

## ***ABSTRACT***

Wireless Local Area Network (WLAN) 2,4 GHz is one of alternative technology internet access on ISM (industry, scientific and medicine) band which have unlicensed characteristic with low cost, easy, fast and flexible hardware instalation that can cover large area rather than cable which is bordered by telecommunication company infrastructure existing.

To get better voice services on wireless infrastructure is not easy to implement. There are so many factors that can give weaknesses, such as error packet, delay and jitter. It happens because of obstacle, weather and many more effect. So, it needs good qualified planning to develop VoIP communication through wireless.

This final project made model simulating and emulating VoIP capacity channel through wireless LAN. Firstly, make architecture wireless LAN planning with one access point and three endpoint clients. Then, build voice model emulation and simulation VoIP application on wireless LAN networks with two's condition LOS and non LOS, but focusing on LOS condition. Result from the experiments calculated according to VoIP QoS parameter like throughput, delay, jitter, packet loss, and MOS. The mark of VoIP channel capacity estimation will be result with compared between endpoint and MOS while call attempt occur.