URN etd-0407109-183725-2096
Author Tayi Chen
Author's Email Address No Public.
Statistics This thesis had been viewed 56 times. Download 0 times.
Department
Year 2007
Semester 2
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title The Study and Circuit Design of 3~5GHz Band Receiver for UWB DS-CDMA System
Date of Defense 0000-00-00
Page Count 100
Keyword
Band Receiver for UWB DS-CDMA System

Abstract
Ultra-wideband (UWB) communication technology has the characteristics of low-cost, low power consumption and high-speed data transmission. In recent years, UWB technology has developed into two major systems. One is Orthogonal Frequency Division Multiplexing (OFDM) system which is led by Intel, and the other is Direct Sequence Code Division Multiple Access (DS-CDMA) system which is supported by Motorola.
In the DS-CDMA system, the modulation is based on the standard provided by XtreamSpectrum (XSI). According to their documents, either Binary Phase Shift Keying (BPSK) or quaternary Bi-Orthogonal Keying (4-BOK), can be adopted as a transmission symbol, which is resulted from the source data multiplied by a special spreading code with Root Raised Cosine Filter (RRC Filter) transmission.
DCR is a trend of receiver architecture design. It offers an advantage that the image-reject filter is not required since the problem of image is circumvented by zero-IF. On the other hand, it suffers from some problems, such as DC offsets, which can be alleviated using high-pass filtering after I/Q demodulation.
This thesis focuses on the 3~5 GHz frequency band of DS-CDMA radio frequency receiving front-end. By using Ansoft Desinger’s design and simulation, we implement three active circuits of DCR which are Low Noise Amplifier (LNA), Voltage control Oscillator (VCO), and Baseband Amplifier. Also, by using simulation design of Advanced Design System, we complete Band Pass Filter (BPF), Low Pass Filter (LPF), Branch Coupler, and High Pass Filter (HPF). These results are very useful for the RF circuit/system designers in UWB DS-CDMA system.
Advisory Committee Fulin Lin - advisor

Files No Any Full Text File.
Date of Submission 2008-07-07