

## ABSTRACT

In the beginning 21<sup>st</sup> century wireless communications already declare as third generation. During this time communications technology must have criteria global services and portable. Using this technology we can do : telephone, sms, mms, facsimile, video conference, video streaming and internet connection with high speed data rate. According standard from Europe, Japan and USA this technology known as IMT-2000 or UMTS (Universal Mobile Telecommunication System). In this final project we will discuss about planning and analysis WCDMA base station appointment in Denpasar.

From planning side we will know about link budget calculation in forward and reverse link, calculation traffic capacity for each site, decide site radius with certain loading factor and number of site will needed to cover service area. From appointment analyze, we will see base station position to get optimal coverage area based on capacity and area topology. To make analyze base station appointment simpler, we need use MapInfo software, Google earth and RPS (Radio wave Propagation Simulator). After we get result how many site and radius for each site, we will approximate base station appointment using MapInfo software. Site appointment will consider urban and suburban area based on inhabiting density and building structure. After we get approximate appointment in MapInfo, we will export this plot to Google Earth. This step have purpose to get address and obstacle plot in surrounding site. After we get obstacle plot in surrounding site we will simulate this plot use RPS. In RPS simulation we will see effect obstacle and building in surrounding site concern to receive signal quality, SIR level and best server transmitter.