

ABSTRACT

With the rapid growth telecommunications networks user for broadband access, it's time to operators and vendors to implement LTE to fulfill it's growth. LTE will drive the transformation of circuit-based applications and services migrate to the environment "All IP". Eventhough LTE is a solution from the requirement recieved from the growth, LTE cannot be developed alone. LTE must be able to interact with the previous network which is UMTS or even GMS which is still circuit switch based.

The handover type that happens on LTE to UMTS case is Intersystem handover. Intersystem handover is an important aspect on this development, which needs to be handled and assessed thoroughly to ensure the connection that has been established between LTE and UMTS. So that the gradual development of LTE can be done.

The final result from measuring Recieved Signal Strength on the user is doing an analysis from the simulation result to achieve an optimal network and having a good value of interconnection between LTE and UMTS in order to develope LTE. From the simulation analysis, the best result is when the parameter value is $RSRP_{min(LTE)} = -99$ dBm, $RSCP_{min(UMTS)} = -98$ dBm, $HOM = 2$ dB dan $TTT = 600$ ms. The smaller value $RSRP_{min(LTE)}$ and $RSCP_{min(UMTS)}$, the smaller probability of dropping. This consequence the threshold value of received signal has a tolerance to poor received signal strength. In scenarios 1 and 2 HOM values has a tendency opposite results due to the condition of TTT. On either scenario 1 or 2 with a Dropping probabiliity 3km/h = 0.2800, 10 km/h = 0.2300, 30km/h = 0.1300, 60km/h = 0.0300 and 90km/h = 0.0400 for scenario 1 (without TTT) and Dropping Probability 3 Km/h = 0.31, 10 Km/h = 0.27, 30 Km/h = 0.11, 60 Km/h = 0.02, and 90 Km/h = 0.02 for scenario 2 (with TTT)

Key Words : LTE, UMTS, Intersystem Handover