

Integrated Low-Power Communication System Design for Wireless Sensor Networks

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1

Introduction

- Circuit design for Wireless Sensor Networks requirements, especially power consumption
- Justification of technology selection
- Design, implementation and performance of CMOS low-power receiver system

2

Background (1)

- Single Carrier Narrow Band:
 - Channel bandwidth W is approximately equal to the data rate R .
 - Complex methods increase bandwidth efficiency (R/W), but also increases energy consumption.
 - High-level modulation degrades energy efficiency in systems with small packet sizes and low duty cycle.
 - More susceptible to interference than broadband

3
