

## ***ABSTRACT***

Femtocell is a base stations installed in the room with a small size so that customers can get cellular service indoors. The use of femtocells is intended to increase coverage and capacity indoors. Femtocell is connected to the Internet Service Provider using DSL. There are three types of access methods at the femtocell, open access, closed access, and hybrid access. The fundamental difference seen in the open access and closed access. Surely it would cause problems associated with channel capacity if we use open access and closed access due to the addition of another user as a interference factor.

In this Final Project is researched the use of OFDMA (Orthogonal Frequency Division Multiple Access) to get the capacity and throughput of the closed access and open access. The problem that occurs is how are the effect of changing velocity, increasing the number of users and changing the distance to the capacity and throughput that are resulted on closed access and open access method.

In this simulation of final project is obtained the reduction capacity on closed access for 45.88% when use the open access with the conditions of the various speeds between 0-7 km. Meanwhile, with the addition of user, capacity on closed access will decrease by 8.3% compared with the capacity to open access. While the throughput in closed access will decrease for 942%. But when the distance between FAP and subscribers is about 20 m, the capacity of closed access is 99.6% greater than the capacity on open access. Whereas if the distance between FAP and subscribers is about 5 m, the capacity of the open access 12x greater than the capacity on closed access

**Keywords : femtocell, OFDMA, uplink, closed access, open access, kapasitas**