

# Small-Size Reconfigurable Loop Antenna for Mobile Phone Applications

## ABSTRACT:

A small-size reconfigurable loop antenna for mobile phone applications with a compact volume of  $55 \times 5 \times 3 \text{ mm}^3$  is proposed. In addition to the traditional three loop antenna modes, namely,  $0.5\text{-}\lambda$ ,  $1\text{-}\lambda$ , and  $1.5\text{-}\lambda$  modes, the proposed loop antenna also generates another  $2\text{-}\lambda$  mode. To cover more operating bands with such compact antenna volume, the reconfigurable technique is therefore applied by inserting an RF switch at the end of the proposed antenna to improve bandwidth at the low band. By combining the four working states of RF switch, the proposed antenna can cover GSM850/900, DCS1800, PCS1900, UMTS2100, and LTE2300/2500 bands with low specific absorption rate and high efficiencies.

## **SYSTEM REQUIREMENTS:**

### **HARDWARE REQUIREMENTS:**

- System : Pentium i3 Processor.
- Hard Disk : 500 GB.
- Monitor : 15'' LED
- Input Devices : Keyboard, Mouse
- Ram : 4 GB

### **SOFTWARE REQUIREMENTS:**

- Operating system : Windows 10.
- Coding Language : Java
- Web Framework : Flask

### **REFERENCE:**

H. Wang et al., "Small-Size Reconfigurable Loop Antenna for Mobile Phone Applications," in *IEEE Access*, vol. 4, pp. 5179-5186, 2016, doi: 10.1109/ACCESS.2016.2593794.