ABSTRACT

3G/UMTS (*3rd Generation/Universal Mobile Telecommunications System*), dedicated not only to give voice and data service, but also able to allocate user needs of video and picture (multimedia). But, less adequate bit rate is still considered as main constraint. Many solutions have been introduced to solve that minimum bit rate, such as W-CDMA (*Wideband Code Division Multiple Access*). This W-CDMA system is able to accommodate bit rate until 384 kbps (*kilo bit per second*).

New improvement that had been released by UMTS forum in the early year of 2005 was the HSPA (*High Speed Packet Access*) impementation based on 3GPP (*3rd Generation Partnership Project*) standard. HSPA can be classified into two link, there are HSDPA (*High Speed Downlink Packet Access*) and HSUPA (*High Speed Uplink Packet Access*). Both of them work with the same core network as 3G/UMTS. The excess of this HSDPA system is a high bit rate (until 14.4 Mbps) also ability to be accessed by many user. It is because of use of several additional techniques, such as Adaptive *Modulation and Coding* (AMC), traffic scheduling, and HS-DSCH. *Handoff* is a condition where user is moving from a previous base station to cuurent base station.

This final project simulated the effect of three kind of traffic scheduling, there are *Mobility supported low dropping probability*, *Maximum signal interference ratio*, and *Proportional Fairness* on HSDPA network using Mathlab 7.0. And comparing result based some parameters, e.g. *Downlink_throughput*, *queue delay*, and *Pecentage$_{handoff\_dropping}$*. From the result of simulation, obtained that Max-SIR scheduling give smaller Downlink_throughput than LDROP or Proportional Fair scheduling. But with trade off on queue delay and Percentage$_{handoff\_dropping}$ which is highest of all. While Proportional Fair give average value of downlink_throughput, queue delay and Percentage$_{handoff\_dropping}$ among LDROP and Max-SIR.