna and repeater plane reflector on the same site. Microwave network planning in area Bogor on site Gedong Panjang with coordinates 06 55 52.79 S 106 55 22.67 E and Teluk Pinang at coordinates 06 40 41.31 S 106 50 55.60 E. The design of microwave network using software Pathloss 5.0.

The result of the RSL using repeater antenna back to back is -82.88 dBm and the availability is 99.86687%. When using a plane reflector RSL value is -77.07 dBm and the availability value is 99.94187%. Both the value of the result availability already in the ideal conditions because the value is above 99%, but from the results comparison of the performance, the availability value while using reflector better than while using repeater back to back. So by using reflector for microwave transmission network system can increase good quality service.

Keyword : *Microwave, Pathloss 5.0, Repeater Back To Back Antenna, Repeater Plane Reflector,*