Study on the Effects of UGB and CFO in the OFDM-Based Techniques—An Example of SC Diversity with the Corrected-Dual Bra

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ABSTRACT

The system performance of OFDM (orthogonal frequency division multiplexing) with dual branch SC (selection combining) diversity over small scale fading correlated channel is investigated in this paper. The performance of average BER (bit error rate) of the OFDM system is calculated by adopting the results with an alternative expression of the Q-function. The correlated-Weibull fading distribution is applied to characterize the propagation fading channel. Moreover, the assumption of CFO (carrier frequency offset) existing between subcarrier is other a scenario considered in this paper. It is worthwhile noting that the system performance of an OFDM system with SC diversity is definitely dominated by the transmission environments, that is, except the fading parameters (of Weibull distribution) of the fading statistics will be the most important reason to decide whether the system performance of an OFDM system is well or not the CFO is another phaneoman affects the performance too. Besides, both of the equal and unequal branch gain of the received waveform at the output of SC diversities is assumed in the discussion for OFDM communication systems.

Keywords : OFDM ; SC ; CFO

Table of Contents

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