ABSTRACT

Femtocell is small base station installed at subscriber point to serve need of high speed data access in building condition. Generally, femtocell uses xDSL, cable, or optical connection as the backhaul to operator network. To know femtocell performance accurately, it's needed to compare simulation reults with measuremen results of femtocell. For same frekuensi usage of femtocell and macrocell, it's needed to analyze the effect of interference to femtocell performance parameters.

This Final Project will discuss about correction factor calculation for femtocell propagation model by comparing measurement results with simulation results. Femtocell HSDPA performance parameters that analyzed are coverage, SINR, CQI, and throughput. Performance analysis consider the scenarios of femtocell and macrocell that utilize different and same carrier frequency.

Analysis results shows that it's need to add correction factor with value 10 dB to the result of COST 231 MWM propagation model. Femtocell performance from the measurement is depend on SINR, UE category, and HSDPA profile determined by cellular operator. Femtocell performance will compy operator standard if minimal SINR that received by UE is 0 dB and it will be happen when minimal femtocell to macrocell distance is xx meter.

Keywords: femtocell, correction factor, SINR, CQI, throughput, interference, HSDPA