

ABSTRACT

Long Term Evolution (LTE) is a 4G technology that has a high level of mobility handover to the speed of 350 km / h. But actually there are some problems handover the Radio Link Failure (RLF) and the ping-pong effect. Both of these problems occur because the control parameter setting eNodeB handover the resulting lack of proper handover failures and ping-pong handover. Through LTE Release 9, 3GPP introduced the concept of optimization Self Optimizing Network (SON) methods Mobility Robustness Optimization (MRO). MRO perform optimization by collecting data control parameter threshold settings on the eNodeB handover of handover failures that occur, so that the data is used as reference for adaptation in reducing the number of subsequent handover failure.

In this thesis performed the analysis of algorithms LTE inter-eNodeB handover via the X2 interface. The system uses MRO method so as to know the amount and probability of handover failures and ping-pong handover of being tested. By visualizing the MATLAB 2009a software, then this system is mathematically model the process of handover based on RSRP (Reference Signal Received Power). Testing simulation systems for the variation of the handover parameters such as handover margin (HOM) and time-to-trigger (TTT) at a certain speed in dense urban areas, urban and rural.

Results obtained from this analysis reference threshold value for each type of implementation in the region. For dense urban areas, the threshold value of the handover reference parameter value = 5 dB HOM and TTT = 640 ms. As for the urban area, the threshold value at the handover parameter = 4 dB HOM and TTT = 640 ms. While in rural areas the value of HOM = 3 dB and the value of TTT = 256 ms.

Key Word : Long Term Evolution, Handover, Radio Link Failure, Self Optimizing Network, Mobility Robustness Optimization