The analysis of a new printed antenna is presented and discussed. This antenna consists of a printed monopole, with one or two sleeves on each side, fed by a coplanar waveguide (CPW) line. Switches are used to control the length of the monopole and the sleeves and to tune the resonant frequencies of the antenna. In the case of the double-sleeved antenna, the switch is used to connect or disconnect a second sleeve in the cactus antenna. Measurement results show that the cactus antenna maintains the dipole-like radiation patterns for all the different resonant frequencies