

USRP based Cognitive Radio Test-bed using OpenBTS

Abrar Ahmad (113310017)
Swrangsar Basumatary (09d07040)

Department of Electrical Engineering
IIT Bombay, Powai

June 2014

Problem Statement

- ▶ To develop a testbed for cognitive radio demonstrating coexistence of primary (licensed) users and secondary (unlicensed users)
- ▶ A two frequency testbed (channels used 945 MHz and 955 MHz)
- ▶ A four frequency testbed (936 MHz, 943 MHz, 950 MHz, 957 MHz)

Overview of the tasks accomplished in our project

- ▶ Cognitive radio?, spectrum holes?
- ▶ GNURadio
- ▶ Python programming language
- ▶ USRP kit
- ▶ OpenBTS
- ▶ Calls and SMS service on local network
- ▶ Spectrum sensing techniques
- ▶ Defining problem statement

Thank You