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A Comparative Study of Universal Filtered Multi-Carrier and Orthogonal Frequency Division Multiplexing.

ABSTRACT - Masterthesis

The concept of Cyclic Prefix Orthogonal frequency Division Multiplexing (CP-OFDM) technology is well known to have high out-of-band emissions. A new air-interface waveform that can be implemented as both orthogonal and non-orthogonal waveform, called Universal Filtered Multi-Carrier (UFMC)[3], also known to some as Universal Filtered Orthogonal Frequency Division Multiplex (UF-OFDM) was proposed and its abilities under relaxed synchronised environment (time and frequency misalignment) is investigated. In this thesis work, features of UFMC as a modulation technology is studied in detail and its performance under varying conditions of wireless channels and synchronicity compared to that of CP-OFDM is investigated.