

THE EFFECT OF PATH LOSS COMPENSATION
FACTOR TO SINR PERFORMANCE IN TWO-TIER LTE
NETWORK

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ABSTRACT

In order to enhance indoor coverage, Long Term Evolution (LTE) has developed new technology called femtocells or called as Home Evolved Node B (HeNB). This low power device is a home base station that is installed by home or business user themselves. Also, this high-performance device operates in licensed spectrum and provide low cost coverage and capacity for small areas over public Internet backhaul. However, femtocell deployment in existing network caused interference between femtocells itself and interference to the existing macrocells. By having these types of interference, overall femtocell performance definitely will be affected. This paper will investigate the effect of path loss compensation factor, α in a mobile cellular system and proposed the best value of α . The values is then used in simulation to analyze UE's Signal to Interference and Noise Ratio (SINR) performance. The simulation is done using Matlab software and based on several interference scenarios that possibly occur in hierarchical mobile cellular network. Based on the simulation result obtained, higher value of α gives better SINR for UE.

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