

Figure 6: SNR (dB) Vs PER (%) and Bit rate (Mb/s) when max Doppler shift is 300 Hz.

The results of Wi-Fi network for dispersive fading with AWGN channel shown on figures 7, 8, 9; Figure 7 shows the result of PER and bit rate when the maximum Doppler shift is 100 Hz. Figure 8 shows the result of PER and bit rate

when the maximum Doppler shift is 200 Hz. Figure 9 shows the result of PER and bit rate when the maximum Doppler shift is 300 Hz.

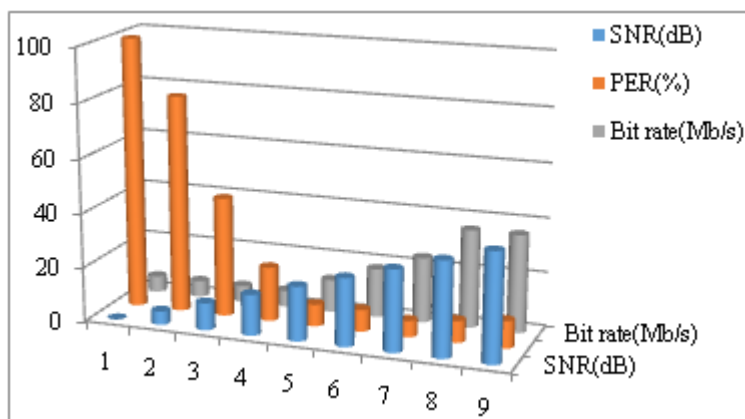


Figure 7: SNR (dB) Vs PER (%) and Bit rate (Mb/s) when max Doppler shift is 100 Hz.

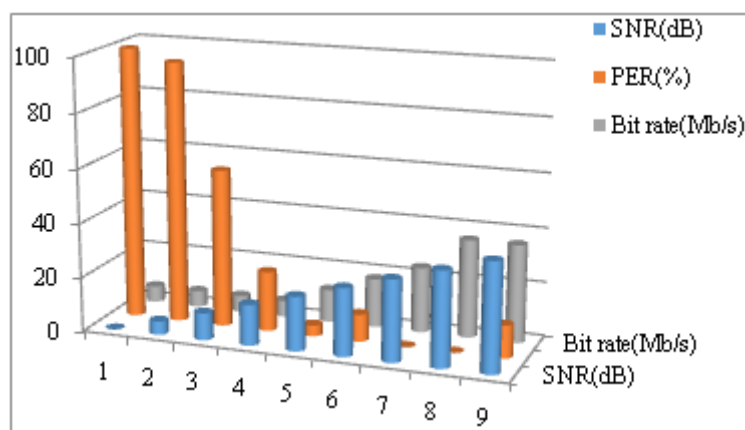


Figure 8: SNR (dB) Vs PER (%) and Bit rate (Mb/s) when max Doppler shift is 200 Hz.

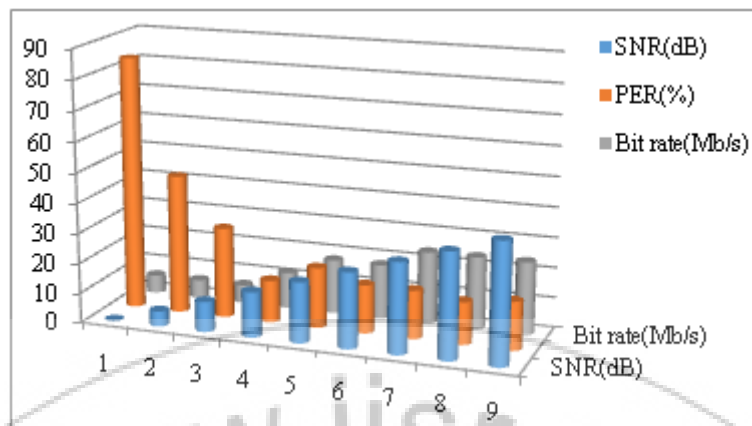


Figure 12: SNR (dB) Vs PER (%) and Bit rate (Mb/s) when max Doppler shift is 300 Hz.

6. Results Discussion

When the Wi-Fi network under AWGN only, we found that There is no PER when SNR ranges from (5 to 40) dB and the bit rate increases from (6 to 54) MB/S. Doppler shift was not effect in results, so the performance of the network in this case was perfect.

In the second case when the network under dispersive fading and AWGN, the results shows that the performance degraded, when the doppler shift was 100 Hz the PER ratio has maximum value when SNR equal zero and then minimizes when SNR increases, bit rate value maximizes with the increasing of the SNR value. The PER ratio maximizes and bit rate minimizes when Doppler shift increases from 100 Hz.

7. Conclusion

This paper discussed two cases for the Performance of Wi-Fi network: one case for Wi-Fi network under AWGN only, and other case for Wi-Fi network dispersive fading and AWGN by measuring the bit rate and packet error rate ratio (PER). We conclude that when there was no fading the Wi-Fi network have a perfect performance, PER ratio decreases to zero and bit rate increases. When there was dispersive fading; with the maximum Doppler shift less than 200 Hz the degradation of performance for Wi-Fi network was reduced, PER decreases and Bit rate increases.

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