

In this thesis, three compact microstrip antennas based on the defected microstrip (DMS) and the shorting post insertion techniques are developed.

The first is a single-band operating in the radar 3 GHz frequency. It achieves a miniaturization

ratio of around 77 % compared to a conventional rectangular structure.

The second is a dual-band monopole covering UHF radio frequency identification bands. A size reduction of nearly 44 % is achieved compared to a reported structure.

The third is a multi-band antenna operating in six frequency bands suitable for different applications involving commercial ones. A size reduction of nearly 60 % with respect to the original antenna has been obtained.

Prototypes of the proposed antennas have been fabricated and their input reflection coefficients