



IIT BOMBAY

DUAL DEGREE PROJECT

Cognitive Radio using OpenBTS

Author:

Swrangsar BASUMATARY

Supervisor:

Prof. S N MERCHANT

September 18, 2013

Abstract

Target: Sense the presence of calls going on in the primary OpenBTS and as soon as the call drops/ends start the secondary OpenBTS to enable communication among secondary users

Details:

We sensed the energy of the uplink frequency (usually — uplink freq = downlink freq - 45MHz — in the GSM900 band) using GnuRadio. We observed the energy of the uplink frequency is lower when there are no calls. We selected a threshold energy level and let the secondary OpenBTS start as soon as the primary OpenBTS's energy level went below threshold.

Contents

1	OpenBTS	2
1.1	Introduction	2
2	GnuRadio	3
2.1	Introduction	3

Chapter 1

OpenBTS

1.1 Introduction

Chapter 2

GnuRadio

2.1 Introduction

GnuRadio is a software blah blah blah!