

ABSTRACT

Wireless communication research shows that almost 50% from phone communications and 70% from data communications are happened in the building. [1] However, power transmitting and receiving in the building can cause signal degradation which is caused by walls or obstacles among transmitter and receiver. Femto-cell or Home eNodeB (HeNB) presents as a promising solution to cope power degradation in indoor area which causes Quality of Service reduction. But, one of the femto-cell's drawback is there would be a big probability of interference that influences transmitting processes.

To overcome those problems, interference management scenario is applied using SFR or Soft Frequency Reuse which heads for interference management. In this method, cell is divided into 2 sections, which are cell center and cell edge. This division will make planner easier when allocating power among cell center and cell edge, where cell edge's allocated power must be higher than cell center's.

This proposed method shows development from SINR value and throughput after being simulated using SFR. Average value of SINR using frequency reuse 1 method is 3,1011 dB, meanwhile using SFR results 19,910 dB in cell edge and 17,775 dB in cell center. And the throughput average value using reuse 1, SFR in cell edge, and SFR in cell center is 34,4169 Mbps, 134,065 Mbps, and 119,204 Mbps respectively.

Keywords: *Soft Frequency Reuse, LTE Femtocell, interference management.*