Abstract

In this paper, we describe the design and implementation of a rake receiver for use with ultra wide band (UWB) systems. The rake receiver uses spread spectrum modulation (SSM) aided by kasami sequence generator. The combination is found to be effective in dealing with multipath fading and signal to noise ratio. The design is initially simulated using MATLAB 7.10 and is implemented using a HDL coder. The design is also implemented in a FPGA kit and is found to be effective in interference mitigation as part of a CDMA framework.
References

- Boris D. Andreev, Edward L. Titlebaum, and E. G. Friedman "Orthogonal Code Generator for 3G Wireless Transceivers;"
- K. C. Gan "Path Searcher for a WCDMA Rake Receiver;" Freescale Semiconductor Application Note, AN2252 Rev. 3, 2005

Index Terms

Computer Science Wireless Communications

Keywords

Cdma Hdl Coder Vhdl Matlab Simulink Fading Fpga Channel Estimation Mrc