CONCLUSIONS

The OFDM plays a prominent role for high data rate transmission with a limited bandwidth in wireless communication. The recent development in the wireless communication shows how the mobile communication upgraded from just mobile voice transmission to current fast mobile data transmission.

The PAPR has a great influence on the performance of the OFDM system. SLM technique is less complex and cost effective PAPR reduction technique. Some modifications are proposed in the PAPR reduction technique, so as to improve the performance BER to avoid system degradation. The provision of CP in the OFDM signal enhances the performance of OFDM.

Initially the PAPR values of a basic OFDM system using BPSK, QPSK and DQPSK modulation techniques are evaluated. The comparative study of these various PAPR values reveals that using DQPSK modulation technique the value of PAPR is least.

The proposed method used SLM technique with extended Hamming linear block code and DQPSK mapping technique to reduce PAPR value.

The PAPR value is obtained with the help of conventional SLM technique using QPSK and DQPSK. Results for conventional SLM technique using QPSK and DQPSK modulation technique shows that DQPSK scheme gives better performance with respective PAPR then QPSK modulation scheme. The PAPR achieved for the
proposed method of modified SLM with LBC extended Hamming using DQPSK modulation scheme is 4.7 dB.

In the investigation this proposed method proves reliable and efficient for PAPR reduction. The reason for selecting differential detection modulation scheme is, its receiver structure is simple because channel equalization is not required.

In this research work the BER performance of OFDM system is investigated for various channel like AWGN, Rayleigh and Ricain using Linear Block Code with extended hamming code. It shows improvement in BER performance with respective uncoded OFDM system. As the number of carriers are increased the bit error rate of OFDM system decreases under AWGN channel. The OFDM system under Rayleigh channel gives the good bit error rate for lower values of Doppler shift. Under Rician channel values of Rician parameter changes BER also change.
FUTURE SCOPE OF RESEARCH WORK

The performance of the OFDM system is definitely going to be enhanced in future with the application of modern upcoming techniques. The maximum system utilization will be a key point with outstanding features like low power consumption, simple circuitry easy computation. No doubt it has to be cost effective and hassle free for installation and maintenance. In the coming years the mobiles are not going to remain as just instrument for communication but they would get transformed into high-tech electronic gadgets with mobility. Taking a glimpse at the evolution of wireless communication it is seen a nonstop everlasting growth. The journey began with a single and simple very short distance sound communication to the current communication across the universe with high end features.

As the OFDM system helps the system designers to use the digital spectrum efficiently with restricting the number of subcarriers. Advanced wireless applications are being introduced which are further enhanced with time obviously these applications are high data rate based. Applications such as High Definition Television (HDTV), DVB require high speed data rate. In the coming future the systems are going to require high data rate along with a low bandwidth. Thus the demand for
spectrum would be intensified. The availability of the spectrum, its allocation and usage are governed by the government policies and rules enacted by the regulatory body. Thus the efficient use of the spectrum would be the need of time. The concept of primary users and secondary users of the spectrum is making its roots in the wireless communication networks. OFDM system plays a prominent role in spectrum merchandising. The efficiency of the system is definitely going to be increased by minimizing the latency.

Present research work can be extended by following ways:

- PAPR of OFDM signal can be reduced by using Fuzzy Logic Technique.
- The performance of OFDM system can be investigated by using Wavelet transform instead of FFT.
- Effect of various modulation scheme like QAM, MSK, GMSK etc. can be evaluated for OFDM system.
- BER performance can be evaluated in other channel such as Nakagami channel.