

Comparative Analysis of Universal Filtered Multi Carrier and Filtered Orthogonal Frequency Division Multiplexing Systems for Wireless Communications

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Abstract : Orthogonal Frequency Division Multiplexing (OFDM), a multi Carrier transmission technique that has been used in implementing the majority of wireless applications like Wireless Network Protocol Standards (like IEEE 802.11a, IEEE 802.11n), in telecommunications (like LTE, LTE-Advanced) and also in Digital Audio & Video Broadcast standards. The latest research and development in the area of orthogonal frequency division multiplexing, Universal Filtered Multi Carrier (UFMC) & Filtered OFDM (F-OFDM) has attracted lots of attention for wideband wireless communications. In this paper UFMC & F-OFDM system are implemented and comparative analysis are carried out in terms of M-ary QAM modulation scheme over Dolph-chebyshev filter & rectangular window filter and to estimate Bit Error Rate (BER) over Rayleigh fading channel.

Keywords : UFMC, F-OFDM, BER, M-ary QAM

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