

ABSTRACT

Growth of digital wireless communication needed high data rate transmission. One of new technology is a broadband fixed wireless access technology. This technology is the most topic to analysis. One of this topic is about channel capacity.

In this final project investigates channel capacity of a broadband fixed wireless access technology in raileigh fading channel. The analyze include the parameters which influencing the channel capacity, are angle spread, angle of arrival, antennae space and account of antennae element. Then the analyze using a single parameter method. This method is combining for all condition system and environment to a matric. Then the result to calculate channel capacity.

Results show that maximum channel fixed broadband capacity increasing 60 % for increase effect space antennae from 0.1λ to 2λ . Decreasing angle of arrival for 90° will increase 70.6 % channel capacity from 12 b/s/Hz to 17 b/s/Hz 16.8 b/s/Hz While for angle spread, increasing angle spread for 20° to 60° tend constanly value of channel capacity Result channel capacity in this final project using 4 antennae TX and 4 antennae RX at a SNR 20 dB.

Index term – Channel capacity, angle of arrival, angle spread, antennae space, Fading Rayleigh.

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