ABSTRACTION

The coming of new technology CDMA (*Code Division Multiple Access*) nowadays, has participated through the growth of communication technology in Indonesia which always grows day to day rapidly. This CDMA growth, till CDMA 2001X is created, hopefully would have accommodated many kinds of communication services. These kinds belong to voice or data services. The increasing of its usage, for voice or even data service, causes providers should optimize their telecommunication network. Thus, it brings many innovations then surely these would imply to a better service for the customers.

In network optimization, *drive test* is recommended to do first to collect data from existing network. When doing the *drive test,* an adding tool is required, such a position detector, *received signal strength indication* (RSSI) and *Frame Error Rate* (FER) detector.

The tool is using *Global Positioning System* (GPS) to define latitude and longitude position, and a *mobile station* (MS) as *received signal strength indication* (RSSI) and *Frame Error Rate* (FER) detector, in order to designing the *drive test* unit. Then, Geography Information System (GIS) is used to be the mapping tool and to display measurement results. The Two Dimension Graphic is also used as the reader of parameter fluctuation.

After designing the *drive test* unit, it implemented in existing network. The result from this implementation is RSSI and FER map in a place that drive test has been done. Beside that it's also resulting RSSI and FER value database. This database is use to replay the drive test in any time user want to see the drive test result.

From the drive test result, can be concluded that *Esia* network in drive test track is in good condition. It represented by number of FER node that above FER value standard is about 95.6 % and 96 % RSSI node in good condition.