ABSTRACT

Convenience of use of telecommunications services currently an important thing that should be provided by the telecom service provider for public interest such as the use of telecommunications services in the room, especially in data communication services. Femtocell is a solution to guarantee the good quality and high-speed telecommunications services in the room. However the use of femtocells to mass remains a problem. One problem is the reduction occurred at radio frequencies between femtocells or with other cellular network, due to interference.

In this research analyzed on reducing interference between femtocells are adjacent to each other by using a scheme based LTE interference management technique. In this method utilizes a soft frequency reuse to compare the value of the Signal level, CINR and the total rejected between femtocell and macrocell users.

The parameters used in this thesis is the signal level, and the total user CINR rejected on femtocel and macrocell. From the analysis of the planning is done, acquired 60% of the area has coverage above -85 dBm signal level at the macrocell and femtocell either. For macrocell CINR value without soft frequency reuse without the SFR of 8.47 dB, while using the SFR to 13.1 dB. While the femtocell increased from 28.89 dB without applying the SFR method be 34.7 dB. As for the parameters of the total rejected either macrocell or femtocell users, respectively 1.7% and 0.8%.

Keywords: soft frequency reuse, Signal level, CINR and the total rejected user, femtocell and macrocell