ABSTRACT

Along with population growth and the increased data services in use of smartphone and other smart devices which uses access information and data on LTE is increasing, especially in the mobile network. Limitations of the cellular network infrastructure resulting in inhibition of the user to be able to access the data due to the density of traffic. In addition the service continuity in telecommunication network to stay maintained and therefore needed a reliable handover mechanism. Handover does not only happen on the same system or technology, but also possibly occurred on different systems known as vertical handover. Then the transfer traffic data could be one solution for addressing the explosion in data traffic, data traffic on the LTE transferred over the network Wi-Fi or Wireless Fidelity.

In this research, analysis and simulation vertical handover from LTE to Wi-Fi 802.11n network using MATLAB R2016a software. The analysis was performed by observing the parameter Probability of Dropping, Handover Margin and Frame Error Rate.

In the analysis result shown that the best RSRPmin and RSSImin combination based on minimum probability of dropping is RSRP = -99 dBm and RSSI = -80 dBm. For value HOM and FER with speed is 0 km/h HOM = 88.987 dB and FER = 0,0038, when speed is 1 km/h HOM = 13,596 dB and FER 0,0040, when speed is 2 km/h HOM = 15.528 dB and FER 0,0038, when speed is 5 km/h HOM = 14.276 dB and FER 0,0038, when speed is 10 km/h HOM = 24,719 dB and FER 0,0042, when speed is 20 km/h HOM = 23.518 dB and FER 0,0049, and when speed is 50 km/h HOM = 28,509 dB and FER 0,0075.

Keywords : *smartphone, long term evolution, wireless fidelity, vertical handover, probability of dropping, handover margin, FER*