Low cost portable device to measure LTE spectrum usage in India

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OVERVIEW

The aim is to design a low cost portable device to monitor spectrum usage of LTE signals. Tentative hardware is rtl-sdr, raspberry pi, Battery power supply.

GOALS

1. Detect LTE signals
2. Design a low cost portable device
3. Sweep desired frequency range and in between sweeps use a statistical method to predict usage of spectrum.
4. Analyse the spectrum for Congestion.

SPECIFICATIONS

With the advancements in commercial 4G LTE, the Indian Telecom markets are fighting for their share of 4G users. This makes it important for them to know about the spectrum occupancy and availability of their LTE services across the city. We plan to build a low-cost portable sensor which will be able to monitor spectrum usage of LTE signals. We further plan to analyse the spectrum usage at different areas of the Institute.