

## **Abstract**

Currently, Indonesia's telecommunications technology has evolved with the development pesat. Seiring presence 3G UMTS (3rd Generation Universal Mobile Telecommunication System) or better known as WCDMA. Development of WCDMA technology is expected to be able to accommodate a wide range of services at high speed on a WCDMA network. Currently, one of the operators in Indonesia, XL AXIATA have implemented a 3G UMTS technology, which all of its nodes b are IP based, It was implemented due to all the nodes b based over IP has a service high speed. One to use speed namely high service video. In the final project which reviewed video service is a service that call. Selain video services in the review also is voice. Layanan service is a service that is often used by user. Jadi be reviewed performance of video calls and voice services on 3G networks are IP-based node b, it aims to give satisfaction to the customer operator XL Axiata.

In the final project will analyze the performance of a WCDMA network based on IP B enode the video call service and voice. Hal was conducted to determine the quality of network-based WCDMA IP. In this thesis will be discussed on the analysis parameters, namely RSCP test drive results, EC / No SQI. Except parameters and test drive, there are also parameters which include CS64 OSS Success, Success RAB CS64, CS64 and Drop Rate for voice service is RRC Success Rate, RAB Success Rate, SHO Success Rate, Speech and Speech Access Drop. To analyze these parameters is limited to KPI (Key Performance Indicator).

From the analysis in this thesis research, for 3G network performance b enode its IP-based 3G amoorosa hotel on site and site neighbournya obtained average - average RSCP samples for free running scenarios in the range of 0 to -78 dbm is 28.38%, for lock\_on scenario in the range of 0 to -78 is 7.86% and service scenarios in the range of 0 to -78 dbm for voice service is 33.62% and video call. For the average - average sample Ec / No in free running scenarios in the range of 0 to -8 is 13, 24%, for the scenario lock\_on the range of 0 to -8 is 42.936% and for service scenarios in the range 0 to -8 for voice is 39.62188% and video call 39,151 %. while on average - average SQI samples, for the s 39,151 %. Scenario of free running is not obtained, it is caused because the scenario free running condition idle. For EU average lock\_on scenario - average SQI in the range of 20 to 30 was 93.71% and the range of services for the scenario of 10 to 30 is 100 for voice and video call in range 20 until 30 is 95,2247 %.

*Keywords: video call, voice, Ec / No, SQI, RSCP*