



## PERFORMANCE ANALYSIS OF BIT ERROR RATE PARAMETER USING WAVELET BASED OFDMON LTE STANDARD OVER DIFFERENT CHANNELS

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### ABSTRACT

*In 4<sup>th</sup> Generation Long Term Evolution (LTE), The two key techniques which are employed are Orthogonal Frequency Division Multiplexing (OFDM) and Multiple Input and Multiple Output (MIMO). The idea behind using OFDM technique is to use multiple orthogonal carriers to provide higher level of spectral efficiency. Cyclic Prefix(CP) needs to be used in OFDM to avoid Inter Carrier interference (ICI) and Inter Symbol Interference (ISI) because of loss of orthogonality between carriers. The use of cyclic prefix in OFDM increases available bandwidth. Alternative to the above described system, Wavelet based OFDM is yielding better performance in terms of Bit Error Rate and Spectral Efficiency. In this paper, Wavelet based analysis in LTE system is carried out for different channels (AWGN, Rayleigh) and for different modulation schemes (16QAM, 64QAM) and the performance is compared with conventional OFDM system.*

**Key words:**LTE; OFDM; MIMO; DFT; CP; ICI; ISI; BER.