5.1 Conclusion

With the rapidly growing demand for data in wireless communications and the significant increase of the number of users, the RF spectrum become one of the scarcest resources in the world .Motivated by the more and more crowed RF spectrum, OWC has been identified as a promising candidate to complement conventional RF communication, especially for indoor short and medium range data transmission. VLC is a category of OWC, which uses visible light between 375 nm and 780 nm. VLC relies on white LEDs which already provide illumination and are quickly becoming the dominant lighting source to transmit data.

This research work was aimed to study the double-sided signal clipping in ACO-OFDM in VLC system due to biasing issues and physical limitations of the transmitter front-end.

In this thesis MATLAB program was used to the BER performance of the double-sided signal clipping ACO-OFDM system. Two cases with Different scenarios were carried out to show how the effect of clipping noise. Case 1, where the clipping noise was present. Case 2, the clipping noise was ignored. The results showed that BER performance of ACO-OFDM based VLC is more severely degraded with the increase of the modulation order for a particular double-sided signal clipping scenario.
It is found that ACO-OFDM is robust to the clipping effects and it is more suitable for applications with lower radiated average optical power and zero biasing. In addition, practical IFFT/FFT sizes greater than 64 do not affect the BER performance.

5.2 Recommendation

Here are some recommendations:

- In this thesis the ACO-OFDM was used it is recommend to use Asymmetrically Clipped DC Biased Optical OFDM (ADO-OFDM).
- In this thesis MATLAB program was used it is recommend to use OptiSystem program for more specific results.