

一种基于OFDM的无线传感器网络PAPR减小方法

作者: 孔德彭, 周国华, 何婷, 方栋良, 徐云

单位: 浙江工业大学

基金项目: 国家自然科学基金 (61379077)

摘要:

超宽带技术适合无线传感器网络大流量媒体信息的采集和传输, 同时具有功耗低、兼容性和适应能力强的优势, 但OFDM调制技术却给系统带来较高的峰均功率比。一种利用乃奎斯特成型脉冲反转双曲正切方法, 将原始数据与成型矩阵进行求积, 增加子载波的符号间的相关性, 可减少信噪比和峰均功率比。通过多载波系统设计及CCDF及BER等主要指标的对比, 该方法可行, 并能带来降低4dB的效果。

关键词: 无线传感器网络; OFDM; 多载波; PAPR; 反转双曲正切脉冲

A method of reducing the PAPR of wireless sensor network based on OFDM

Author's Name:

Institution:

Abstract:

The ultra wide band technology was suitable for flow media information collection and transmission in wireless sensor network, it had advantages of low power consumption, compatibility and the advantage of A strong ability to adapt to different systems. But the modulation technology of OFDM had brought high peak to average power ratio to system. There was a Nyquist pulse shaping technology based on FARCSECH to reduce the PAPR formed matrix quadrature with the original data and increased the correlation between subcarrier symbols. By building different multi-carrier systems and the comparisons of their CCDF and BER shown that this method was feasible and had a falling effect of 4dB

Keywords: Wireless Sensor Networks (WSNs); Orthogonal Frequency Division Multiplexing; Multi-carrier; Peak-to-average power ratio; FARCSECH Pulse

投稿时间: 2014-01-16

[查看pdf文件](#)