

ABSTRAK

Faishal Hanif (5215144159), Analisis Pengaruh Interferensi *Co-Channel* dan *Adjacent Channel* Terhadap Kualitas Jaringan Wi-Fi pada Frekuensi ISM 5.8 GHz dengan Standar Wireless 802.11ac. Skripsi. Jakarta. Program Studi Pendidikan Teknik Elektronika, Fakultas Teknik, Universitas Negeri Jakarta. 2020. Dosen Pembimbing: Dr. Baso Maruddani, MT. dan Dr. Efri Sandi, MT.

Penelitian ini bertujuan untuk mengetahui dampak interferensi *co-channel* dan *adjacent channel* terhadap kualitas *signal to noise ratio* (SNR), *bit error rate* (BER), dan *Throughput* pada jaringan Wi-Fi dengan standar *wireless* 802.11ac.

Interferensi *co-channel* dan *adjacent channel* dapat menurunkan kualitas *signal to noise ratio* (SNR), *bit error rate* (BER) dan *throughput*. Penelitian ini dilakukan dengan skenario pengukuran 1 buah *access point* utama dan 2 buah *access point* yang menginterferensi *co-channel* dan *adjacent channel*. Berdasarkan hasil penelitian pada kondisi tanpa interferensi diperoleh kualitas SNR sebesar 26dB dan *throughput* sebesar 89.5 Mbps. Interferensi *co-channel* menyebabkan turunnya kualitas SNR menjadi 17.9dB dan *throughput* menjadi 53 Mbps sedangkan interferensi *adjacent channel* menyebabkan turunnya kualitas SNR menjadi 21.7dB dan *throughput* menjadi 18Mbps. Pada keadaan sistem mengalami interferensi *co-channel* dan *adjacent channel*, diperoleh kualitas SNR sebesar 18dB dan *throughput* sebesar 7.3 Mbps. Sehingga dapat disimpulkan interferensi *co-channel* dan *adjacent channel* mempengaruhi kualitas jaringan Wi-Fi dengan standar 802.11ac.

Kata Kunci : Wi-Fi, 802.11ac, *Access Point*, *Interference*, *Co-Channel*, *Adjacent Channel*, SNR, BER, *Throughput*.

ABSTRACT

Faishal Hanif (5215144159), *Effect Analysis Of Co-Channel And Adjacent Channel Interference On Wi-Fi Network Quality In 5.8 GHz ISM Frequency With 802.11ac Wireless Standard. Undergraduated Thesis. Jakarta. Education of Electronic Engineering, Faculty of Engineering, Universitas Negeri Jakarta. 2020. Supervisors: Dr. Baso Maruddani, MT. and Dr. Efri Sandi, MT.*

This research aims to determine the impact of co-channel interference and adjacent channels on the quality of the signal to noise ratio (SNR), bit error rate (BER), and throughput on Wi-Fi networks with 802.11ac wireless standards.

Co-channel and adjacent channel interference can reduce the quality of the signal to noise ratio (SNR), bit error rate (BER) and throughput. This research was conducted with a measurement scenario of 1 main access point and 2 access points that interfere with co-channel and adjacent channel. Based on the results of research on without interference condition obtained SNR quality of 26dB and throughput of 89.5Mbps. Co-channel interference causes a decrease in SNR quality to 17.9dB and throughput to 53 Mbps while adjacent channel interference causes a decrease in SNR quality to 21.7dB and throughput to 18 Mbps. When the system experiences co-channel and adjacent channel interference, the SNR quality of 18dB and throughput of 7.3 Mbps are obtained. So it can be concluded that co-channel and adjacent channel interference affects the quality of Wi-Fi networks with the 802.11ac standard.

Keywords: Wi-Fi, 802.11ac, *Access Point, Interference, Co-Channel, Adjacent Channel, SNR, BER, Throughput.*