ABSTRACT

According to the Indonesian Central Bureau of Statistics, Indonesia's population has reached 264 million. As the population grows, the telecommunications network users also increase in Indonesia. Along with the increasing number of users, the telecommunications network services also need to be improved. Indonesia itself has implemented several telecommunications technologies and one of them is cellular technology. In cellular technology the media used is air in the form of microwaves which are commonly called microwaves. Microwave radio communication technology is used as a means of transmission between the Base Transceiver Station. Because the signal is transmitted through an air medium, this communication is susceptible to interference caused by weather changes. In this situation, it can be overcome by the use of passive repeaters. In this final project microwave network design uses repeaters to back to back and double flat reflectors with the same hoplink. The design of this microwave network was carried out in South Sulawesi with the xBantaeng site located at the southern latitude coordinates 05° 29° 07.04° S and east longitude coordinates 119° 51° 51.49° E. While the xSinjai site is located at coordinates south latitude 5° 13° 19.23° S and east longitude coordinates 120° 4° 32.27° E, and southern latitude coordinates 5° 21° 21.08° S and east longitude coordinates 119° 56° 13.83° E for repeater placement and reflector. This design uses Pathloss 5.0. For the case in this Final Project both the use of repeater back to back and double flat reflector both get optimal values. 99,95866% for repeater back to back capabilities and 99,82100% for double flat reflectors. With the conclusion that the use of double flat reflector produces better availability.

Keyword: Microwave, Repeater Back to Back, Double Flat Reflector, Pathloss 5.0