

## ***Planning and Analysis of IEEE 802.11n As Backhaul to Supports UMTS Network on Offshore Oil Site***

802.11n is a key technology in the field of mobile wireless communication as the access technology that enables connectivity devices into a multi-protocol network. WiFi is specified to work on the band unlicensed so it will not make a huge cost to create a WiFi transmitter broadcasts. With data rate up to 300 Mbps, this technology will be able to serve as a transport technology. In this thesis, 802.11n point to point will be used as cellular backhaul transport is that carries traffic from a cell into the core network. However, implementation of WiFi as backhaul has barrier given the high levels of interference, especially in big cities. This technique is only allowed to be done in areas far from the crowds.

The use of point-to-point WiFi will be very suitable for application in areas which the level of interference that may exist will not be high considering the WiFi devices do not usually air in such areas. In this final simulated UMTS access network with point-to-point 802.11n as the backhaul on a structure above the sea which is the accommodation property of oil drilling workers belonging to a private company

The results of this thesis is the capability of 802.11n to brings traffic from the structure in the sea towards the RNC on the ground by meeting all the parameters that have been set. Parameters include quality and availability objectives based on ITU G.828. The simulation results show the availability and quality of 99.99% based on optimum acceptance of Rx level.

Key word : **Backhaul , Wireless Fidelity , 802.11n**