

ABSTRACT

This study aims to analyze the effect of Line of Sight (LOS) and Non Line of Sight (NLOS) on the quality of WiFi services. The type of Wifi tested was divided into 2 types of frequency bands, namely IEEE 802.11n working at a frequency of 2.4 GHz, and IEEE 802.11ac working at a frequency of 5 GHz. The distance used in the Line of Sight (LOS) scenario is 1 – 15 meters in stages, while the types of obstacles used in the Non Line of Sight (NLOS) scenario are walls, mirrors, motorbikes, cupboards, doors and iron. The parameters analyzed in this study are throughput, packet loss, delay, and jitter. Using the action research method. The test results show that 2.4 GHz Wifi is superior in dealing with distances and obstacles compared to 5 GHz Wifi. In LOS conditions, there was a decrease in the amount of throughput from 1 to 15 meters Wifi 2.4 GHz with an average of 11043.57139 kbps while Wifi 5 GHz with an average of 12481.89874 kbps. The increase in the number of packet loss Wifi 2.4 GHz (6.12% to 13.68%) while Wifi 5 GHz (4.92% to 8.68%). The increase in the delay value of Wifi 2.4 GHz (0.3929668 ms to 1.2530578 ms) while Wifi 5 GHz (0.448512 ms to 1.6084074 ms). The average amount of jitter at both frequencies is only 0 ms. In NLOS conditions, motorcycle obstacles are obstacles that are easier to overcome Wifi 2.4 GHz and 5 GHz, because the shape of these obstacles can still be traversed by signals, so the calculation results for each frequency are obtained, such as throughput 13308.38078 kbps and 6291 .274114, packet loss 5.46% and 5.54%, delay 0.670314463 ms and 1.049370274 ms, and the average jitter is only 0 ms.

Keywords: *Signal Quality , LOS, NLOS, 2,4 GHz WiFi, 5 GHz WiFi.*